International

24TH Eastern Mediterranean Family Medicine Congress 2025

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CONGRESS PROCEEDINGS

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DAAHK2025 CONGRESS PROCEEDINGS BOOK

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Welcome

Dear Colleagues,

It is with great enthusiasm and heartfelt pleasure that we invite you to attend the **24th International Eastern Mediterranean Family Medicine Congress (EMFMC2025)**, which will take place from **08th to 11th May 2025** at the **Çukurova University Mithat Özsan Congress Center in Adana, Turkey**.

The preparations for our in-person gathering are progressing excellently, and we are confident that this congress will offer a **vibrant, intellectually stimulating, and truly memorable experience** for all participants. EMFMC2025 will serve as a unique platform where **science, practice, culture, and human connection** come together in harmony.

This year's theme, **"*Empowering Tomorrow: Health and Well-Being Across Lifetimes in Family Practice*"** reflects our collective aspiration to explore and strengthen the role of family medicine in delivering holistic, continuous, and community-oriented care across the lifespan. Our scientific program will encompass a rich diversity of disciplines, perspectives, and innovative practices, designed to inspire, challenge, and engage clinicians, educators, researchers, and policymakers alike.

We warmly encourage you to mark your calendars and join us in Adana – a city renowned for its rich history, vibrant culture, and renowned hospitality. As spring blossoms, Adana greets its guests with the unforgettable fragrance of orange blossoms, making it a truly special setting for professional growth and collegial exchange.

Whether you are a seasoned expert or a young practitioner at the beginning of your journey, we believe that EMFMC2025 will provide you with meaningful opportunities for networking, collaboration, and inspiration, helping us collectively shape the future of family medicine.

We look forward to welcoming you to this prestigious event and sharing these inspiring days with you in Adana.

With our warmest regards,

Prof. Dr. Ertan MERT
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**In alphabetical order by surname*

Scientific Programme

08 May 2025 Thursday

Time	Hall A	Hall B	Hall C	Hall D	Hall E	Hall F
09.00 – 09.50	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Empowering Clinical Teaching: Evidence-Based Approaches for Family Medicine Educators**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
09.50 – 10.30	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Empowering Clinical Teaching: Evidence-Based Approaches for Family Medicine Educators**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
10.30 – 11.00	**Coffee Break**					
11.00 – 11.45	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Empowering Clinical Teaching: Evidence-Based Approaches for Family Medicine Educators**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
11.45 - 12.30	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Empowering Clinical Teaching: Evidence-Based Approaches for Family Medicine Educators**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
12.30 – 13.30	**Lunch**					
13.30 – 14.15	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Course on Geriatric Patient Care and Follow-up in Family Medicine**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
14.15 – 15.00	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Course on Geriatric Patient Care and Follow-up in Family Medicine**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**

15.00 – 15.30	**Coffee Break**					
15.30 – 16.45	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Course on Geriatric Patient Care and Follow-up in Family Medicine**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
17.00 – 17.45	**Treatment and Education of Tobacco Addiction – Smoking Cessation Course (Certified by Ministry of Health)**	**Course on Geriatric Patient Care and Follow-up in Family Medicine**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**

09 May 2025 Friday (*All sessions on Friday will be conducted in English, and no simultaneous translation will be available*)

Time	**Hall A**	**Hall B**	**Hall D**	**Hall E**	**Hall F**
09.00 – 09.40	**Chair:** **Prof. Dr. Yeltekin Demirel** **Understanding System Failures in Primary Care: Why is Healthcare So Difficult to Get Right?** Dr. Mihir Yatin Trivedy	**EYFDM2025** **European Young Family Doctors Movement** **HYBRID Session** **The Role of Healthy Living and Cultural Nutrition Habits in Medicine** Chair: **Dr. Ekin Dikmen - Dr. Rabia Eroğlu Kılaç** EYFDM Introduction and Future Opportunities for Young Family Physicians **Dr. Ekin Dikmen - Dr. Halil Volkan Tekayak - Dr. Rabia Eroğlu Kılaç** Lifestyle Medicine: Principles in Family Medicine	**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
09.50 – 10.25	**Chair:** **Prof. Dr. Süleyman Görpelioğlu** Artificial Intelligence (AI) Integration in Healthcare: Opportunities and Challenges **Dr. Hesham Mohamed**		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**

		Dr. Marina Jotic Ivanovic Bosnian Cuisine: Culinary Heritage and Health Benefits **Dr. Marina Jotic Ivanovic** Healthy Living for Cognitive Longevity: Dietary Recommendations in Primary Care **Dr. Charlotte Moris** Nutritional Habits and Cancer Risk in Southeastern Anatolia **Dr. Mehmet Kocabaş**			
10.30 – 11.00	**Coffee Break**				
11.00 – 11.30	**Opening Ceremony**				
11.30 – 12.15	**Opening Lecture** **Chair:** Chair: **Prof. Dr. Mehmet Ungan** Empowering Tomorrow: Health and Well-Being Across Lifetimes in Family Practice **Prof. Dr. Viviana Martinez-Bianchi** Wonca World President Elect				
12.15 – 13.30	**Lunch**				

13.30 – 14.10	**Chair:** **Prof. Dr. Engin Burak Selçuk** Unlocking the Potential: What Drives Family Physicians to Engage in Research? **Prof. Dr. Thomas Frese** Wonca Europe President – Elect		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
14.10 – 14.40	**Coffee Break**				
14.40 – 15.15	**Chair:** **Prof. Dr. Serpil Demirağ** Empowering Family Medicine Through Comprehensive Women's Health: Tackling Mental Health, General Health, and Discrimination **Prof. Dr. Mahasti Alizadeh**		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
15.20 – 16.00	**Chair:** **Assoc. Prof. Dr.Önder Sezer** Breaking the Fragility Cycle: Latest Insights into Osteoporosis Management **Prof. Dr. Suha Khalifa**		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**

16.10 – 16.40	**Chair:** **Prof. Dr. Dilek Toprak** Transitioning to a Modern Paradigm in Primary Care: Innovations, Challenges, and Future Directions **Prof. Dr. Mohammad Rasoul Tarawneh**		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
16.45 – 17.25	**Chair:** **Prof. Dr. Esra Saatçı** Steps to Writing an Evidence-Based Medicine Article: New Approaches and Challenges **Dr. Roshanak Naseri Sis**		**Oral Presentations**	**Oral Presentations**	**Oral Presentations**
17.25 – 18.10	**Chair:** **Prof. Dr. Ersin Akpınar** Advancements in the Evidence-Based Management of Type 2 Diabetes: Emerging Therapies and Clinical Implications **Prof. Dr. Mohamed Farghaly**				

10 May 2025 Saturday (*All sessions on Saturday will be conducted in Turkish, and no simultaneous translation will be available*)

Time	Hall A	Hall B	Hall C	Hall D	Hall E	Hall F
08.45 – 09.30	**Chair:** **Assoc. Prof. Dr.Sanem Nemmezi Karaca** Rising Trend: Longevity and Lifestyle **Prof. Dr. Umut Gök** Exercise and Physical Activity Throughout Life – How Can We Encourage It? **Assoc. Prof. Dr.Elif Ateş**		**Psychodrama Workshop with Doctors: Parenting a Teenager Course** Course Instructors **Prof. Dr. Derya İren Akbıyık** **Assist. Prof. Dr. Perihan Çam Ray**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**
09.30 – 10.10	**Chair:** **Prof. Dr. Nezih Dağdeviren** Palliative Care Practices in Family Medicine **Assoc. Prof. Dr.Nagihan Yıldız Çeltek** Ethical Issues and Management in Palliative Care **Assoc. Prof. Dr.Dursun Barut**	**Chair:** **Assoc. Prof. Dr.Selda Tekiner** Climate Change and Health: Holistic Approaches in Family Medicine and Medical Education **Assist. Prof. Dr. Hülya Güç** Sustainable Climate Friendly Preventive Health Services **Dr. Süleyman Albayrak**	**Psychodrama Workshop with Doctors: Parenting a Teenager Course** Course Instructors **Prof. Dr. Derya İren Akbıyık** **Assist. Prof. Dr. Perihan Çam Ray**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**

10.10 – 10.40	**Coffee Break**					
10.40 – 11.15	**Chair:** **Prof. Dr. Serdar Öztora** Changing Relational Dynamics Across the Life Cycle: How Marriages Survive **Lecturer Dr. Obengül Ejder**	**Chair:** **Prof. Dr. Kamile Marakoğlu** Bilimsel Araştırma Yöntemleri ve Aile Hekimliği Alanında Araştırma Kapasitesinin Artırılması **Prof. Dr. Mustafa Kürşat Şahin** ASM'de Çalışırken Bilimsel Araştırma Süreçlerinin Dizaynı **Dr. Muhammed Mustafa Beyoğlu**	**Psychodrama Workshop with Doctors: Parenting a Teenager Course** Course Instructors **Prof. Dr. Derya İren Akbıyık** **Assist. Prof. Dr. Perihan Çam Ray**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**
11.20 – 12.00	**Chair:** Prof. Dr. Engin Burak Selçuk **Use of Clobetasol Propionate in Atopic Dermatitis and Comorbidities** Prof. Dr. Ümit Türsen					
12.00 – 13.30	**Lunch**					
13.30 – 14.10	**Chair:** Prof. Dr. Ertan Mert **Shingles: Diagnosis and Treatment** Prof. Dr. Ersin Akpınar					

14.10 – 15.30	**Chair:** **Assoc. Prof. Dr.Muhammet Emin Demirkol** Director General of Public Health The Role of Family Physicians in Chronic Disease Follow-up **Dr. Hamit Harun Bağcı** Deputy Director General of Public Health Effects of Environmental Factors on Health: The Role of the Family Physician **Assist. Prof. Dr. Erdoğan Öz** Deputy Director General of Public Health The Role of Family Physicians in Crisis Management in Natural Disasters **Dr. Tuğba Güler Sönmez** Head of Family Medicine Education and Monitoring Department of General Directorate of Public Health					
15.30– 16.00	**Coffee Break**					
16.00 – 16.45	**Chair:** **Prof. Dr. Erhan Yengil** Effects of Gut Microbiota on Health: A Primary Care Perspective **Assist. Prof. Dr. Gülsen Ceyhun Peker**	Turkish Gynecology and Obstetrics Association – TJOD Adana Branch – Obstetrics and Perinatology Panel **Chair:** Prof. Dr. İbrahim Ferhat Ürünsak, Dr. Zeynep Cansu Aladağ	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**

	Food Allergies in Children: Early Diagnosis and Parent Education **Assist. Prof. Dr. Gülseren Oktay**	**Cervical Cancer Screening and Vaccines: Current Status** Assoc. Prof. Dr.Ganim Khatib **Basic Evaluation in Infertile Couples** Assist. Prof. Dr. Ömer Faruk Geçkil **Vulvo-Vaginal Infections and Treatment** Dr. İrem Hatipoğlu				
16.45 – 17.30	**Chair:** **Prof. Dr. Derya İren Akbıyık** Medical Approach to Child Neglect and Abuse **Prof. Dr. Ayşe Avcı** Legal Approach to Child Neglect and Abuse **Simay Sönmezateş, Esq.**	Turkish Gynecology and Obstetrics Association – TJOD Adana Branch – Obstetrics and Perinatology Panel **Chair:** Assoc. Prof. Dr.Mete Sucu Dr. Fatma İşlek Uzay **Antenatal Care** Dr. Ahmet Çataldeğirmen **Hypertensive Diseases in Pregnancy** Dr. Emre Yalçın **Pregnancy and Diabetes** Dr. Fatma İşlek Uzay	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**

		Frequently Asked Questions in Pregnancy Dr. Zeynep Cansu Aladağ				
17.30 – 18.15	**Chair:** **Assoc. Prof. Dr.Nagihan Yıldız Çeltek** Psychosocial Health in Children and Adolescents **Assist. Prof. Dr. İdeal Beraa Yılmaz Kartal** Holistic Health and Functional Monitoring in Elderly Individuals **Assist. Prof. Dr. Binnur Tağtekin Sezer**	**Chair:** **Assoc. Prof. Dr. Yücel Uysal** Metabolic Syndrome in Adults and the Role of the Family Physician **Assist. Prof. Dr. Suat Sincan** Effectiveness of Medical Nutrition Therapy in Primary Care Follow-up of Metabolic Syndrome **Assist. Prof. Dr. Mehmet Akif Nas**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**	**Oral Presentation**
18.15 – 19.00	Chair: **Assoc. Prof. Dr.İzzet Fidancı** Antibiotic Resistance: Rational Prescribing in Family Medicine Practices **Dr. Çiğdem Akaydın** Evidence-Based Approaches to Non-Prescription Drug Use in Family Medicine **Dr. Halil Volkan Tekayak**			**Oral Presentation**	**Oral Presentation**	**Oral Presentation**
19.00 – 20.00	**WEBINAR** **Chair:** **Dr. Halil Volkan Tekayak** Current Legal Issues in Family Medicine **Gülümser Uğurlu, Esq.**					

11 May 2025 Sunday

Time	Hall A	Hall B	Hall C
09.00 – 09.40	**Chair:** **Assoc. Prof. Dr.Sanem Nemmezi Karaca** Teaching Living with Chronic Illness: Education of Patients and Their Relatives **Assoc. Prof. Dr.Yücel Uysal**		**Psychological Resilience Workshop for Physicians Course** Course Instructors Prof. Selma Aydın Assoc. Prof. Dr.Sanem Nemmezi Karaca Assist. Prof. Dr. Hatice Deniz Özdemir
09.40 – 10.20	**Chair:** **Prof. Dr. Engin Burak Selçuk** Cognitive Illusions: Fallacies and Biases in Thinking, Judgment, and Clinical Decision-Making **Prof. Dr. Ersin Akpınar**	**Chair:** **Assoc. Prof. Dr.Sanem Nemmezi Karaca** Occupational Equity, Equality and Beyond for Women Family Physicians **Dr. Merthan Tunay**	**Psychological Resilience Workshop for Physicians Course** Course Instructors Prof. Selma Aydın Assoc. Prof. Dr.Sanem Nemmezi Karaca Assist. Prof. Dr. Hatice Deniz Özdemir
10.20– 10.50	**Coffee Break**		
10.50 – 11.30	**Chair:** **Assoc. Prof. Dr.Yücel Uysal** A Comprehensive Approach to Developmental and Behavioral Surveillance in Primary Care **Assoc. Prof. Dr.Gülen Gül Mert**	**Chair:** **Prof. Dr. Engin Burak Selçuk** Blockchain in Healthcare: Interoperability vs. Inoperability **Prof. Dr. Ersin Akpınar**	**Psychological Resilience Workshop for Physicians Course** Course Instructors Prof. Selma Aydın Assoc. Prof. Dr.Sanem Nemmezi Karaca Assist. Prof. Dr. Hatice Deniz Özdemir
11.30 – 12.30	**Closing Session and Ceremony**		

Oral Presentation Programme

08 May 2025 Thursday

Time	Hall D
09.00 – 10.30	**Oral Presentations** **Chair: Assist. Prof. Dr. Suat Sincan** • Single-Center Experience with Chemotherapy Desensitization in Patients with Hypersensitivity Reactions: Clinical Outcomes and Efficacy - Leyla Çevirme • Relationship Between Newborn Cord Blood and Maternal Blood Serum Vitamin B12 and Folate Levels - Burcu Gök Erdoğan, Bahar Ürün Ünal, Aybike Pekin, Ali Ünlü • Adult and Healthcare Worker Immunization: A One-Year Observation from a Tertiary Hospital in Türkiye - Nazan Cinislioğlu, İdeal Beraa Yılmaz Kartal • Impact of Scabies on Health-Related Quality of Life: A Cross-Sectional Analysis - Aykut Şahin, Tuğçe Öksüz, Ersin Akpınar

08 May 2025 Thursday

Time	Hall D
	• Evaluation of Knowledge Levels of Family Medicine Residents of a University Hospital About Autism Spectrum Disorders - Elif Alıcı Bıyık, Sanem Nemmezi Karaca
10.30 – 11.00	**Coffee Break**
11.00 – 12.30	**Oral Presentations** **Chair: Assist. Prof. Dr. Hülya Güç** • Evaluation of Phenylketonuria Cases Referred Through The Newborn Screening Program: A Single-Center Experience - Ezgi Burgaç, Merve Yoldaş Çelik, Burcu Köşeci • Salmonella Bacteremia and Its Antibiotic Resistance Profile in Pediatric Patients at a Tertiary Care Hospital - Fatma Tugba Çetin, Ümmühan Çay, Emel Bakanoğlu, Asena Ünal, Gökçe Oğuz, Fatma Kılınç, Filiz Kibar, Nazlı Totik, Özlem Özgür Gündeşlioğlu, Derya Alabaz • Evaluation of Pediatricians' HPV Vaccine Knowledge and Awareness Before and After Training - Asena Ünal, Ümmühan Çay, Özlem Özgür Gündeşlioğlu, Derya Alabaz

08 May 2025 Thursday

Time	Hall D
	• Evaluation of Infections in Children Exposed to Secondhand Smoke - Başak Selin Kara, Yasemin Sağlan • Resilience in the Age of AI: Exploring AI-Related Anxiety Among Remote Workers - Sinem Çetin Demirtaş • Clinical Characteristics of Diabetic Patients Registered at Nenehatun Training Family Health Center and an Evaluation of the Reimbursement Status of Antidiabetic Medications - Mahmud Ekmeleddin Pesen, Mehmet Akif Nas
12.30 – 13.30	**Lunch**
13.30 – 15.00	**Oral Presentations** **Chair: Prof. Dr. Esra Saatçı** • The Relationship Between Serum Adropin, Asprosin and Irisin Levels and Cardiovascular Disease Risk in Healthy Individuals, Prediabetic and Type 2 Diabetes Patients - Esra Karapınar Göze, Bahar Ürün Ünal, Ali Ünlü, İrem Açılan

08 May 2025 Thursday

Time	Hall D
	• Assessment of Health-Related Quality of Life in Diabetes Mellitus Patients: A Cross-Sectional Study from Osmaniye, Turkey - Tuğçe Öksüz, Aykut Şahin, Ersin Akpınar • Infectious Diseases in Turkey: An Overview from the Past to the Present - Gulfer Yakici, Ozlem Akay • Evaluation of Toxoplasma gondii, Rubella and Cytomegalovirus Seroprevalences - Pınar Etiz, Filiz Kibar • Assessment of Knowledge Levels on Cardiovascular Disease Risk Factors Among Tobacco Users with Cardiovascular Disease: A Preliminary Study - Ayşenur Cesur, Ersin Akpınar • Determination of Nurses' Knowledge Levels in Oral Mucositis Management - Şenay Çetinkaya • Evaluation of Healthcare Professionals' Thoughts Regarding Patient Privacy in The COVID-19 Process - Şenay Çetinkaya, Emine Erçin • Knowledge Levels and Influencing Factors Regarding Nasal CPAP Nursing Care in Neonatal Intensive Care Nurses - Şenay Çetinkaya, Kübra Türker

08 May 2025 Thursday

Time	Hall D
15.00 – 15.30	**Coffee Break**
15.30 – 17.00	**Oral Presentations** **Chair: Assist. Prof. Dr. Elif Erdoğdu Ceylan** • Assessment of Patients with Pressure Ulcers by Home Care Services - Zeynep Aslan Hişmioğulları, Meryem Çakır • The Relationship Between Exercise Addiction and Attitudes Toward the Mediterranean Diet Among Individuals Aged 18-24 Who Attend Gyms - Zehra Dağlı, Fuat Köse, Fatmanur Bozdağ, Şevval Enç, Furkan Mecidiye, Harun Alagöz, Ebru Dumlupınar • Assessment of Knowledge, Attitudes, and Consumption Patterns of Functional Foods Among Consumers and Family Medicine Residents in Erzurum, Turkey - Orhun Dönmez, İdeal Beraa Yılmaz Kartal, Mehmet Akif Nas, Suat Sincan, Mustafa Bayraktar • Contrast Sensitivity: A Hidden Guard of Clear Vision and the Impact of Corneal Cross-Linking in Early-Stage Keratoconus - Cuneyt Karaarslan

08 May 2025 Thursday

Time	Hall D
	• Elevated HbA1c and Its Association with Liver Stiffness in Type 2 Diabetes Mellitus: A Prospective Study Using Transient Elastography - Fatih Necip Arıcı, Hüseyin Ali Öztürk • Evaluation of Mammography Screening History in Female Patients Presenting with Breast-Related Symptoms to General Surgery Outpatient Clinics - Gamze Tatar, Feride Gülcüler, Cem Karaali • Does Smoking During the Postmenopausal Period Affect HbA1c Levels? - Necla Hidayet Gokce Mersin, Aycan Cicekli, Yasemin Saglan, Huseyin Balcıoglu, Ramazan Saglan, Ugur Bilge • Evaluation of Antibiotic Prophylaxis Practices in Elective Surgeries: A Hospital-Based Study - Özay Akyıldız

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
09.00 – 10.30	**Oral Presentations** **Chair: Assoc. Prof. Dr. Elif Ateş** • Peripheral Artery Disease Screening Using Ankle-Brachial Index (ABI) Measurement - Erdem Kaya, Hande Betül Ülker, Hasan Basri Kabakçı, Yücel Uysal, Ertan Mert • Does Gender Affect Serum Gamma-Glutamyl Transferase Levels in Hypertensive Patients? - Yaren Bakan, Hüseyin Gezici, Yasemin Sağlan, Hüseyin Balcıoğlu, Uğur Bilge • Radiological Detection and Clinical Relevance of Lumbosacral Transitional Vertebrae in Young Adults with Chronic Low Back Pain - Mustafa Emre Saraç • A Faster and Easier Analysis Method for HLAB27 Testing in Suspected Ankylosing Spondylitis: Flowcytometry - Gülçin Dağlıoğlu, Özlem Görüroğlu Öztürk	**Oral Presentations** **Chair: Assoc. Prof. Dr. Yusuf Çetin Doğaner** • The Impact of Chronic Obstructive Pulmonary Disease Severity on Anxiety and Depression - İmren Mutlu Hayat, Dursun Çadırcı Barut • Role Of Mean Platelet Volume, Platelet Count And C-reactive Protein As Inflammatory Markers In Adults With Chronic Urticaria - Tuba Vural • Can Forced Expiratory Flow at 25-75% of Vital Capacity (FEF-75) Be Used for Asthma Diagnosis in a Pulmonary Clinic? - Özge Atik • Investigation of Health Literacy Levels of Patients Applaying to Selçuk University Faculty of Medicine Family Medicine Polyclinic - Bahar Ürün Ünal, Ayşegül Yıldırım • Effects and Side Effects of Pulse Steroid Therapy in Neurological Diseases - Berrak Naz	**Oral Presentations** **Chair: Prof. Dr. Oktay Sarı** • Screening for Celiac Disease in High-Risk Groups: Diagnosis of Celiac Disease in Four Asymptomatic Siblings - Ahmet Üzger, Yasin Şahin • Examination of Medical Specialization Theses on Child Neglect and Abuse - Feyza Nur Özbahar, Hamit Sırrı Keten • Readability and Content Evaluation of Turkish-Language Websites on Vitamin D in Children - Ebru Buldu • Pediatric Surgery and Family Medicine Collaboration: Optimization of Referral Process with Retrospective Analysis of 1426 Patients - Nurcan Çoşkun

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	• Effectiveness of Peloidotherapy on Functionality and Sleep Quality in Patients with Knee Osteoarthritis - Ayşegül Tansu Karaaslan, Ümit Aydoğan, Yusuf Çetin Doğaner, Fatih Karaarslan • Prevalence of metabolic syndrome in women with rheumatoid arthritis and effective factors - Nilüfer Aygün Bilecik, Nehir Samancı Karaman • Determination of Health Profile and Affecting Factors in Patients with Osteoarthritis Applying to a Family Health Center - Yasemin Şeyma Semerkant Kuzucu, Nazlı Hacıağaoğlu, Hüseyin Çetin, Can Öner, Engin Ersin Şimşek • An Evaluation on Birth Control Education, Method Usage, and Tetanus Vaccination During Pregnancy - Cemil Ulusan, Ayça Ulusan, Dilek Toprak • Perspectives of Older Adults on Falls and Fall Prevention Interventions Following Fall-Related Hip Fractures: A Qualitative Study - Merve	Kırgıl, Seda Hançerli Demirbaş, Meryem Hilal Altaş • Vaccination Rates and Awareness Among Patients with Diabetes Mellitus: A Cross-Sectional Study - Buse Ekici, Buket Yılmaz Bülbül, Mehmet Çelik • Evaluation of COVID-19 Infection Immunity Levels and Affecting Factors in Healthcare Workers - Muhammed Enes Kılıçoğlu, Kamile Marakoğlu, Uğur Arslan, Hüsamettin Vatansev, Eda Dilek, Ekin Eryılmaz	• Mothers' Attitudes Toward Fever and Their Habits of Over-the-Counter Antipyretic Use - Kaan Çelebier, Furkan Kalaycı, Enes Kaan Kılıç • The Relationship Between Acute Gastroenteritis and Systemic Immune Inflammation Index in Children - Ebru Buldu, Sadiye Sert, Fatma Sargın, İbrahim Solak • Assessment of Knowledge and Attitudes Regarding Vitamin D Prophylaxis Among Mothers with Children Aged 0-36 Months Attending a Primary Care Center - Neslihan Altınöz, Canan Yazıcı, Özlem Polat, Betül Öndeş Denizli • Telehealth Approach to Fibromyalgia Pain Management: Preliminary Clinical Study Design and Expected Outcomes - Burcu Özüberk, Nalan Sezgin

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	Toçoğlu, Elif Aktı Çakır, Hüsna Sarıca Çevik, Hüseyin Bilgehan Çevik • Professional Identity and Associated Factors Among Research Assistants in the Family Medicine Department of Atatürk University - Sümeyye Nur Kaya, Mücahit Bozali, Delal Akman Bozali, Furkan Şakiroğlu, Mehmet Akif Nas • To investigate the effect of the education received by family practice resident physicians during their specialty training on their knowledge and awareness levels about inhaler drug therapy in asthma or COPD - Büşra Avcı, Oktay Sarı, Burcu Doğan • HBsAg, Anti-HBs, Anti-HCV, and Anti-HIV Seroprevalence in a University Hospital Family Medicine Outpatient Clinic - Rumeysa Ayça Akça, Elif Erdoğdu Ceylan		

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	• Retrospective Analysis of Published Medical Specialty Dissertations on Palliative Care in Turkey - Emre Vuraloğlu		
10.30 – 11.00	**Coffee Break**		
12.15 – 13.30	**Lunch**		
13.30 – 14.10		**Oral Presentations** **Chair: Assist. Prof. Dr. Hüsna Sarıca Çevik** • Novel inflammatory markers in children with seasonal allergic rhinitis - Ömer Okuyan • Evaluation of Anxiety, Depression, and Quality of Life in Children with Solid Tumor Diagnosis - Şule Çalışkan Kamış, Burak Kamış, Metin Çil, Nihal Boz, Begül Yağcı • An Analysis of Studies on Child Neglect and Abuse in the Web of Science Database - Tuba	**Oral Presentations** **Chair: Assist. Prof. Dr. Baki Derhem** • Follow-Up of Children Presenting to the Pediatric Neurology Clinic with Headache Complaints: Improving Quality of Life Through Collaboration with Family Medicine - Cemile Büşra Ölçülü • Evaluation of Radiation Protection Awareness and Acute Radiation Syndrome Awareness Levels Among Emergency Medicine and Internal Medicine Physicians -

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
		Saygılı, Hatice Tuba Akbayram, Hamit Sırrı Keten • The Impact of Comorbidities, Symptoms, and Laboratory Parameters on the Prognosis of Covid-19 Patients - Mert Bardakçı, Özge Kaya, Önder Sezer, Selcuk Korkmaz, Hamdi Nezih Dağdeviren • The Use of Nutritional Supplement and Related Factors Among Adults During the COVID-19 Pandemic - Merve Taştan, Banu Ersoy Şen, Meltem Yılmaz • The effects of cognitive and emotional status on smoking cessation - Aysu Sinem Koc • Evaluation of Family Physicians' Awareness, Knowledge, Attitudes, and Practices Redarging Eating Disorders - Ayşe Gül Güven, Simay Mirioğlu	Nilsu Çini, Nurdan Yılmaz Şahin, Avni Uygar Seyhan, Özcan Keskin, Şule Karabulut Gül, Recep Demirhan • Relationship Between Diabetic Foot Amputations and Bacterial Species - Handan Derebaşınlıoğlu • Investigation of Metabolic Syndrome Frequency in Patients with Chronic Renal Failure - Meryem Betos Koçak • Factors Affecting Their Likelihood to Have Oral Glucose Tolerance Test and Their Knowledge Levels about Oral Glucose Tolerance Test in Pregnant Women Applying to a University Hospital Pregnancy Clinic - Selçuk Mıstık, Merve Tatır
14.10 – 14.40	**Coffee Break**		

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
14.40 – 16.30	**Oral Presentations** **Chair: Prof. Dr. Umut Gök** • The Effect of Metformin and PPI Use on Serum B12 Levels of Patients Applying to Family Health Center in the Last 10 Years - Ayça Ulusan, Cemil Ulusan, Dilek Toprak • The Impact of the COVID-19 Pandemic on Early Cancer Screening Behavior in Bolu Province: A Comparative Analysis of the Pre-Pandemic, Pandemic, and Normalization Periods - Ayşe Nennioğlu Turgut, Süleyman Özsarı • The Role of Family Physicians in Colposcopy: From Early Diagnosis to Management - Tuba Yar • Preventive Medicine on Social Media: An Engagement Analysis of the #koruyucuhekimlik Hashtag on Instagram - Güzide Yılmaz Ulukaya, İdeal Beraa Yılmaz Kartal, Mehmet Akif Nas	**Oral Presentations** **Chair: Assoc. Prof. Dr. Burkay Yakar** • Evaluation of The Relationship Between Obesity and Depression Level in Women - Selçuk Mıstık, Meftune Arslan • The Role Of Systemic Inflammatory Index in the Development of Persistent Hypothyroidism in Patients With Subacute Thyroiditis - Ezgi Tanrıverdi, Barış Sarıakçalı • Knowledge, Attitudes and Behaviors of Patients Applying to the Family Medicine Outpatient Clinic of a University Hospital towards Influenza and Pneumococcal Vaccines - Selçuk Mıstık, Rümeysa Murutoğlu • Search Behaviors Regarding Prostate Health: Changes and Trends in Turkey - Mehmet Eflatun Deniz, Mehmet Vehbi Kayra	**Oral Presentations** **Chair: Assoc. Prof. Dr. Mehmet Kayhan** • Evaluation of the Relationship between Night Eating Behavior and Sleep Quality, Depression and Anxiety Levels - Semih Tapsız, İsmail Kasım, Esma Öztürk Tapsız • Factors Affecting the Progression of Myopia in Children - Ayhan Sağlık • Clinical and Demographic Characteristics of Pediatric Ophthalmology Patients: A Retrospective Analysis from a University Hospital - Erdem Dursun • Relationship Between Systemic Immune-inflammation Index and Disease Activity in Rheumatoid Arthritis Patients - Rıfat Bozkuş, Canan Akkuş • Inflammatory Markers in Stage 1 Hypertensive Patients - Canan Akkuş

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	• Evaluation of the Application to Family Physicians and Satisfaction with Family Physicians of Patients with Green Area Triage Code in the Emergency Department - Harun Soyer, İdeal Beraa Yılmaz Kartal, Sultan Tuna Akgöl Gür • Nutrition And Related Factors In University Hospital Healthcare Workers - Sebahat Gücük, Kübra Demirci, Çağla İlbay, Büşra Arduç • Evaluation of the Relationship Between Adults' Health Perception and Attitudes Towards Hypertension Prevention - Merve Çilenay Semir, Elif Ateş, Abdullah Kaan Kurt • The Relationship Between Sleep Quality and Gastrointestinal Symptoms in Medical Residency Students - Ayşenur Kılınç, Süleyman Ersoy, Emin Pala • Factors Affecting Covid-19 Vaccine Acceptance and Hesitancy Among Adults In Turkey -	• Clinical Outcomes and Educational Value of Gastroscopy Training During General Surgery Residency: A Two-Year Experience from a Single Center - Can Aydın, Çağıl Karaevli, Sami Açar • Refining Expertise in Endocrine Surgery: A 24-Month Prospective Experience from a Single Surgeon - Çağıl Karaevli, Sami Açar • Investigation of the Prevalence of Anemia in Patients 80 Years and Older Followed in a Healthy Aging Center - Neslişah Gürel Köksal, Mustafa Köksal • Investigation of the Relationship between the Tendency to Oriorexia Neurosis and Health Anxiety and Generalised Anxiety Disorder in People Applying to Family Medicine Outpatient Clinic - Elif Ekinci Turan, Pakize Gamze Erten Bucaktepe	• Association Between Serum Free Copper Levels and Novel Oxidative Stress Markers in Individuals Using a Copper Intrauterine Device - Aynur Yıldırım, İbrahim Solak, Özcan Erel, Ümmügülsüm Esenkaya, Salim Neşelioğlu • Evaluation of the Relationship Between Premenstrual Syndrome, Sleep Quality, and Melatonin in Medical Faculty Students - Ülkü Sinem Koçak, Kamile Marakoğlu, Hüsamettin Vatansev, Muslu Kazım Körez

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	Meltem Yılmaz, Mustafa Kursat Sahın, Yıldız Kırac • Can Artificial Intelligence Recognize Skin Lesions? A Comparative Analysis of the Performance of ChatGPT-4, Grok-3, and Gemini-2.0 - Yıldız Büyükdereli Atadağ, Aslıhan Çelik Çoban, Hatice Tuba Akbayram, Tuba Kalınkara Seyhan • Media Device Exposure and Parental Perspectives on Its Effects Among Children and Adolescents in Turkey During the COVID-19 Lockdown - Esra Gök, Mustafa Kürşat Şahin • Determination of the Prevalence of Prediabetes in a Family Health Unit - Merve Nur Alagöz, Yasemin Özkaya, Olgu Aygün		
16.30 – 17.30	**Oral Presentations** **Chair: Prof. Dr. Mustafa Kürşat Şahin** • Evaluation of the Relationship between Anemia and Sleep Quality in Individuals		

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	Admitted to Family Medicine Outpatient Clinic - Fatma Nur Kurt Çelikkaya, Mehmet Özen • Evaluation of Preoperative Education, Chronic Disease Training, and Health Perception in Adult Patients Undergoing Coronary Artery Bypass Surgery from a Family Medicine Perspective - Özge Sarıgül, Ersin Akpınar • Examination of Knowledge Levels About Healthy Baby Monitoring, Health Literacy Levels and Related Factors of Women Aged 18-49 Who Apply to Family Health Centers - Muhammed Mustafa Beyoğlu, Levent Çevik • Investigation of Sudden Hearing Loss in Adult Patients Presenting to an Ear Nose Throat Clinic with Ear Congestion Complaints - Tuğçe Kıratlı Sökmen, Sanem Nemmezi Karaca, Abdulbaki Sökmen, Yeltekin Demirel		

09 May 2025 Friday

Time	Hall D	Hall E	Hall F
	• The Mediating Role of Relationship Satisfaction in the Association Between Partner Violence and Depression - Hatice Deniz Özdemir • Are Family Physicians Burned Out? A Study on Occupational Burnout and Affecting Factors - Selma Kaya, Elif Erdoğdu Ceylan, Nagihan Yıldız Çeltek, Osman Demir • Relationship Between Atherogenic Index of Plasma and Obesity-Associated Parameters in Children Aged 6-11 Years - Egemen Tural • Assessment of University Students' Knowledge and Awareness of Human Papillomavirus - Sena Özge Koç, Ersin Akpınar • The Roles and Functions of Nurses Working in the Field of Pediatric Health and Diseases: Their Implementation and Influencing Factors - Şenay Çetinkaya		

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
09.00 – 10.10	**Oral Presentations** **Chair: Assoc. Prof. Dr. Yücel Uysal** • A Pilot Study on the Association Between Technology Use and Depression Severity in Clinically Diagnosed Patients - Caner Yeşiloğlu • Evaluation of Psychiatric Consultations of Patients Hospitalized in Palliative Care Services - Sare Aydın, Burcu Eser, Elif Erdoğdu Ceylan • An Examination of Phobic Symptoms and Attitudes Toward Marriage - Caner Yeşiloglu, Lut Tamam, Mehmet Emin Demirkol, Mahmut Onur Karaytuğ • The Relationship Between Mindfulness and Impulsivity in Individuals with Obesity: The Role of Sociodemographic Variables - Caner Yeşiloglu, Lut Tamam, Mehmet Emin Demirkol, Mahmut Onur Karaytuğ	**Oral Presentations** **Chair: Assoc. Prof. Dr. Yusuf Haydar Ertekin** • Knowledge, Attitude and Behavior of Patients Applying to a Family Medicine Outpatient Clinic of a University Hospital on Rational Use of Antibiotics - Selçuk Mıstık, Zeliha Büşra Sağlam Zengin • Distribution and Evaluation of Symptoms Accompanying Vertigo According to Disease Types - Cansu Bayraklı, Ümit Aydoğan, Yusuf Çetin Doğaner, Fatma Ceyda Akın Öçal • Cholesteatoma: Retrospective Analysis of Demographic Characteristics, Intraoperative Findings, and Complications of Patients in a Tertiary Referral Centre - Mehmet Murat Günay	**Oral Presentations** **Chair: Assist. Prof. Dr. Hasan Hüseyin Avcı** • Analysis the Impact of the February 6, 2023 Earthquakes on Suicide-Related Internet Searches in Turkey - Feyza Nur Özbahar, Hamit Sırrı Keten • Evaluation of Lacosamide as an Adjunctive Therapy in Drug-Resistant Epilepsy: A Single Center Study - Zeynep Selcan Şanlı • Can the CRP/Albumin Ratio Be Used as an Inflammatory Marker in Palliative Care? - Leyla Ezgi Ersunar • Comparison of Outcomes Between Direct Lateral and Posterior Approaches in Hemiarthroplasty - İdris Perktaş • A Perspective on Family Planning Among Women of Reproductive Age in a Family

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• Having a Child with Autism: Gender Related Differences and Parents' Struggles in Life - Ayça Akbulut, Ümit Aydoğan, Yusuf Çetin Doğaner, Mehmet Ayhan Cöngöloğlu • Evaluation of Parents' Knowledge Sources and Levels Regarding Autism Spectrum Disorders - Emine Dilek Gökçe, Ümit Aydoğan, Yusuf Çetin Doğaner • Comparison of The State-Trait Anxiety Levels in Patients with and without Chest Pain Who Admitted to Dicle University Hospital - Ayşe Zülal Halifeoğlu Elsan, Mazlum Elsan, Mehmet Özbek, Pakize Gamze Erten Bucaktepe • Comparison of Functional Performance Among Distinct Patient Groups in a Palliative Care Unit - Serhat Mustafa İşcan, Feride Gülcüler, Umut Gök	• Is There an Association Between In-Utero Exposure to Maternal COVID-19 and Offspring's Diagnosed with Autism Spectrum Disorder? - Öykü Duran, Elif Abanoz, Ayla Uzun Çiçek • Evaluation of Family Functioning in Juvenile Offenders - Elif Abanoz • Approach to Adolescent von Willebrand Patients in Obstetrics and Gynecology Practice - Ayşe Yiğit Sönmez	Health Center in Kahramanmaraş - Kübra Demirkıran Kaya • Associations Between Polypharmacy, Chronic Conditions, and Inappropriate Medication Use in the Very Elderly - Mehmet Beler • Determination of the Association between the Levels of Physical Activity and Cognitive Perceptions of Physicians and the Frequency of Family Doctors Prescribing Exercise - Kübra Kurt

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• Review of Medical Specialization Theses on Earthquakes in Turkey - Hatice Tuba Akbayram, Zekiye Temizkan • Investigation of Palliative Service Caregivers Concealment of Information from Patients - Yaren Yorulmaz, Feride Gülcüler, Umut Gök		
10.10 – 10.40	**Coffee Break**		
10.40 – 12.00	**Oral Presentations** **Chair: Assoc. Prof. Dr. Dursun Barut** • Does Patient-Centered Care Competency in Palliative Care Nurses Affect the Quality of Palliative Care? - Alican Oğuz, Fatma Zehra Arslan, Elif Erdoğdu Ceylan, Nagihan Yıldız Çeltek • Are We Accurately Identifying Catheter Infections in Palliative Care? A Perspective on Catheter-Related Bloodstream Infections - Umut Doğan, Feride Gülcüler, Umut Gök	**Oral Presentations** **Chair: Assoc. Prof. Dr. Süleyman Özsarı** • Knowledge and Awareness of Interventional Radiology Among Primary Care Physicians: A Cross-Sectional Study - İlker Alkış, Serpil Demirağ, Mustafa Gök • Pulmonary Edema in the Intensive Care Unit: Diagnosis, Treatment, and Clinical Outcomes - Mahmut Yılmaz • The Relationship Between Hypoxemia Severity and Hematological and	**Oral Presentations** **Chair: Assoc. Prof. Dr. Duygu Ayhan Başer** • Evaluation of the Relationship Between the Factors Affecting Cigarette Use, Smoking Cessation Behaviors and Perceived Stress Level of Research Assistants in a University Hospital - Selçuk Mıstık, Seda Nur Ongun Anıl • Evaluation of the Topics, Methods, and Publication Status of Specialty Theses in Family Medicine at Atatürk University

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• Bacterial Infections and Antibiotic Resistance Profile in Palliative Care Patients: A Study Based on Clinical Cases - Süheyla Kanlıdağ, Selma Kaya, Ufuk Ünlü, Gülgün Yenişehirli, Ayşenur Güneş • Medical Faculty Students' Knowledge Levels and Attitudes About Breast Cancer: A Cross-Sectional Study in One of the Largest Provinces of Türkiye - Furkan Urcan, Bahar Ürün • Knowledge Levels and Attitudes of Family Medicine Residents in Ankara Regarding Tuberculosis and Directly Observed Treatment Practices - Selahattin Kılıç, Selda Tekiner • Assessment of Anaphylaxis Knowledge and Awareness Among Medical Faculty Students - Gürgün Tuğçe Vural Solak, Selma Yeşilkaya • Determination of Intern Doctors' Knowledge Levels on Medical Law and Regulations in a	Biochemical Parameters in Acute Exacerbations of Chronic Obstructive Pulmonary Disease - Hatice Şahin • Does Artificial Intelligence Cause Anxiety Among Medical Students? - Kübra Uyar Zekey, Fethi Sada Zekey • Evaluation of the Relationship Between Respiratory Function Tests and the Fagerström Dependence Test in Patients Applying to a Smoking Cessation Clinic - Hümeyra Aslaner, Seher Yıldırım • Association of Abnormal Cervical Cytology Samples and Premalignant/Malignant Cervical Lesions with High-Risk HPV Types at Adana Yüreğir State Hospital - Gülçin Yıldırım	Faculty of Medicine - Aslıhan Güven, Suat Sincan, Mehmet Akif Nas • Evaluation of Knowledge Levels on Atopic Dermatitis Among Family Medicine Residents - Zeynep Hazal Sezgin Güney • Attitudes of Medical Specialization Students Towards Healthy Eating - Zahide Yıldırım, Emin Pala

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	University Hospital - Muhammed Burak Çınar, Elif Deniz Şafak • Evaluation of the Relationship Between Disease Severity and Vitamin D Levels in Alopecia Areata Patients - Tuğba Tehçi • The Effect of Medical School Education on Medical Students' Knowledge Level and Awareness of Substance Addiction - Büşra Adlım, Elif Deniz Şafak		
12.00 – 13.30	**Lunch**		
13.30 – 15.30		**Oral Presentations** **Chair: Assoc. Prof. Dr. Tarık Eren Yılmaz** • The Need for Consolidation in Family Medicine Journals in Turkey: Challenges and Opportunities - Jülide Fatma Çakır, Hamit Sırrı Keten • Analysis of Disaster Health Research in Medical Specialty Theses in Turkey from	**Oral Presentations** **Chair: Prof. Dr. Ümit Aydoğan** • Clinical Characteristics of Fully Bedridden Patients Registered in the Home Health Care Units in Sivas Province - Yeltekin Demirel, Sanem Nemmezi Karaca, Muhammed Talha Altun

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
		1993 to 2024 - Jülide Fatma Çakır, Hamit Sırrı Keten • Early Diagnosis and Clinical Surgical Outcomes on the Road to Surgery in Carotid Artery Diseases - Kemal Eşref Erdoğan, Muhammet Fethi Sağlam • The Role of Primary Health Care Services in the Diagnosis and Follow-up of Chronic Venous Insufficiency: The Importance of CEAP Staging - Murat Yücel, Emre Demir Benli • Statin Adherence in Patients with High Cardiovascular Risk: A Cross-Sectional Study - Yusuf Cetin Doganer, Umit Aydogan, Umit Kaplan, Suat Gormel, James Edwin Rohrer, Uygar Cagdas Yuksel • Clinical Effectiveness of Hip Joint Injections in Coxarthrosis: A	• Determinants and Awareness of Health Literacy: What Affects It in Our Patients? - Seyda Bilican, Serpil Demirag • Changes in New Systemic Inflammation Markers in Obese Individuals Who Lost Weight - Aynur Yıldırım, İbrahim Solak, Emre Harmancı • Evaluation of Obesity and Vitamin B12 Research on Web of Science - Zeyneb İrem Yüksel Salduz • Prevalence of COVID-19 during 2021 in Kosovo: a population-based cross-sectional study - Gazmend Bojaj, Arber Lama, Ilir Hoxha, Esra Zhubi, Blerına Bojaj • Google Trends Searches on Acute Stress Disorder Following Earthquakes in Turkey - Güler Gizem Doğan, Hamit Sırrı Keten • The Importance of Serum Apelin-13, Apelin Receptor, Nitric Oxide and Nitric

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
		Retrospective Study - Ahmet Yılmaz, Çağatay Küçükbingöz • Assessment of the Relationship Between Sagittal Spinal Alignment and Clinical Parameters in Ankylosing Spondylitis - Elif Balevi Batur	Oxide Synthase Levels in the Differentiation of Patients with ST Elevation and Non-ST Elevation Myocardial Infarction - Zeki Dogan, Sinem Durmus, Hafize Uzun
15.30– 16.00	**Coffee Break**		
16.00 – 17.30	**Oral Presentations** **Chair: Assoc. Prof. Dr. Elif Deniz Şafak** • Telehealth in Primary Care: Patients' Attitudes in Family Health Centre - Rana Baykan Gürüz, Leyla Tekdemir, Semiha Zeynep Özsaydı, Rabiye Özlem Ulutabanca • Attitudes and Behaviours Regarding Cancer Screening Patients Hospitalised in a Palliative Care Service - Zeynep Aslan Hişmioğulları, Büşra Elmas, Melike Akçakaya, Olgu Aygün, Meryem Çakır		

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• Does Body Mass Index Affect Neutrophil Lymphocyte Ratio in People Without Chronic Disease? - Hüseyin Gezici, Yaren Bakan, Yasemin Sağlan, Hüseyin Balcıoğlu, Uğur Bilge • Reasons for Admission to the Family Medicine Outpatient Clinic at a University Hospital - Bahar Ürün Ünal, Esma Nakipoğlu • E-Cigarette Use and Associated Factors Among Intern Doctors - Fatma Zehra Gül Ekinci, Sanem Nemmezi Karaca • Evaluation of the Relationship Between Fagerström Nicotine Dependence Levels and Depression, Anxiety and Stress Levels in Individuals Attending a Smoking Cessation Clinic - Hicret Cin, Uğur Alpay Aytop, Hakan Gülmez • Short-term Results in Smoking Cessation with Cytisine: Preliminary Results - Özlem Kızıltaş		

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• The "Mini Tests Submodule" Developed Within the Family Medicine Residency Training Management Module (MTA-UZEM) - Hasan Basri Kabakçı, Erdem Kaya, Hande Betül Ülker, Yücel Uysal, Ertan Mert • Analysis of the TUKMOS Clinical and Procedural Competency Assessment Results Entered by Family Medicine Residency Students Through the MTA-UZEM Specialty Training Management Module - Hande Betül Ülker, Erdem Kaya, Hasan Basri Kabakçı, Yücel Uysal, Ertan Mert • Analysis of Medical Specialty Dissertations on Home Care Services - Ardıl Fındık, Emre Vuraloğlu, Altuğ Kut • Perspectives of Medical Students on Family Medicine Specialty and Its Future, Assessment of Their Knowledge Levels About Family Medicine - Bahar Ürün Ünal, Edanur Arslan Gökçek		

10 May 2025 Saturday

Time	Hall D	Hall E	Hall F
	• The Analysis of Suicide Among Healthcare Workers in Medical Specialty Theses: A Systematic Review - Zekiye Temizkan, Hamit Sırrı Keten • Effects of Facet Joint Radiofrequency Application on Low Back Pain - Zeki Boğa		

Poster Presentations

Title	Author(s)
Nursing Management of Severe Dehydration in an Infant with Prolonged Diarrhea: A Case Report	Şenay Çetinkaya, Bera Bucaklı
Severe Acute Bronchiolitis in a Premature Infant Due to RSV Infection: A Case Report	Şenay Çetinkaya, Azra Nur Yıldırım
A Case Report of a Newborn with Esophageal Atresia and Anal Atresia	Şenay Çetinkaya, Merve Germeğenlioğlu
Nursing Care Plan for a Pediatric Patient with Crohn's Disease: A Case Study	Şenay Çetinkaya, Ece Ersoy
From Curiosity to Dependence: Exploring Youth Smoking Initiation and Family Physician-Based Strategies	Beyza Akçal, Ersin Akpınar
The Impact of Continued Smoking on Health Status in Patients with Chronic Obstructive Pulmonary Disease (COPD)	Yasemin Özkan Aksungur, Ersin Akpınar
The Role of Primary Care Physicians in the Diagnosis of Conduct Disorder: A Case-Based Forensic and Psychiatric Approach	Elif Özberk, Şule Sinem Gedikbaş
The Role and Potential of Healthy Life Centres in Social Prescribing	Rana Baykan Gürüz, Semiha Zeynep Özsaydı, Leyla Tekdemir
Teenager Had Syncope Twice Due to Brugada Syndrome	Bora Baltacıoğlu, Melis Simla Baltacıoğlu
Approach to Pregnancy Complicated by Diabetic Embryopathy: Case Report	Fatma İşlek Uzay
A Rare Case of Klippel-Trenaunay Syndrome in Primary Care: Multidisciplinary Management and Follow-Up	Cemil Ulusan

Pseudohypoparathyroidism: Diagnosis, Follow-Up, and Treatment in Family Medicine	Ayça Ulusan
Tuberculous Peritonitis and Hypercalcemia in a 15-Year-Old Girl Patient Suspected to Have Meigs Syndrome	Emel Bakanoğlu, Fatma Tuğba Çetin, Özlem Özgür Gündeşlioğlu, Gökçe Oğuz, Asena Ünal, Ümmühan Çay, Derya Alabaz, Selcan Türker Çolak
Management of abnormal menstrual bleeding caused by etonogestrel contraceptive intradermal implant	Ömer Faruk Geçkil
Identifying And Treating Trigeminal Neuralgia Correctly	Nida Geçkil
Child Neglect and its Final Endpoint: A Case Lost Due to Sepsis	Ersin Bıyık, Elif Alıcı Bıyık
Black Hairy Tongue: A Case Report in Primary Care	Esra Çelik
A Patient with Left Forearm Osteomyelitis on the Limit of Amputation	Emel Bakanoğlu, Gökçe Oğuz, Asena Ünal, Fatma Tuğba Çetin, Ümmühan Çay, Özlem Özgür Gündeşlioğlu, Derya Alabaz, Akif Mirioğlu
Case Report of a Person Who Admitted to the Family Health Center in the Late Period After Trauma	Havva Bölükbaşı
Culture-Negative, Clinically Positive: Diagnosis of a Rare Case of Peritoneal Tuberculosis Based on Clinical Suspicion	Selvi Tuğba Taş, Selahattin Kılıç, Muhammet Kızmaz
A Case of Intrathyroidal Parathyroid Cancer with Recurrent Laryngeal Nerve Invasion	Çağıl Karaevli, Sami Açar
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KEYNOTE PRESENTATIONS

Advancing Health for All through Equity, Excellence, and Innovation in Family Medicine

Viviana Martinez-Bianchi,
Prof. Dr., MD, FAAFP – WONCA President – Elect
Director for Health Equity at Duke University's Department of Family Medicine & Community Health, Durham, NC, USA

Keynote Presentation

Health is a political choice—and one that calls for courageous leadership from family doctors. In this keynote, Dr. Viviana Martinez-Bianchi explores how equity, excellence, and innovation in family medicine can transform health systems and move us closer to universal health coverage. With over 4.5 billion people still lacking access to essential services, she makes a compelling case for investing in family doctors not just as clinicians, but as advocates, scientists, and changemakers.

Drawing on global perspectives and lived experiences, the presentation highlights the systemic exclusion that perpetuates health disparities and calls for bold action through policy, partnership, and practice. It emphasizes training in equity, empathy, and systems thinking; the integration of mental health into primary care; and collaboration with community health workers and traditional healers. Innovation is framed not merely as technological advancement, but as relational transformation—rooted in listening deeply to communities and empowering them to lead.

As we enter an era of artificial intelligence and digital transformation, Dr. Martinez-Bianchi underscores the importance of ensuring that technology serves human connection, not replaces it. AI has the potential to improve access, streamline care, and support decision-making—but it must be developed and deployed with ethical clarity, equity at the core, and community and family medicine input at every stage.

This keynote is both a vision and a call to action: to invest in family doctors, to strengthen primary care as the foundation of equitable health systems, and to lead with equity, strive for excellence, and embrace innovation—not for its own sake, but for the sake of humanity. Health for all is not a dream. It is a promise—and family doctors are the ones who must deliver it.

Shifting Towards Primary Care

Mohammad Rasoul Tarawneh,
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Abstract

The presentation highlights the crucial role of primary health care (PHC) in delivering essential medical services to communities, emphasizing the need for developing nations to strengthen their primary care systems. The 'New Primary Health Care' model is introduced, advocating for multi-professional teams, proactive and reactive care, and patient-centered approaches that consider the social and cultural context of illness. The core values of high-performing primary care – equity, quality, and sustainability – are outlined, along with the 10 essential building blocks for effective primary care practices, including patient engagement, care coordination, and service accessibility. The legacy of the late Professor Barbara Starfield, a renowned advocate for primary care, serves as a poignant reminder of the impact of quality primary care on population health and healthcare efficiency. Ultimately, the presentation underscores the critical role of primary care in improving health outcomes, enhancing healthcare efficiency, and ensuring equitable access to essential medical services.

Keynote Presentation

Chronic Disease Management in Türkiye

Hamit Harun Bağcı
Ministry of Health, General Directorate of Public Health, Ankara, Turkey

Keynote Presentation

ABSTRACT

The aging population and the rise of non-communicable diseases (NCDs) in Türkiye have necessitated the development of integrated and innovative solutions for effective chronic disease management. According to the WHO 2022 report, 90% of deaths in Türkiye were attributed to NCDs.

This study evaluates the design, implementation process, and outcomes of the Disease Management Platform (DMP), which was developed to support the effective management of chronic diseases in Türkiye's primary health care system.

The DMP manages the screening, follow-up, and treatment of conditions such as hypertension, diabetes, obesity, and cardiovascular diseases through personalized risk assessment, evidence-based clinical protocols, intelligent clinical decision support systems, and integrated data management infrastructures. Data were collected between July 1, 2021, and March 31, 2025.

During this period, 107.4 million screenings and 67.4 million follow-ups were conducted, resulting in the diagnosis of 9,787,111 individuals with chronic diseases. Personalized risk profiling enabled tailored treatment targets and enhanced self-management support mechanisms. The World Health Organization recognized the DMP as a model practice for NCD management.

By standardizing chronic disease management processes at the primary care level, the DMP has contributed to improved health outcomes at both individual and population levels.

Keywords: Chronic Diseases, Primary Health Care, Digital Health, Disease Management, Türkiye, Clinical Decision Support Systems, Screening Programs.

Introduction

Non-communicable diseases (NCDs) are a major public health challenge globally and in Türkiye. They are the leading causes of mortality and morbidity, disrupt individuals' quality of life, increase health expenditures, and exacerbate social inequalities—placing a substantial burden on health systems and economies. NCDs, including diabetes, cancer, cardiovascular diseases, and chronic respiratory conditions, are responsible for over 70% of global deaths—approximately 41 million annually—according to the World Health Organization (WHO) (1,2). Globally, NCDs account for two-thirds of disability-adjusted life years (DALYs) and cause 15 million premature deaths each year. Low- and middle-income countries (LMICs) bear a disproportionate burden, with a 1.5-fold higher risk of early death compared to high-income countries. From 2000 to 2019, NCDs led to 277 million premature deaths among individuals aged 30–70 in LMICs (3,4). This growing burden places significant pressure on health systems and necessitates preventive interventions. In response, the WHO developed the STEPwise approach to NCD risk factor surveillance (STEPS), enabling countries to monitor changes in risk factors using standardized protocols, thereby facilitating data comparability and the evaluation of prevention and control programs (5).

Türkiye, an upper-middle-income country with a predominantly young population, reported in the WHO 2022 report that NCDs accounted for 90% of all deaths, nearly one-fifth of which occurred before the age of 70 (6). Alarmingly, the probability of dying prematurely (before age 70) from NCDs in Türkiye is 18%, meaning that nearly one in five adults dies earlier than expected. To combat NCDs and their risk factors rapidly and comprehensively, the Ministry of Health of Türkiye launched the Multisectoral Action Plan for Non-communicable Diseases 2017–2025 (7). Alongside improvements in health indicators, life expectancy at birth has

increased, leading to a notable rise in the proportion of older adults. According to the Turkish Statistical Institute (TURKSTAT), in 2023, for the first time, individuals aged 65 and older exceeded 10% of the total population. This demographic shift has contributed to increased NCD prevalence and disease burden (8).

In this context, the Ministry of Health of Türkiye developed the Disease Management Platform (DMP) to support systematic, comprehensive, and digital management of chronic diseases at the primary care level.

Methods

The DMP is a digital health platform designed to assess disease risks at the individual level using algorithm-based scoring systems, and to establish treatment and follow-up plans based on evidence-based clinical protocols. The platform consists of three main components: Decision Support Services, Population Management, and Integrated Data Infrastructure. Initially piloted in 2018, the platform was refined based on pilot findings and scaled up nationwide in 2021. This study analyzes screening and follow-up data from July 1, 2021, to March 31, 2025.

Results

Between July 1, 2021, and March 31, 2025, 107.4 million screenings and 67.4 million follow-up visits were conducted, leading to the diagnosis of 9,787,111 individuals with chronic diseases. Transition rates from screening to follow-up significantly improved. Clinical decision support systems accurately classified patients into risk groups and optimized individualized target values. In addition, patients' self-management capabilities were enhanced, and adherence to treatment improved. In its 2024 report, the WHO listed the DMP among exemplary multisectoral initiatives for NCD management.

Conclusion

The implementation of the Disease Management Platform has provided an effective model for the early detection, risk-based management, and prevention of complications from NCDs in

Türkiye's primary health care system. Through personalized monitoring, integrated data management, and decision support services, the platform has enhanced the efficiency of the health system and contributed significantly to reducing disease burden.

While it is well-established that NCDs impose both direct and indirect financial burdens on individuals and households, comprehensive data on how these costs vary across disease types and levels of care are particularly lacking in LMICs. Establishing systematic platforms like the DMP in Türkiye facilitates cost reduction at both individual and societal levels, provides a data-driven foundation for prioritizing social protection, and improves the effectiveness of health policies.

The DMP's success has been driven by the active engagement of primary care services, strengthened digital health infrastructure, and implementation of patient-centered care models. However, to ensure the long-term effectiveness and sustainability of the platform, regular impact assessments, monitoring of care transitions across levels, and dynamic evaluations of individuals' social protection needs are essential.

Looking forward, expanding the scope of the DMP, improving care quality, and supporting interventions to reduce health inequities will play a decisive role in Türkiye's fight against the NCD burden.

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Disaster Management and Family Medicine: The Role of Primary Care Physicians in All Phases of Disasters

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Keynote Presentation

Abstract:

Disasters are extraordinary situations that threaten public health and require coordinated and continuous primary healthcare services. This article explores the roles of family physicians during disaster response and recovery phases, and discusses potential preparedness efforts in the pre-disaster period. It also presents field practices based on the Kahramanmaraş-centered earthquakes that occurred in Türkiye in 2023. The paper emphasizes the strategic importance of family medicine within disaster management, highlighting their contributions in risk assessment, healthcare service continuity, community-based interventions, psychosocial support, and intersectoral collaboration. Recommendations are made for integrating family medicine more effectively into disaster preparedness and response plans.

Keywords:

Family Medicine, Disaster Management, Primary Care, Earthquake, Public Health, Türkiye, Preparedness, Psychosocial Support, Resilience, Digital Health

Introduction

Disasters are extraordinary events that cause physical, economic, and social losses, often exceeding the coping capacity of affected communities. They can be triggered by natural, technological, or human-made causes. According to the Centre for Research on the

Epidemiology of Disasters (CRED), approximately 500 disasters occur globally each year. In 2021 alone, 432 natural disasters affected 101.8 million people and caused 10,492 deaths.

The INFORM Risk Index highlights the increasing global risk of humanitarian crises due to wars, mass migrations, and pandemics, such as COVID-19. The index evaluates countries based on exposure to hazards, coping capacity, and vulnerability. Türkiye is considered a high-risk country under this index.

Effective disaster management aims to mitigate the destructive impacts of disasters by planning actions related to prevention, preparedness, response, and recovery. The WHO's Health Emergency and Disaster Risk Management (H-EDRM) framework emphasizes the sustainability of healthcare systems. Türkiye's National Disaster Response Plan (TAMP) defines the role of the Ministry of Health in the Health Group and outlines inter-agency cooperation.

In 2023, WONCA Europe included concepts such as One Health, Planetary Health, and Sustainability in its core competencies framework for family physicians, calling on them to take action for the health of both humanity and the planet.

Family physicians, as integral components of people-centered and community-oriented primary care, are well-positioned to contribute across all phases of disaster management: risk reduction, preparedness, response, and recovery. Their involvement strengthens system resilience and enhances community capacity to cope with disasters.

The Case of the 2023 Kahramanmaraş Earthquakes

During the February 6, 2023 earthquakes in Türkiye, family physicians played a critical role in temporary settlements (e.g., container and tent cities) and in undamaged health facilities by ensuring the continuity of emergency, preventive, and curative health services. They conducted

immunizations, monitored vulnerable populations, provided maternal and child health services, and supported chronic disease management.

Official data indicated:

- 50,783 deaths,
- 3.32 million evacuations,
- 230,000 buildings rendered unusable,
- Deployment of 5,075 UMKE (Emergency Medical Team) members, 18,124 physicians, and over 63,000 healthcare workers.

Within the first two months, primary care activities included:

- 168,868 antenatal visits,
- 625,677 child health visits,
- 48,707 births,
- 44,894 psychiatric consultations,
- 21,201 households received psychosocial support,
- Over 77,000 chlorine residual measurements for water safety.

Roles of Family Physicians in Disaster Management

Pre-Disaster Preparedness

Family physicians can use electronic information systems to identify and monitor high-risk populations (e.g., pregnant women, children, elderly, chronically ill). They engage in health education, promote immunization, and raise awareness on hygiene and first aid. They also support syndromic surveillance and early warning systems.

Disaster Response

In the acute phase, family physicians help ensure continuity of health services, deliver mobile or facility-based care, participate in reverse triage, provide tetanus prophylaxis and vaccinations, and contribute to contact tracing and health education.

Post-Disaster Recovery

In the aftermath, they support community rehabilitation through periodic health screenings, maternal-child care, psychological first aid, and environmental health measures. They play a key role in the prevention of infectious disease outbreaks and support referrals to secondary care for trauma-related mental health issues.

Risk Assessment and Mapping

By leveraging local data, family physicians participate in risk mapping and population registry updates to create realistic and effective disaster response plans tailored to the specific vulnerabilities of their regions.

Training and Awareness

Community-focused training in disaster preparedness and first aid is essential. Family physicians should be actively involved in educational programs targeting both the public and healthcare personnel.

Curriculum and Continuing Education

While disaster medicine is included in the public health curriculum in Türkiye, it remains underrepresented in family medicine residency training. It is essential to integrate disaster preparedness into both undergraduate and postgraduate medical education.

Digital Health and Emergency Systems

Digital tools such as electronic health records, telemedicine, and mobile health apps can enhance coordination, data collection, and rapid response during disasters. Strengthening digital infrastructure in primary care is key to maintaining service continuity.

National and International Coordination

Effective disaster response requires integration with national bodies such as AFAD and UMKE and alignment with international frameworks. Family physicians must be recognized as key stakeholders in these collaborative efforts.

Conclusion and Recommendations

Disasters are multifaceted crises that extend beyond physical damage, impacting healthcare systems, social structures, and individual well-being. A multi-sectoral approach is essential; however, the strategic value of family medicine in disaster management is clear.

The 2023 Kahramanmaraş earthquakes demonstrated the vital role of family physicians in disaster response. It is imperative that primary care services be institutionally integrated into all phases of disaster planning and management. Key priorities include:

- Incorporating disaster medicine into medical education,
- Strengthening digital infrastructure,
- Clarifying roles and responsibilities of primary care within national disaster plans.

In conclusion, a resilient and sustainable healthcare system must place family medicine at the center of disaster preparedness and response. The Ministry of Health will continue to promote policies that empower family physicians to serve as pivotal agents in community-centered disaster management.

Herpes Zoster (Shingles): Diagnosis and Management in Primary Care

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Keynote Presentation

Herpes zoster, commonly referred to as shingles, is a reactivation of the varicella-zoster virus (VZV), which remains dormant in the sensory ganglia following an initial varicella (chickenpox) infection. This condition is characterized by a painful, unilateral vesicular eruption typically limited to a single dermatome. Shingles poses a significant public health burden, particularly in older adults and immunocompromised individuals, with complications such as postherpetic neuralgia (PHN) leading to long-term morbidity.

This presentation provides a comprehensive overview of the clinical approach to herpes zoster, with a focus on timely diagnosis, optimal treatment strategies, and preventive measures within the context of primary care. Given the increasing incidence of shingles due to aging populations and immunosuppressive conditions, family physicians play a pivotal role in early recognition and management.

Diagnosis

Clinical diagnosis of herpes zoster is typically straightforward in immunocompetent patients presenting with classic dermatomal pain followed by a vesicular rash. However, atypical presentations—including zoster sine herpete (pain without rash), ophthalmic involvement, or multi-dermatomal spread—may require differential diagnosis and additional diagnostic tools such as PCR testing or direct immunofluorescence. A detailed patient history, including prior varicella exposure and immunization status, is critical.

Treatment

The cornerstone of treatment involves antiviral therapy, which should be initiated within 72 hours of rash onset for maximum efficacy. Recommended antiviral agents include acyclovir, valacyclovir, and famciclovir. Early initiation of antivirals has been shown to reduce the duration and severity of symptoms, decrease viral shedding, and lower the risk of PHN. Adjunctive therapies, including analgesics, gabapentinoids (e.g., pregabalin, gabapentin), tricyclic antidepressants, and corticosteroids (in selected cases), play a significant role in pain control and improving quality of life.

Management of PHN—a complication characterized by persistent neuropathic pain lasting more than 90 days after rash onset—is often challenging and may require a multidisciplinary approach. Family physicians must be familiar with pharmacological and non-pharmacological interventions, particularly in elderly patients with comorbidities.

Prevention

Vaccination is the most effective strategy to prevent herpes zoster and its most debilitating complication, postherpetic neuralgia (PHN). The recombinant zoster vaccine (RZV), marketed as Shingrix, is a non-live, adjuvanted subunit vaccine that contains varicella-zoster virus glycoprotein E combined with the AS01_B adjuvant system. RZV is highly immunogenic and has demonstrated superior efficacy and long-lasting protection compared to the previously used live-attenuated zoster vaccine (ZVL, Zostavax), which is no longer widely recommended.

Large-scale clinical trials and post-marketing surveillance have shown that RZV provides over 90% efficacy in preventing herpes zoster across all age groups ≥50 years. Its efficacy remains robust over time, with protection rates of approximately 84% at 4 years and sustained immunity reported up to 10 years in long-term follow-up studies. In addition, RZV reduces the risk of PHN by about 90%, even in older adults aged ≥70 years, a group particularly vulnerable to severe disease and chronic pain.

Dose and Administration

RZV is administered intramuscularly in two doses, given 2 to 6 months apart. The vaccine does not contain live virus and is therefore safe for immunocompromised individuals, unlike the older live zoster vaccine. Common side effects include transient local reactions (pain, redness, swelling) and systemic symptoms such as fatigue or myalgia, most of which resolve within a few days.

Target Groups

RZV is recommended for all adults aged 50 years and older, regardless of prior history of herpes zoster or receipt of the live vaccine. It is also indicated for adults aged 19 years and older who are immunocompromised due to disease (e.g., HIV, hematologic malignancies) or immunosuppressive therapy (e.g., chemotherapy, organ transplant recipients, long-term corticosteroids, biologics). Notably, it is safe and immunogenic in these high-risk groups, although timing of vaccination may require coordination with the underlying condition or therapy.

Guideline Recommendations

RZV is endorsed by numerous international health authorities, including:

- **U.S. Centers for Disease Control and Prevention (CDC)**: Routine recommendation for adults ≥50 years and for immunocompromised individuals ≥19 years.
- **European Centre for Disease Prevention and Control (ECDC)**: Supports national policies recommending vaccination of older adults.
- **UK Joint Committee on Vaccination and Immunisation (JCVI)**: Advises use of RZV for individuals over 50 and those at clinical risk.

- **World Health Organization (WHO)**: Includes RZV among recommended vaccines for older adults and those with compromised immunity, depending on country resources and priorities.

Implementation Worldwide

RZV has been incorporated into national immunization programs in various high-income countries including the United States, Canada, Germany, the United Kingdom, Australia, and Japan. In some countries, it is publicly funded for high-risk groups or older adults, while in others it is available on a prescription basis. Integration into routine preventive care—particularly in primary care settings—is critical for improving vaccine uptake.

Family physicians should actively screen for vaccine eligibility during routine visits, educate patients on the benefits and safety profile of RZV, and address vaccine hesitancy. Given the aging population and increasing prevalence of immunocompromised conditions, expanding access to zoster vaccination is an important step in reducing the global burden of this preventable disease.

Special Considerations

Special populations, including patients with autoimmune diseases, those undergoing chemotherapy, or living with HIV, require individualized assessment and management plans. Family physicians should collaborate with specialists when necessary, while maintaining continuity of care and monitoring long-term outcomes.

Conclusion

Herpes zoster is a common yet potentially debilitating condition with significant implications for patient well-being and health systems. Family physicians are uniquely positioned to identify, manage, and prevent shingles through a combination of clinical vigilance, timely therapeutic intervention, and patient-centered vaccination strategies. In primary care, proactive vaccination

counseling, identifying eligible patients, and addressing vaccine hesitancy are essential components of prevention. Integration of shingles vaccination into routine preventive care plans enhances uptake and reduces disease burden. By integrating current evidence-based practices into routine care, primary care providers can substantially improve outcomes for patients at risk of or suffering from herpes zoster.

Urinary Incontinence in Older Adults

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Keynote Presentation

Urinary incontinence (UI), characterized by the involuntary leakage of urine, is a common condition among older adults. Prevalence estimates vary, ranging from 3% to 55%, depending on the specific population studied. In nursing homes, approximately 60% to 70% of residents experience UI, although many cases go unreported due to stigma or lack of awareness. The most common subtypes of urinary incontinence in older adults include urge incontinence, stress incontinence, and mixed incontinence, with urge incontinence being the most prevalent.

Urge incontinence is primarily caused by detrusor overactivity, which can result from infections, neurological problems, or bladder inflammation or stones. Stress incontinence occurs due to weakened pelvic floor muscles or dysfunction of the urethral sphincter, often as a result of factors such as multiple pregnancies, obesity, or chronic coughing. Mixed incontinence includes symptoms of both urge and stress incontinence. Overflow incontinence happens when there is an obstruction in the outlet of the urinary bladder or when the detrusor muscle is unable to contract effectively. Functional incontinence is experienced by individuals who cannot reach the toilet due to cognitive or orthopedic issues.

The initial evaluation should include a thorough medical history and a symptom assessment. A physical examination should be conducted, which includes an evaluation of gait and mobility. A urinalysis is necessary to rule out infections or hematuria. Additionally, post-void residual (PVR) measurement should be performed for patients who exhibit voiding symptoms or have

risk factors for urinary retention such as benign prostate hyperplasia. Reversible causes of incontinence should be investigated. Possible causes include delirium, infections, atrophic urethritis or vaginitis, medications such as sedatives, hypnotics, diuretics, and anticholinergic agents, polyuria, or limited mobility. Advanced testing, such as urodynamics or cystoscopy, is reserved for cases where there is diagnostic uncertainty, a history of pelvic surgery, pelvic radiation, microscopic hematuria, atypical presentations, or cases that are intractable.

The treatment of urinary incontinence follows a stepped-care or shared decision-making model that prioritizes non-invasive therapies before progressing to pharmacologic or surgical options.

1. Behavioral and Non-Invasive Therapies

- First-line for Urge Incontinence: Bladder training techniques, such as timed voiding and urgency suppression, are recommended for urge incontinence. For stress incontinence, pelvic floor muscle exercises (PFMT) are the first choice.

- For individuals with cognitive impairment, habit training, prompted voiding, or scheduled toileting may be helpful. Additionally, lifestyle modifications, including weight loss, reducing caffeine intake, and managing fluid consumption, can alleviate symptoms.

2. Pharmacologic Therapies

- Anticholinergics: Medications such as oxybutynin, tolterodine, fesoterodine, trospium, solifenacin, and darifenacin are effective for urge incontinence but may cause anticholinergic side effects like cognitive impairment and dry mouth. The anticholinergics should be used cautiously in older adults, especially those with dementia. Anticholinergics are contraindicated for patients with narrow-angle glaucoma or urinary and gastric retention.

- Beta-3 Agonist: Mirabegron is preferred for older adults with urge incontinence due to its fewer cognitive side effects. However, it may cause hypertension, so arterial blood pressure should be monitored.

- Duloxetine: Duloxetine is a serotonin-noradrenalin reuptake inhibitor used for stress incontinence.

Surgical options should be reserved for cases that do not respond to other treatments. Urinary incontinence (UI) in older adults is complex and requires personalized management. First-line treatments are typically conservative therapies. It is essential to engage in shared decision-making to weigh the effectiveness, potential side effects, and patient goals. Additionally, emerging therapies, such as botox and neuromodulation provide safer alternatives for older populations, especially those at risk for cognitive decline.

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Effectiveness of Medical Nutrition Therapy in the Primary Care Management of Metabolic Syndrome

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Keynote Presentation

Metabolic syndrome is a clinical condition characterized by the coexistence of metabolic disorders such as abdominal obesity, insulin resistance, dyslipidaemia, and hypertension, posing a high risk for cardiovascular diseases and type 2 diabetes. With the increasing prevalence of obesity, declining physical activity, and widespread unhealthy eating habits, metabolic syndrome has become a serious global public health problem. The TURDEP-II study conducted in Turkey revealed that the obesity rate among adults exceeds 30%, and that the prevalence of metabolic syndrome follows a similar trend.

Primary health care services hold strategic importance in the prevention, early diagnosis, and effective management of metabolic syndrome. Family physicians play a key role in this process due to their position as the first point of contact within the health system and their competence in providing continuous and holistic care. Screening, counselling, identification of risk groups, development of individualized intervention plans, and long-term follow-up are all included in this scope. Through family health centres, the components of metabolic syndrome can be easily evaluated using simple screening methods (blood pressure, waist circumference, fasting glucose, lipid profile).

One of the most fundamental approaches in the management of metabolic syndrome is lifestyle modification. One of the most effective components of these changes is medical nutrition therapy. Medical nutrition therapy is a personalized nutritional intervention based on scientific evidence and tailored to the individual's nutritional needs. Research has shown that a 5–10%

reduction in body weight can lead to significant clinical improvements in the components of metabolic syndrome. Through medical nutrition therapy, goals such as regulation of blood glucose, improvement of lipid profile, weight control, and blood pressure management can be achieved.

Among the frequently used diet models in medical nutrition therapy are the Mediterranean diet, DASH diet, and low glycaemic index diets. The Mediterranean diet, rich in olive oil, whole grains, fruits and vegetables, fish, and legumes, is effective in reducing cardiovascular risk factors. The DASH diet, on the other hand, stands out for its blood pressure-lowering effect, particularly in individuals with hypertension.

The biggest barriers to medical nutrition therapy in primary care practice include time constraints, lack of access to dietitian support, limited capacity for individual counselling, and differences in patient motivation levels. However, short-term structured interventions, motivational interviewing techniques, group education programs, and digital health applications may be effective in overcoming these challenges.

In conclusion, medical nutrition therapy is an indispensable tool in the prevention and management of metabolic syndrome within primary health care services. Enhancing the knowledge and practical skills of family physicians in this area, fostering a multidisciplinary team approach, and strengthening systemic support mechanisms will increase the effectiveness of this intervention. Supporting this approach through community-based health policies will contribute significantly to the reduction of the cardiometabolic disease burden in the long term.

Climate Change and Health: Holistic Approaches in Family Medicine and Medical Education

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Keynote Presentation

Climate Change and Its Effects

Climate change is a global problem, the effects of which are felt more and more by all living beings over time and the health consequences for humans in terms of biopsychosocial aspects are increasing.

According to the World Health Organization's (WHO) information note titled Climate Change and Health, climate change is projected to result in approximately 250,000 additional deaths annually between 2030 and 2050. The primary contributors to this mortality burden include malnutrition, diarrhoeal diseases, malaria, and heat-related illnesses. These projections underscore the significant health consequences of climate change and highlight the urgent need for comprehensive mitigation and adaptation strategies (1).

The Sixth Assessment Report of the IPCC emphasises that the negative consequences of climate change on health may be experienced more and more. Heat waves, air pollution, infectious diseases and threats to food and water security are known to increase health risks at global level. Considering that especially the elderly, children, individuals with chronic diseases and people with immune system diseases may be more affected by these effects, it is understood that health systems should be prepared for these issues (2).

Family Medicine and Health Effects of Climate Change

Family medicine is a medical field based on a holistic approach that evaluates the health status of the individual together with biological, psychological and social factors (3). This approach analyses the patient not only with his/her current symptoms but also in the context of his/her environment, social relations and mental status. The holistic health model aims to provide preventive, curative and rehabilitative services together. Therefore, it is important to address climate change, which is a global health problem, from the holistic perspective of family medicine.

From the perspective of family medicine, measures that can be taken against the risks associated with climate change and health counselling practices especially for vulnerable groups are becoming increasingly important. In this context, it is understood that there is a need for more research on health services and preventive measures for groups affected by climate change both in our country and internationally. According to these researches and studies, it can be considered that the holistic approach in family medicine and health counselling can contribute to individuals to be less harmed by the effects and to act appropriately in terms of environmental health sustainability.

The holistic approach of family medicine and health counselling services can play an important role in reducing the negative effects of climate change on health. Especially in the protection of vulnerable groups that are more affected by climate change, it is of great importance to increase the awareness of individuals through family medicine practices and to gain appropriate health behaviours. In the international literature, it is emphasised that family physicians can assume an active role in preparing the society against health risks related to climate change and supporting environmental sustainability (4). Similarly, scientific studies conducted in Turkey reveal the effects of climate change on public health and support the preventive power of primary health care services in this process (5). In this context, family medicine practices have a critical importance in terms of protecting not only individual health but also environmental and social health integrity.

Medical Education and Climate Change

The inclusion of climate change and its health effects in medical education programmes is thought to be an important step to be prepared for future health problems. As Özmen and Evci Kiraz (2021) emphasised, the content of medical education should be updated and this field should be addressed systematically within the scope of medical education in order to train individuals who are prepared for the direct and indirect effects of climate change on health (6). Such an approach is of great importance both for individual professional competence and for the protection of public health.

In medical education, the need to increase the awareness of physician candidates and health professionals in terms of the health effects of climate change, health counselling for individuals with chronic diseases related to this issue, and health measures that can be taken is increasing over time. In the biopsychosocial approach of family medicine and in terms of professional competence in medical education, the issues of climate change and health effects remain important.

According to a 2023 study by Demirci and Zaybak, although nursing students had high levels of awareness of climate change, this awareness had a negative effect on future anxiety and mental health (7).

There is an increasing need to increase the awareness of physician candidates and health professionals in terms of informing individuals about the effects of climate change on health, health counselling for individuals who may be more affected by this situation and preventive health measures that can be taken (8). From the biopsychosocial approach of family medicine and the framework of professional competence in medical education, the issue of climate change and its health effects should be addressed with a holistic approach.

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Atopic Dermatitis: The Importance of Correct Diagnosis and Topical Treatment

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Keynote Presentation

Skin diseases with an allergic background like atopic dermatitis are very common. Atopic dermatitis (AD) is a common chronic inflammatory skin disease presenting with heterogeneous clinical phenotypes that are determined by distinct genetic and epigenetic dispositions, resulting in a spectrum of endophenotypes. In 60% of patients, AD starts before the age of 6; in 18%, the onset is after the age of 20. A diagnosis of AD is made on the basis of clinical presentation and history, with exclusion of multiple erythematous and eczematous conditions. Diagnosis is generally straightforward in infants and young children, but can be challenging in severe cases and in adults. Concomitant allergic diseases including urticaria, asthma, food intolerance, allergic rhinitis and conjunctivitis are common in AD. Patients with AD have an increased risk of developing attention deficit/hyperactivity disorder, whereas no association was found between AD and malignancies, diabetes, or multiple sclerosis. Although elevated total Ig-E levels are a characteristic feature of both AD and hyper-IgE syndrome, the pattern of IgE sensitization and T-cell subsets may clearly distinguish between them. Basic therapy is also focused on treating disturbed barrier function by hydrating and lubricating topical treatment, the backbone of therapy for patients with mild-to-moderate AD, along with adequate cleansing/bathing practices. When used on a daily basis, moisturizers with non-aqueous emollients, occlusive agents and humectants improve barrier function, reduce AD signs and symptoms, and the need for topical corticosteroids (TCSs). Topical anti-inflammatory treatment based on corticosteroids and calcineurin inhibitors is indicated for flare management and for proactive

therapy for long-term control. TCSs remain the first line treatment, reducing disease recurrence when used intermittently in patients with established disease. TCSs are grouped into classes according to anti-inflammatory potency, and selection of steroid should be guided by location, extent and acute or chronic nature of skin lesions, patients' age, and disease severity. Low-potency TCSs are indicated for mild disease, flexural and facial skin lesions, young children and pregnants. High potency TCSs are preferred for older patients, lichenified and chronic prurigo-like lesions and palms. Understanding the role of the skin in the emergence of AD will help to develop novel preventive, diagnostic, and therapeutic strategies and thus improve patient management in both primary care and specialized medicine providing individualized treatment. An effective disease management including prevention and disease-modifying strategies would significantly decrease the burden on patients and society as allergic diseases cause an immense socioeconomic burden. Relevant data supporting efficacy is only available for the use of topical corticosteroids.

Integrated Health and Functional Follow-up in Geriatric Populations

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Today's presentation focuses on holistic health and functional monitoring in older adults - a topic of increasing global significance amid rapidly aging populations. According to demographic projections, the global population aged 65 and over is expected to nearly double from 727 million in 2020 to approximately 1.5 billion by 2050. Turkey, like many countries, is experiencing this demographic transformation, necessitating systemic adaptations in public health policies and care delivery models.

Aging is a complex and multidimensional process, extending beyond biological decline to encompass psychological, social, and functional domains. Therefore, ensuring healthy aging requires a integrated approach — one that is person-centered, interdisciplinary. The cornerstone of this model is the **Comprehensive Geriatric Assessment (CGA),** which systematically evaluates an older adult's medical conditions, functional status, cognitive and emotional well-being, nutritional status, medication use, and environmental and social support systems.

Functional monitoring is a core component of this process. It involves the ongoing evaluation of an individual's ability to perform basic and instrumental activities of daily living (ADLs and IADLs), maintain mobility, and engage in meaningful social roles. This enables healthcare providers to detect early signs of decline, personalize interventions, and implement preventive strategies that support autonomy and improve health outcomes.

However, several barriers challenge the effective implementation of holistic and functional assessments. These include polypharmacy, complex chronic disease management, reduced adherence to treatment plans, physical limitations, social isolation, and economic constraints. In addition, structural issues — such as limited access to healthcare services and inadequate integration of social care — often further complicate care for this population.

Despite these challenges, several promising strategies are emerging. Multidisciplinary collaboration among physicians, nurses, social workers, dietitians, physiotherapists, and psychologists is essential. Technological innovations, including telemedicine, wearable devices, and smart home systems, offer additional tools for continuous monitoring and support. Moreover, policy frameworks such as Turkey's Healthy Aging Action Plan (2021–2026) and global initiatives like the WHO's Integrated Care for Older People (ICOPE) emphasize proactive, community-based models of care that prioritize functionality, independence, and quality of life.

In closing, I hope this presentation highlights the critical importance of adopting a holistic, function-oriented perspective in geriatric care. I invite you to reflect on the challenges and opportunities you encounter in your own practice and to share your insights as we collectively aim to foster dignity, resilience, and well-being in later life.

Food Allergies in Children: Early Diagnosis and Parental Education

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Keynote Presentation

Food allergies are immune-mediated adverse food reactions (1). It may negatively affect the life of the individual and his/her family. It may occur after exposure to a food and recur with each exposure to the relevant food (2).

Food allergies are of three types (2):

1. IgE-mediated

2. Non-IgE-mediated

3. Mixed

The percantage of food allergies in children aged 0-17 in the United States was reported as 5.8% according to the 2021 National Health Interview survey data (3). The prevalence of probable food allergy was reported as 1.9-5.6% in a study conducted in the European region between 2007 and 2009 in three stages with children aged 7-10 years (4).

When we look at the studies conducted in our country, in a study conducted with 1280 children aged 3-6 years in Samsun province in 2009, 99 (7.7%) children were thought to have food allergy as a result of questionnaire and telephone interviews (5). In a study conducted in 2006 with 2739 children aged 6-9 years in the Eastern Black Sea Region, the estimated prevalence of IgE-mediated food allergy was reported as 5.7% (156 children) reported by their parents and 0.80% (22 children) confirmed (6).

Detailed history and physical examination are important in the diagnosis of the disease. In this sense, family physicians, who are the first point of contact for their patients, have important duties.

Points to be considered in the history: What are the symptoms that occur after food intake, time of onset, severity, recurrence, duration of improvement, amount of food ingested, type of exposure, type of consumption (cooked, raw...), previous health institution visits, accompanying conditions (fever, exercise, medication...) allergic diseases, medical history, family history, nutritional history of the baby/child (7,8).

Physical examination should be performed in detail. However, if it is not an acute disease period, physical examination is usually unremarkable. Clinical presentation is variable depending on the underlying mechanisms. Skin, gastrointestinal, respiratory or systemic reactions may be observed (2). Symptoms usually develop within two hours after exposure to the allergen in IgE-mediated food allergies, whereas symptoms may appear hours to days later in non-IgE-mediated food allergies (9).

The tests that can be used in the diagnosis may vary according to the type of food allergy; however, the gold standard diagnostic method is the “double-blind placebo-controlled food challenge test” (2).

Treatment is based on the detection of the suspected food and its removal from the diet. Parental education is important in this sense. Because the family has important roles both in the detection of the allergenic food and in the removal of the food from the diet. Avoiding unnecessary elimination is as important for the growth and development of the child as removing the suspected food from the diet. In addition, teaching label reading contributes to the prevention of life-threatening reactions (10,11). In addition, an emergency action plan should be prepared and families should be trained to recognize the signs of anaphylaxis and to explain what to do and to administer adrenaline auto-injector (7).

Care should be taken in the nursery and school life of children with food allergy. Cooperation of family and school health workers is important. Sharing food in school canteens, school buses and classrooms poses a risk for children with food allergy. In this sense, it is important for the safety of the child with food allergy that teachers, school administration, students and bus drivers are trained on this issue. It is also important to inform all stakeholders in terms of emergency action (7).

Food allergy can negatively affect the life of the individual and his/her family and lead to social isolation. In this process, psychological support may be needed to protect mental health (7).

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Approach to Geriatric Patients in Primary Care and Principles of Palliative Care

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Keynote Presentation

1. Approach to Geriatric Patients in Primary Care

The number of geriatric people is steadily increasing both globally and nationally. As the point of first contact within the healthcare system, this demographic trend significantly impacts primary care services. Primary care services serve a key role in the geriatric population's screening, diagnosis, treatment, and follow-up of health problems. Adopting a comprehensive, holistic and patient-centered approach based on the biopsychosocial model is fundamental in the assessing and caring of geriatric patients.

Characteristics of Geriatric Patients

Aging is an irreversible physiological process marked by progressive structural and functional changes across all levels of the organism, resulting in a gradual decline in physical, psychological, and social functioning.

- Physiological changes: Vision-hearing loss, incontinence, oral and dental health problems, sleep disorders, gait and balance disorders.
- Comorbidities: hypertension, diabetes mellitus, cardiovascular diseases, dementia, cancer, etc.
- Polypharmacy: multiple medication use, adverse drug effects, drug-drug interactions
- Functional decline: decreased mobility, being partially or fully dependent

- Psychosocial problems: spousal loss, loneliness, depression

A. Comprehensive Geriatric Assessment

- **History Taking**: Assessment of chronic diseases, medication use, tobacco, and alcohol consumption, malnutrition (using tools such as Mini Nutritional Assessment - MNA or Nutritional Risk Screening - NRS-2002), functional status (Barthel Index, Lawton-Brody Instrumental Activities of Daily Living Scale), cognitive function (Mini-Mental State Examination - MMSE), emotional status (Geriatric Depression Scale - GDS, Patient Health Questionnaire-2 - PHQ-2), living conditions, social support, sleep quality, and screening for neglect or abuse
- **Physical examination**: Primarily on cardiovascular and neurological systems, evaluation of vision and hearing, oral and dental health, incontinence (stress, urge, mixed types), pain (Visual Analog Scale - VAS), and risk of pressure injuries (Braden Scale)

B. Prevention of Polypharmacy

- Avoidance of unnecessary medications
- Evaluation of potential drug-drug interactions
- Age-appropriate drug dose adjustment (especially renal and hepatic dose adjustment should be considered)

C. Preventive Health Services

- **Vaccinations**: influenza, pneumococcal, herpes zoster, tetanus
- **Cancer screenings:** mammography, fecal occult blood test, cervical smear
- **Bone health:** vitamin D and calcium supplementation, osteoporosis screening via DEXA
- **Fall prevention:** exercise recommendations, assesement of home environment (e.g., removal of door thresholds, installation of grab bars in bathrooms and hallways)

D.Psychosocial Support

- Depression screening (GDS, PHQ-2)
- Prevention of social isolation (e.g., participation in Refresher Universities-TAU)
- Support for caregivers managing the care of patients with partial or complete dependence.

E. Multidisciplinary Approach

- Collaboration with geriatricians, gerontologists, dietitians, physiotherapists, social workers, and dentists.
- Assessment of the patient's need for home healthcare and palliative care services

A comprehensive evaluation—comprising an assessment of general health status, functional independence, cognitive status, and medication use—should be conducted at least annually by a physician. In individuals with abnormal findings, reassessment may be performed every five years. These evaluations can be conducted at primary care facilities (family health centers, community health centers, wellness centers), at the patient's residence, or in long-term care institutions such as nursing homes.

2. Principles of Palliative Care

According to the World Health Organization, palliative care is a multidisciplinary medical approach aimed at improving quality of life by preventing or alleviating suffering in patients and their families facing problems associated with life-threatening illnesses. This includes early identification and accurate assessment of pain and other distressing symptoms, as well as addressing physical, psychosocial, and spiritual needs.

In which diseases is it applied?

Palliative care can be applied in progressive diseases such as cancer, stroke, chronic obstructive pulmonary disease (COPD), heart failure, dementia, amyotrophic lateral sclerosis (ALS), and

end-stage renal disease, as well as in patients with partial or complete dependence secondary to trauma.

Palliative Care Team

The interdisciplinary team typically includes a palliative care physician, nurse, psychologist, social worker, physiotherapist, spiritual care provider, and gerontologist.

A. Symptom Management

The primary goal is to assess and alleviate physical symptoms such as pain, dyspnea, nausea and vomiting, and fatigue using both pharmacological and non-pharmacological methods.

- Use of opioids for cancer-related pain or adjuvant medications for neuropathic pain
- Wound care based on staging of pressure ulcers
- Nutritional support in patients with impaired oral intake (e.g., via nasogastric tube or percutaneous endoscopic gastrostomy; parenteral nutrition if necessary)
- Evaluation of aspiration risk
- Assessment and management of sleep disturbances
- Management of clinical conditions such as delirium
- Screening and treatment of depression

B. Psychosocial Support

- Psychological support for patients and families in addressing emotional issues such as anxiety, depression, and fear of death.
- Social services may assist in arranging economic support or care planning.

C. Patient-Centered Decision-Making

- Treatment goals should be determined in collaboration with the patient and family, considering the patient's expectations and care preferences (e.g., opting for home care

instead of hospital-based care). An individualized care plan should be developed accordingly.

D. Spiritual Care

- The patient's spiritual needs and beliefs should be respected, and spiritual well-being should be supported throughout the care process.

Post-Discharge Care

- Ensuring continuity of care after discharge requires taking into account the preferences of the patient, family, and caregivers regarding the place of care (e.g., another clinical setting, nursing home, or home).
- Caregivers should be informed on how to contact healthcare personnel post-discharge. Integration with home healthcare and primary care services is essential to minimize disruptions in continuity of care.

Terminal Phase (Hospice) Care:

This refers to specialized care aimed at ensuring comfort during the final days of life. While palliative care may be initiated at any stage of illness (e.g., managing chemotherapy-related side effects in cancer patients), hospice care is typically reserved for patients with a life expectancy of less than six months and focuses exclusively on end-of-life comfort rather than curative treatment.

In summary, palliative care is a multidisciplinary, patient-centered approach aimed at optimizing the quality of life in individuals with incurable yet manageable conditions.

Cognitive Illusions: Fallacies and Biases in Thinking, Judgment, and Clinical Decision-Making

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Keynote Presentation

Cognitive illusions—systematic patterns of deviation from norm or rationality in judgment—pose a significant yet often overlooked threat to clinical reasoning and decision-making. These mental shortcuts, or *heuristics*, are essential for managing the complexity of daily medical practice. However, they also predispose physicians to diagnostic errors, therapeutic misjudgments, and flawed risk assessments. In the context of primary care, where physicians frequently operate under conditions of uncertainty, time pressure, and cognitive overload, understanding cognitive biases becomes critical for enhancing patient safety and decision quality.

This presentation aims to explore the major categories of cognitive illusions that affect medical thinking, with a special focus on their implications in family medicine and primary care settings. Drawing upon research in cognitive psychology, behavioral economics, and clinical epidemiology, the session will examine how intuitive reasoning—often referred to as *System 1* thinking—can lead to predictable errors, and how deliberate, analytical thinking (*System 2*) may mitigate these errors, albeit at the cost of time and mental effort.

Key Cognitive Biases in Clinical Contexts

Several cognitive biases have been consistently linked to diagnostic and treatment errors. Among the most relevant in primary care are:

- **Availability Bias:** The tendency to judge the probability of events based on how easily examples come to mind. A recent or emotionally salient case can disproportionately influence diagnostic thinking.
- **Anchoring Bias:** The over-reliance on the initial piece of information (the "anchor") when making decisions, which can prevent adequate re-evaluation even in the face of new, contradictory data.
- **Confirmation Bias:** The selective collection and interpretation of evidence that supports a pre-existing belief or hypothesis, while discounting or ignoring information that refutes it.
- **Premature Closure:** The tendency to stop considering alternatives after reaching a quick diagnosis, often before gathering sufficient data.
- **Overconfidence Bias:** The unwarranted belief in the accuracy of one's knowledge and judgments, which can limit consultation, second opinions, or use of decision aids.

These biases not only affect physicians' thought processes but also influence their interactions with patients, leading to communication breakdowns, reduced shared decision-making, and inequitable care.

Cognitive Biases and the Diagnostic Process

Diagnostic reasoning is especially vulnerable to cognitive errors, given its reliance on pattern recognition and heuristic shortcuts. In primary care, physicians often manage vague, undifferentiated symptoms and must make decisions with limited access to immediate diagnostic testing. Under such circumstances, intuitive thinking plays a dominant role, making

it more likely for biases to infiltrate the clinical process. Studies estimate that cognitive errors contribute to more than 75% of diagnostic mistakes, many of which are potentially preventable.

Debiasing Strategies

While it is impossible to eliminate cognitive biases entirely, several evidence-informed strategies can help mitigate their impact:

- **Metacognition:** Encouraging reflective thinking about one's own thought processes ("thinking about thinking") can reduce reliance on automatic responses.
- **Checklists and Diagnostic Timeouts:** Structured tools and short pauses in decision-making allow for reconsideration of alternatives and challenge premature closure.
- **Use of Second Opinions and Team-Based Decisions:** Collaborative diagnosis and feedback can expose blind spots and reduce individual bias.
- **Education and Awareness Training:** Familiarity with common biases and how they manifest in clinical settings is the first step toward behavioral change.
- **Decision Support Systems (DSS):** Electronic aids can prompt consideration of alternative diagnoses or evidence-based pathways, especially in complex or uncertain cases.

Implications for Primary Care Practice and Training

Family physicians are uniquely positioned to benefit from training in cognitive debiasing. Their role as first-contact providers often requires rapid decision-making across a broad spectrum of conditions. Integrating cognitive psychology into medical education and continuous professional development can foster more accurate and reflective clinical practice. Moreover, cultivating a culture that tolerates uncertainty and encourages questioning can protect against the detrimental effects of overconfidence and premature closure.

Conclusion

Cognitive illusions are an inevitable part of human thinking, yet their influence on clinical decision-making can be mitigated through awareness, reflective practice, and systematic approaches to reasoning. In the age of increasing complexity in medicine, recognizing and addressing these cognitive pitfalls is essential to improve diagnostic accuracy, enhance patient outcomes, and promote more resilient, adaptive thinking among clinicians. This presentation invites family physicians to examine not only *what* they think—but *how* they think.

Designing Scientific Research Processes While Working at a Family Health Center

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Kahramanmaraş Dulkadiroğlu Faruk Arıkan Family Health Center, Turkey

Keynote Presentation

Research: It is the process of collecting data through planned and systematic observations and/or measurements under certain conditions on a specified subject, analyzing the collected data, interpreting the results, and reporting them.

First Steps

Determining the rationale for conducting the research: The natural course, prevalence, etiology, risk factors, prognosis, treatment superiority, or diagnostic methods of a disease or social issue should be identified.

Review of the literature: Sources to be consulted on the subject include basic medical textbooks, guidelines, PubMed, Google Scholar, UpToDate, Cochrane, and all university libraries, which can be accessed online to scan existing publications. In addition, these (YOKTEZ), congress, and symposium abstract books can also be reviewed.

Clarifying the topic: The main principle should be to make decisions by following current studies conducted in our country and around the world. The focus should be on topics important to public health, such as prevalence, burden on the patient and society, and issues that are preventable or open to intervention.

Essential components of a research article's outline: The research title, topic, background information, objective, materials and methods, type of study, population, sample/sampling method, variables (dependent, independent), definitions and criteria, data collection method,

data analysis, required materials and personnel, budget, timeline, and references should form the main sections of the research.

Ethical considerations

The research should not harm participants and must be conducted impartially at all stages. Participants should be informed about the procedures involved in the study, and ethics committee approval and necessary permissions must be obtained. Permissions should be secured from the institutions where the research will be conducted, ensuring confidentiality, anonymity of participants, secure storage and protection of data, and that all collected information is not used for purposes other than the study.

Points to Consider

Cover page: The title of the study and the names, institutions, and contact information of the researchers should be included.

Abstract: It is the first contact for the referee/reader. It is a short and clearly written text consisting of 200-300 words and containing sufficient detail.

Protocol annexes: Data collection form, institutional authorization documents (university, tertiary care hospital, and/or provincial health directorate ethics approval), and investigator CVs should be completed and submitted as appendices of the study.

Keywords: Family Health Center, Scientific Research, Primary Care

Scientific Research Methods and Increasing Research Capacity in Family Medicine

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The Role and Importance of Research in Family Medicine



Dear colleagues, the strength of the discipline of family medicine comes not only from its ability to provide inclusive and continuous care, but also from its ability to build its own body of knowledge. Every specialty in medicine should have a defined body of knowledge applicable to patient care and an active research culture that feeds this body (1). Family medicine, on the other hand, has historically tended to apply research produced by other disciplines, and its own research outputs have been relatively limited. Indeed, one review found that family medicine research remains "woefully underdeveloped" even today, when it is increasingly recognized how critical primary care is to health systems (2). However, at a time of increased emphasis on primary care in health policy, family medicine has the opportunity to define itself more strongly from a scientific perspective and to generate the evidence itself to improve patient care and population health (2). It is now widely recognized that quality research activities are indispensable for the effectiveness of primary care and that family medicine as a discipline needs to improve its capacity in this area (3).

Research forms the basis of evidence-based practices in family medicine, improving service quality and strengthening our professional reputation. Today, the need for research in family medicine, both nationally and internationally, stems from the fact that challenging questions in health promotion, chronic disease management, and cost-effective care models can only be solved with new knowledge generated in primary care. Although research capacity in family

medicine has gradually increased in recent decades, it is still behind the level required to generate new knowledge to improve national health (1). An evaluation in the United States emphasized that family medicine departments have made significant strides in increasing research capacity over the last half century, but much more research capacity is needed to meet national health needs (1). In short, research in family medicine practice is not a luxury but a necessity to improve primary health care and contribute to public health.

Overview of Scientific Research Methods (Quantitative, Qualitative, Mixed Methods)

The variety of questions that need to be answered in family medicine requires the use of different research methods. Quantitative methods are based on the collection and statistical analysis of numerical data; for example, a randomized controlled trial evaluating the effectiveness of a vaccine or a cross-sectional survey of the prevalence of diabetes in a region are quantitative studies. These methods help us identify "what works" and how common a problem is by revealing general trends and cause-and-effect relationships in large populations (4). Quantitative data allows us to predict possible outcomes for the average patient, but we must remember that the situation may be different for each individual patient (4).

Qualitative methods, on the other hand, aim to understand human behavior, experiences and beliefs in depth. Textual or visual data obtained through techniques such as interviews, focus group discussions and participant observations are interpreted to reveal the reasons and meanings behind numerical data. In family medicine, issues such as patients' perceptions of health, social factors affecting their compliance with a treatment or the dynamics of physician-patient communication can be illuminated through qualitative research. Based on the fact that each patient is a "unique individual", the qualitative approach considers the disease in a personal and social context. For example, the way two patients with diabetes perceive the disease and their treatment expectations may differ due to their life experiences and social environment; qualitative research allows us to uncover such different worlds of meaning. As a result, qualitative research provides an important part of the evidence needed for problem solving in primary care and complements the evidence from quantitative research. Qualitative findings are

critical in understanding our patients holistically and providing more empathetic, value-sensitive care.

In many cases, the best approach is to use a combination of quantitative and qualitative techniques, so-called mixed methods. In mixed-methods research, for example, both the statistical results of a newborn screening program and the experiences of families can be evaluated in the same study. In this way, the generalizing power of quantitative data is combined with the in-depth insights of qualitative data, allowing us to determine the average effectiveness of an intervention while understanding how it is received in real life and under what conditions it is successful. The complex nature of family medicine - the interweaving of biomedical, psychosocial and environmental factors - has led researchers towards mixed methods. Indeed, experts have long recommended the integrated use of qualitative and quantitative methods to address the key challenges facing family medicine (5). Mixed methods make it possible to address all aspects of care models, patient attitudes and health outcomes in family medicine.

Applicable Research Topics and Sample Designs in the Context of Family Medicine

Primary care has extremely rich and diverse topics in terms of research. Almost every situation we encounter in clinical practice can become a research question. The management of chronic diseases is a natural priority area for research in family medicine: For example, the effectiveness of an intervention to reduce salt consumption in patients with hypertension can be evaluated in a practical randomized controlled trial. Indeed, in a survey conducted in Saudi Arabia, 73% of family physicians ranked chronic diseases as their top research priority (6). Similarly, improving mental health services in primary care is an important area of research - mental health ranked second with 59% in the survey (6). A controlled study could be designed to measure the effectiveness of brief psychotherapy interventions offered to patients with anxiety disorders in family health centers, and the barriers faced by family physicians in providing mental health services could be examined through in-depth interviews. Health promotion and preventive medicine in primary care are also critical research topics. For example, it is possible to evaluate

the effectiveness of the childhood obesity prevention program in the region through an intervention study. In the same study, "health promotion" was stated as the third priority with 53%. In addition, improving the quality of health care (e.g. developing models of care that improve patient satisfaction and outcomes) and medical education methods (e.g. new approaches to resident training) are other research areas of importance to family physicians. For example, a study could be designed to examine the impact of a mentoring program implemented by family medicine educators on the academic success of residents; this topic was also among the priorities with 39% (medical education/manpower training) (6).

International prioritization studies also reveal a wide range of research topics that can be addressed in primary care. For example, a Delphi study involving stakeholders from 13 countries identified the top 10 primary care research priorities. These priorities include topics as diverse as the use of digital technologies in primary care and the integration of local/community knowledge and values into healthcare design (3). This result shows that family medicine research is not limited to clinical issues, but covers broad areas such as the organization of health systems, integration of information technologies and cultural approaches.

As for applicable research designs in family medicine, small-scale studies conducted in a single center as well as large studies involving many centers can be conducted. Practice-based research networks (PBRN) offer an important opportunity at this point. A *practice-based research network*, or PBRN, is basically a continuous collaborative network of a group of primary care practitioners and academics to answer common research questions (7). Through these networks, family health centers can collect data and contribute to research with common protocols while maintaining daily patient care. Thus, questions that are difficult to answer in a single center can be examined in a statistically powerful way with hundreds of patient data within the network. For example, by establishing a research network involving family medicine practices in different geographical regions, it has been possible to jointly investigate disruptions in the care of chronically ill patients during the COVID-19 pandemic and effective methods to

address them. Such networks bring academic methods to bear on research questions arising from clinicians' field experience, and enable rapid translation of new knowledge into practice. It is significant that one of the first PBRNs in the world was established in the Netherlands in the 1960s, triggered by a dispute between general practitioners and pediatricians; practitioners who wanted to prove the role of primary care in the management of childhood diseases joined forces to collect data and transform their own experiences into scientific evidence. Today, PBRNs form the backbone of primary care research, especially in North America, Europe and Australia, and there are initiatives to develop similar networks in our country.

Of course, family medicine research is not limited to clinical questions. Topics such as the organization of health services (e.g. the effects of teamwork, the effectiveness of the referral chain), health economics (the long-term savings effects of primary care investments) and epidemiology (monitoring health indicators in a region) are also addressed in family medicine research. For example, monitoring an influenza outbreak in a region in real time and developing an early warning system is family medicine research, as is a study examining the impact of socioeconomic factors on hypertension control. As can be seen, there is no limit to the questions that can be asked and the research designs that can be applied in primary care. The important thing is to answer these questions coming from the field by processing them with scientific methods, thus both improving our own practice and producing evidence that will guide the health system. The discipline of family medicine, with its unique position in primary care, has the potential to add theoretical knowledge from the laboratory as well as field-tested practical knowledge to the general body of medical knowledge.

What is Research Capacity and Why is it Important?

The concept of research capacity refers to the ability of individuals, teams or organizations to conduct research and use research results. In a more formal definition, "research capacity is the ability to conduct research or use research findings in practice"(8) . In this context, the research capacity of a physician in a family health center includes the ability to ask questions with scientific curiosity in his/her own practice, to use appropriate methods to answer these

questions, and to apply current evidence from the literature to his/her own patients. At the institutional level, the research capacity of a teaching and research hospital or university department means the ability of the team there to plan and conduct research, to publish findings, and to have an environment in which these activities can be sustained.

So why is research capacity so important? Because providing the best care and improving patient outcomes in health services directly depends on the research capacity in that field (8). Being able to generate evidence on the problems we face in primary care allows us to shape health policies on a scientific basis. If family medicine does not ask its own questions and seek answers, solutions within the health system will always be determined by the priorities of other disciplines. However, primary care problems are unique; for example, the holistic management of an elderly patient with multiple diseases may not be fully met by the recommendations of a single specialist. Therefore, it is vital to have the human resources, financial support and infrastructure to conduct research on issues specific to primary care.

Developing research capacity is the cornerstone of what we know in the literature as "evidence-based practice". Evidence-based practice requires us to make clinical decisions based on current and valid scientific evidence. If a field is unable to generate research evidence appropriate to its context, existing evidence gaps may hinder optimal healthcare delivery in that field. As a matter of fact, in the past, primary care has been identified as an area where research effectiveness is limited and therefore many practices are based on low levels of evidence (9). In one publication, it was emphasized that weak research capacity, especially in practice areas such as primary care, results in practices in that area being based on a weak evidence base (9). Therefore, increasing research capacity means that family medicine can build a strong evidence base in its field of practice, which will reinforce both the confidence of clinicians and the trust of patients.

Research capacity can be considered at the individual, institutional and system level. At the individual level, a family physician's research capacity consists of research literacy (i.e. the ability to understand and critique research), knowledge of basic statistics and methodology, and experience in conducting research. At the institutional level, the research capacity of a family

health center or university department includes dimensions such as the existence of a culture that encourages research, the time and resources allocated to research, the infrastructure for data collection and analysis, and the effectiveness of ethics committees and support mechanisms. When these elements come together, they form an ecosystem, and without this ecosystem, it is not sustainable for individuals to conduct research alone. For example, even if a family physician asks a research question, the project cannot be realized if he or she cannot find a source to finance the study or obtain ethical approval. In this respect, the concept of research capacity refers to a broader set of structures and processes that cannot be measured only by *the number of researchers* or *the number of publications*.

As a result, family medicine structures with strong research capacity become organizations that continuously learn and improve themselves in service delivery. This capacity also enhances the scientific thinking skills of young physicians, paves the way for academic careers and enhances the reputation of our profession by making the work done in primary care visible. In summary, "research capacity is a critical requirement for improving patient care and achieving the best health outcomes" and therefore its enhancement should be a professional and societal priority.

Current Status of Research Capacity in Family Medicine (Data from Turkey and the World)

When we look at family medicine research capacity around the world, we see both encouraging developments and serious gaps. To start on the positive side, as family medicine has been institutionalized as an academic discipline since the 1960s, research outputs have gradually increased (1). In many countries, family medicine journals are published, primary care research is presented at international conferences and primary care-focused research networks are established. In the UK, for example, the National Institute for Health Research (NIHR) has established special funds to support primary care research and as a result 56% of family medicine practices in the UK are reported to be actively involved in clinical research (10). This is an extremely high rate and demonstrates the extent to which GPs can be involved in research when supported by a strong infrastructure. Similarly, in countries such as the Netherlands,

Canada and Australia, academic family medicine departments and research networks of practitioners are increasing the number of primary care publications and projects every year.

However, when the current situation is evaluated, it is also true that the research capacity in family medicine is generally behind that of other specialties. The most obvious problem is the low level of financial resources allocated for research. For example, according to US data, only 8 per thousand (0.8%) of the funds of the National Institutes of Health (NIH), the largest health research funder in the country, are allocated to primary care-oriented projects (2). As a natural consequence of underinvestment in primary care research at the federal level, only 19% of family medicine departments reported having sufficient funds to sustain their research (2). Lack of resources limits the sustainability of the research environment, making it difficult for academic family physicians to develop projects. In addition, primary care research outputs are not yet at the desired level: An analysis of family medicine academic staff in the USA found that 80% of faculty members published less than one scientific article per year (2). In other words, three out of four family medicine academics do not contribute to a single publication in a year. This situation indicates that the research culture has not yet become widespread.

Another indicator of research capacity is departmental self-assessments. In a 2016 survey of more than 100 heads of family medicine departments in the USA, most heads stated that research is an important mission in their departments, but 44% of heads admitted that there was no or very minimal research activity in their departments (2). In other words, even almost half of the chairs admitted that research activities in their institution were almost non-existent. This striking data underscores the difficulties in allocating time and resources to research under clinical and educational burdens, while at the same time demonstrating the huge potential scope for increasing research capacity in family medicine.

There are also regional differences in primary care research capacity around the world. In many low- and middle-income countries, the human resources and infrastructure for primary care research are very limited, but in recent years the World Health Organization and international funds have begun to focus on capacity building programs. In Africa and Asia, for example,

local evidence generation is being encouraged through mentoring projects and small grants to train young family physicians in research. In high-income countries, infrastructure is better, but the need for more funding and institutional support to enable family medicine research to compete with other specialties is also being expressed. One comment noted that research initiatives in family medicine often "lag behind what is needed to solve national health problems" and called for a systematic strengthening of primary care research (1).

Turning to Turkey, we can say that family medicine research capacity has grown significantly in recent years. Family medicine has existed as an academic specialty in Turkey for just over 30 years. Despite this relatively short period of time, there has been a significant quantitative and qualitative growth. As of 2022, there were 105 family medicine clinics or departments within medical faculties and training hospitals in Turkey. In these institutions, there are 104 doctor faculty members, 86 associate professors and 74 professors, totaling approximately 264 academic faculty members. On the specialty training side, there are currently 3727 family medicine residents and 4107 family medicine specialists working in the field. These figures reveal that the manpower capacity of the family medicine discipline is rapidly increasing in our country. As a matter of fact, one evaluation concluded that the specialty "has achieved a good momentum in terms of quantitative and qualitative aspects" in the 30 years since its establishment (11). However, it is still difficult to say that family medicine research capacity in Turkey has reached its full potential. In the aforementioned study, it was emphasized that despite the rapidly growing number of residents and clinics, the number of faculty members is lagging behind and there is a need to train new academicians so that this does not reduce the quality of education. In terms of research, the number of primary care-oriented publications from Turkey is still modest in the international literature. In an evaluation published in 2010, it was stated that the number of scientific articles in the field of family medicine in the world and in Turkey is increasing, albeit at a low level, and that training and support activities are needed to accelerate this increase and to increase the contribution of Turkish family physicians to the literature. In the last decade, developments such as the regular publication of family medicine journals in Turkey, the increase in research presentations at national congresses and the

production of international publications from resident theses can be considered as positive steps in this field. In addition, the activity of Turkish family physicians in international research platforms is also noteworthy. Turkish representatives take part in the management of the European Family Medicine Research Network (EGPRN) and our country is mentioned as one of the top three countries in Europe in primary care research (12). This shows that the research efforts of academics and field physicians in Turkey are visible at the international level. In addition, thousands of family physicians from all over the world came together at the WONCA European Congresses held in Istanbul in 2008 and 2015, and Turkey's scientific hosting was appreciated. All these indicators show that family medicine research in Turkey is gaining momentum, but there is still room for improvement. It is possible for Turkey to assume regional leadership in primary care research, especially with steps to be taken in terms of access to funding, development of research infrastructure and training of young researchers.

In summary, family medicine research capacity is an increasingly important agenda item across the world, with significant progress being made in some countries but still in its infancy in many others. Turkey also fits into this picture, and although it is promising with its rapidly growing human resources and increasing academic activities, it needs strategic investments for sustainable and high-quality research production.

Capacity Building Strategies

The steps that can be taken to increase research capacity can be grouped under several headings:

Training and Mentoring: The first step in establishing a research culture in family medicine is to train physicians in research methods. Research methods courses and a thesis project are already mandatory during residency training, but beyond this, continuing education at all levels is important. *Article critique meetings* or *journal club* sessions organized in clinics will improve physicians' ability to follow current literature and evaluate research results. In one study, resident physicians stated that time constraints, lack of interest and lack of methodological knowledge were the biggest obstacles to conducting research; as a solution, they suggested

providing protected time for "research days" and improving research skills through regular journal club sessions (13). This finding reveals the importance of educational processes and time planning. Allocating part-time research days for residents and practitioners allows them to focus on scientific work at the expense of their daily patient load. In addition, assigning an experienced mentor to each young researcher allows them to receive one-to-one guidance on project development, manuscript writing and presentations. Indeed, in 2023, the North American Primary Care Research Summit identified strengthening research career pathways and mentoring systems as strategic priorities to advance family medicine research (2). In summary, establishing regular training programs, workshops, summer schools and mentoring networks will strengthen family physicians' confidence and ability to conduct research.

Access to Funding: In order for a well-intentioned research idea to be realized, it is essential to secure the necessary financial support. Funding is a common obstacle in family medicine research; therefore, an important pillar of capacity building strategies is to raise financial resources. National scientific funding agencies (such as TÜBİTAK) and the Ministry of Health can open special calls for primary care-focused projects. In addition, university departments can encourage young researchers by awarding small seed grants. A successful example in this regard is the practice of the Department of Family Medicine at the University of Minnesota in the USA: The department has established an annual internal research fund called the "Discovery Award" for clinician faculty members, providing start-up support to physicians with innovative ideas (14). Similarly, publication incentive programs have also been implemented, rewarding academics with small amounts for submitting articles. Such local funding mechanisms make it easier for physicians to partially devote their time to research and conduct pilot studies. On the other hand, at the macro level, advocacy is needed to increase the share of family medicine research in the public budget. For example, in the USA, the Society of Faculty Members of Family Medicine (STFM) has lobbied to increase the share allocated for primary care research in the federal budget and to establish a center of excellence in this field (2). The creation of funds specific to primary care research (e.g. primary care R&D programs) should also be considered in Turkey. Easier access to funding will directly increase both the quantity and

quality of research and make research less of a hobby and more of an integral part of our work.

Research Networks and Collaborations: A single-family health center or a single researcher may be limited in certain areas, but by joining forces, centers and researchers can accomplish work that will have a major impact. Therefore, another capacity-building strategy is to establish networks and collaborations. The practice-based research networks (PBRNs) mentioned above are one way of doing this. When a network of primary care institutions and academics is established in a region or across the country, data can be collected through common protocols and large-sample studies can be conducted. Research networks not only generate data, but also enable clinicians to learn by offering them the opportunity to participate in the research process (7). Indeed, through PBRNs, clinicians have the chance to transform questions from their daily practice into scientific research and ensure that the results are more relevant to their patient populations. Similarly, in Turkey, multicenter working groups involving family physicians in different provinces can be established; for example, national research consortia can be formed on topics such as chronic disease management, vaccination or home care. International collaborations are also a way to increase capacity. A joint project between a Turkish family medicine department and a department abroad can facilitate access to international funding while sharing knowledge and experience. In addition, interdisciplinary collaborations are very valuable: Family medicine departments can develop multifaceted projects by collaborating with researchers from different fields such as public health, pediatrics, psychiatry, public sciences or engineering. The literature highlights that visionary department heads significantly increase the research capacity of their departments by building strong partnerships with internal and external stakeholders (such as public authorities, community leaders, other research-oriented departments and public health) (2). Therefore, "building bridges" for research is as important as building laboratories. Ultimately, collaboration and a network approach create the synergy to turn individual small steps into a big leap.

Ethics Committees and Data Management: One of the structural barriers to conducting research is bureaucratic processes and lack of data infrastructure. In family medicine research, obtaining ethics committee approval, collecting data while protecting the confidentiality of patient data,

and analyzing them safely require special attention. In one study, Portuguese family medicine researchers identified ethics committee processes and lack of institutional infrastructure as one of the main barriers to research (15). To address this problem, it would be useful to establish advisory units to support researchers in the ethics application process. Centralized or expedited ethics approval mechanisms can be developed especially for multicenter primary care research. In terms of data management, the use of digital health records routinely accumulated in family medicine practice should be facilitated in research. For example, electronic health record systems in family health centers can be made suitable for extracting anonymized data for research purposes. With big data analytics and artificial intelligence applications, the huge data collected in primary care can be used for public health research. However, utmost attention should be paid to data privacy and patients' consent and confidentiality should be protected. To increase capacity, each institution should have a data management policy to securely store and share data with researchers. In addition, physicians can be trained in the use of statistical software and data science to improve their data analysis skills. In short, an effective and fast-functioning ethics and data management system paves the way for researchers and shortens project execution time. Since primary care researchers work in a time-constrained environment, bureaucratic delays and technical infrastructure problems can be demotivating; minimizing them will make research a natural part of the daily workflow.

Scientific Writing and Publication Processes: The last step in conducting research is to share the results with the scientific world. Unfortunately, many good studies are not visible because they are not written up or sent to the appropriate journal. The family medicine community may also have reservations or lack of knowledge about *"publishing"*. Therefore, improving scientific writing skills should have a special place in capacity building strategies. Article writing workshops and seminars on publication processes can be organized for physicians. Thesis and project advisors should be encouraged to support young researchers in preparing articles. In one study, it was found that the intention of family medicine residents to publish their projects was very low (11% thought to publish), and the reasons for this were shown as lack of writing experience (13). In order to change this picture, it should be ensured that residents bring their

projects into article format at the finalization stage and, if possible, every finished thesis should be converted into a publication. In addition, the practice of protected research time is also important here - creating slots where physicians can focus on writing during working hours will increase productivity (13). Strengthening our national journals in publication processes will also increase capacity. Increasing the number of peer-reviewed family medicine journals in Turkey and the inclusion of existing journals in international indexes will provide visibility for our researchers. However, the goal of publishing in international journals should not be overlooked, as the contribution of primary care evidence produced in our country to the world literature is essential for a global impact. At this point, workshops on issues such as language support and familiarization with international writing rules will be useful. Finally, giving special value to primary care research in academic promotion and incentive criteria may increase physicians' motivation to publish. For example, articles published in family medicine journals may receive extra points or awards specific to field research. In the case of the University of Minnesota, giving financial incentives to clinician faculty members just for submitting articles significantly increased the number of publications in the department (14). Such innovative incentive mechanisms can encourage and reduce staff reticence to conduct research.

The strategies mentioned above are parts of a whole and complement each other. Without training and mentoring, funds cannot be used efficiently; without funding, networks cannot function; without ethical and data support, even the best-intentioned team’s stumble; and without writing skills, efforts cannot turn into lasting products. Therefore, capacity building must be addressed in a multidimensional and planned manner. As the family medicine community, we can realize a powerful leap in the field of research by investing in both our individual development and our institutional infrastructure.

In summary, there are examples of successful research capacity building, whether at the scale of a large academic institution, national/international networks or small local initiatives. What these examples have in common is leadership commitment, strategic planning, multidimensional support and a demonstration of continuity. Successful projects are

characterized by visionary leadership that keeps physicians' enthusiasm alive, financial and material resources, and patient effort over many years. We can learn from these good practices and implement similar models in our own work environments.

Conclusion and Recommendations

Dear colleagues, we discussed the critical role of scientific research for the development of primary care and the strengthening of our healthcare system. The discipline of family medicine has to be a discipline that not only provides healthcare services but also produces knowledge. Today, the importance of family medicine research is better understood than ever, both in the world and in our country. On the other hand, we realized that our current research capacity is not at an optimal level, but we have the necessary tools to increase it to a great extent.

At the beginning of our talk, we emphasized why research is indispensable in family medicine: If we do not seek answers to our own questions, we will have to be content with the answers of others. Yet primary care is a field full of unique problems and opportunities, and the innovative solutions that emerge from it have the potential to transform the entire healthcare system. Research in family medicine means better patient outcomes, a more fulfilling professional life and a stronger academic identity.

Using the full spectrum of scientific methods, from quantitative to qualitative, we have seen with examples that we can conduct valuable studies on a wide range of topics, from chronic disease burden to preventive services, from education to the health system. While defining research capacity, we remembered that this is not only an individual issue, but also an institutional and systemic issue. And while addressing the current situation, we discussed our strengths as well as weaknesses: Yes, we have problems such as lack of funding, lack of time, lack of publications; but we also have a growing community of expertise, a growing awareness and institutions ready to support us.

From this point of view, I would like to summarize my recommendations under a few headings:

1. Strategic Planning and Leadership: Each family medicine institution (whether a training and research hospital clinic or a university department) should develop its own research strategic plan. This plan should clarify research objectives, priorities, responsible persons and timelines. Department chairs and managers should show leadership to create a culture that supports research and, if necessary, encourage an approach that values research regardless of their own research experience. It is important to remember that research initiatives cannot be sustainable without the support of management.

2. Education Reform: Starting from residency training, family physicians should be equipped with research skills. Not only the number of outpatient clinics but also the research projects they have participated in/managed should be tracked in resident report cards. Our specialty association TAHUD and academic institutions should offer opportunities to learn about research after graduation through continuing education courses. Every specialist should be provided with a level of research literacy that enables them to understand research and reflect it in their practice, even if they do not conduct it.

3. Allocating Time and Resources: The biggest problem of family physicians is their heavy workload. Therefore, health authorities should make arrangements for primary care workers to allocate time for research activities. For example, we can pilot the model of family physicians allocating half a day a week for research. In addition, funders should create special budget items for projects to be carried out in family health centers. Funding for support staff such as nurses and secretaries to collect data in primary care should also be considered.

4. Collaborations and Networks: A Turkey-wide Family Medicine Research Network can be established and family physicians in different provinces can collect data through joint protocols. Universities and TAHUD can cooperate for the coordination of this network. Participation in international projects should be encouraged and the number of multicenter studies in which Turkey is a part should be increased. This will both improve capacity and make our contribution to global knowledge production visible.

5. Encouragement and Recognition: Family physicians who conduct research and publish

should be recognized and rewarded. Research activities can also be considered as an indicator in the performance system of the Ministry of Health. Publications related to primary care can be taken into consideration in academic promotions. Awards for the best research at national congresses could be increased. For example, even promoting a successful general practitioner in the local press/institutional bulletin for his/her research would be a morale booster.

6. Infrastructure Improvements: A Research Support Office can be established in each province or region where family physicians can consult. These offices can provide guidance on issues such as ethics committee applications, statistical analysis support, and project writing. Our electronic health record systems should be made quarriable for research purposes (within confidentiality limits), thus facilitating retrospective scans and big data analysis. Data sharing protocols should be developed between universities and the field.

In conclusion, what is discussed here today should be the beginning of an action plan. Papers and thesis studies presented at family medicine congresses are not meant to gather dust on the shelves, but to provide solutions to the problems we face in real life. With this perspective, I invite each of us to take a small step: Identify a research question, review the relevant literature, connect with colleagues with similar interests and make a project plan. Believe me, once you take the first step, more will follow. As Henry Ford said, *"Coming together is a beginning, staying together is progress, and working together is success."* By working together, we family physicians can shape the knowledge and future of primary care.

In closing, I would like to emphasize that we must always keep our spirit of research alive. As long as there are physicians who are curious, questioning and discovering, family medicine will develop. The patients who come to us in our examination room every day actually bring us unanswered questions. When we answer these questions with the scientific method and transfer them back to practice, the cycle will be completed and healthcare will truly progress. When we reminisce about these days' years later at family medicine congresses, I am sure we will talk about how we have multiplied our research capacity and how we have produced world-renowned studies from primary care.

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Blockchain in Healthcare: Interoperability vs. Inoperability

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Keynote Presentation

Abstract

Blockchain technology has emerged as a promising solution for addressing critical challenges in healthcare data management, particularly those related to interoperability, data integrity, and patient-centered information exchange. While its theoretical advantages are widely acknowledged, real-world implementation remains limited and uneven, often encountering barriers that result in unintended inoperability. This paper examines the conceptual foundations of blockchain in healthcare, evaluates its potential to promote interoperability, and analyzes the systemic, technical, and regulatory challenges that may hinder its integration. Through this lens, the paper offers a balanced perspective on how blockchain can both enable and disrupt digital health ecosystems.

Keywords: Blockchain, Healthcare Interoperability, Electronic Health Records, Digital Health, Data Governance, Health Information Exchange

Introduction

Exploring the Dual Nature of Blockchain's Potential in Modern Healthcare Systems introduces the concept of interoperability as a fundamental component of healthcare delivery and outlines the increasing complexity of digital health environments. It highlights how blockchain is positioned as a revolutionary yet polarizing technology that simultaneously promises solutions and presents challenges. The section also sets the stage for discussing the paradox wherein attempts to achieve interoperability through blockchain can inadvertently lead to new forms of inoperability.

Technical Underpinnings of Blockchain and Its Healthcare Applications: From Distributed Ledgers to Decentralized Health Data Ecosystems

Here, we provide a foundational overview of blockchain technology, explaining core concepts such as blocks, nodes, cryptographic hashing, consensus mechanisms, and smart contracts. The section then transitions to healthcare-specific applications, detailing how blockchain can enhance EHR security, protect patient privacy, track pharmaceuticals, and improve data accuracy and provenance in clinical research. Each application is analyzed through real-world examples and pilot programs.

Blockchain-Enabled Interoperability: Mechanisms Driving Integration Across Health Information Systems explores the mechanisms by which blockchain facilitates interoperability. It delves into:

- The enhancement of data integrity through immutable records
- The enforcement of interoperability standards via programmable smart contracts
- Empowering patients through decentralized identity and consent frameworks
- Improving care coordination through shared and verifiable health records

Pilot programs such as Estonia's national blockchain-based EHR and the MedRec system developed at MIT are critically examined to demonstrate blockchain's capabilities and limitations in facilitating cross-institutional data exchange.

Inoperability in Practice: Technical, Organizational, and Regulatory Barriers to Blockchain Integration in Healthcare outlines the practical obstacles that blockchain faces in real-world healthcare settings. It analyzes:

- The absence of standardized data formats and medical terminologies
- Scalability issues related to transaction throughput and latency in public blockchains
- Interoperability challenges with legacy health IT systems and vendor lock-in
- Ethical and legal uncertainties surrounding permanent data records, especially under GDPR and HIPAA
- Fragmented stakeholder interests and lack of unified governance models

These issues are examined as systemic barriers that can turn blockchain solutions into isolated, incompatible implementations, contributing to digital inoperability.

Creating an Ecosystem for Sustainable Blockchain Interoperability: Policy, Design, and Governance Recommendations offers a roadmap to address inoperability and unlock blockchain's potential in healthcare. Recommendations are categorized into four interoperability domains:

- **Technical Interoperability:** Proposing scalable, modular blockchain architectures and common APIs to integrate with existing systems.
- **Semantic Interoperability:** Calling for international alignment on medical coding standards and ontologies.
- **Organizational Interoperability:** Suggesting institutional policy reforms, stakeholder alignment strategies, and updated reimbursement models.

- **Regulatory Interoperability:** Advocating for globally harmonized privacy regulations and ethical frameworks that allow for the secure and lawful sharing of health data.

Successful models such as the European Blockchain Services Infrastructure (EBSI) and the FDA's pilot on drug traceability are presented as blueprints for integrated policy and technology design.

Conclusion

Navigating the Interoperability-Inoperability Continuum in the Future of Blockchain-Enabled Digital Health reflects on the dual potential of blockchain to unify or fragment digital health systems. It calls for a cautious yet optimistic approach that balances innovation with systemic feasibility. Emphasis is placed on the need for collaborative, multi-stakeholder efforts that include technologists, healthcare professionals, policymakers, and patients in the design and governance of blockchain systems. Only through such inclusive strategies can blockchain evolve from a promising concept to a sustainable solution for global healthcare interoperability.

The Impact of Gut Microbiota on Health: A Primary Care Perspective

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Keynote Presentation

The critical role of gut microbiota in health and disease is rapidly evolving. The term *microbiome* combines "microbe" and "biome" and refers to the microbial ecosystem. In the human gut, there exists a complex ecosystem composed of trillions of microorganisms known as the *gut microbiota*. The gastrointestinal microbiome has protective, metabolic, and structural functions. The balance of the intestinal microbiota, known as *symbiosis*, is maintained through a stable microbial composition that supports immune regulation.

Gut microbiota plays a fundamental role in immune system development—particularly in self-recognition and the identification of foreign cells—as well as in energy production, the biosynthesis of vitamins, steroid hormones, neurotransmitters, and amino acids. It also contributes to the metabolism of dietary nutrients, bile acids, medications, and other xenobiotics. When there is a reduction in diversity, alteration, or disruption of the microbiota, this state is referred to as *dysbiosis*. Several studies have demonstrated associations between dysbiosis and cardiovascular diseases, obesity, type 2 diabetes, non-alcoholic fatty liver disease (NAFLD), and certain types of cancer.

Key factors influencing the development of the gut microbiota include host genetics, age, stress, anxiety, geography and environment, physical activity, mode of birth, infant feeding practices, and exposure to antibiotics. Microbiota-related interventions include probiotics, prebiotics, synbiotics, postbiotics (fermentation by-products), and fecal microbiota transplantation.

Conclusion:

The gut microbiota plays a pivotal role in human health and disease. Since it is more sensitive to environmental factors such as diet, medication use, lifestyle, and geographical context than to host-specific factors like genetics, targeting the microbiome is proposed as an effective intervention for promoting metabolic health. In recent years, the emerging concept of the *"Microbiome One Health"* approach has gained traction. This microbiome-centered model within the broader *One Health* framework aims to promote human well-being by preserving a healthy ecosystem. While it contrasts with traditional biomedical systems, it generalizes the "One World–One Health" concept to a broader context. The focus is on evaluating the food and nutrition system as a microbiome-centered interface across humans, animals, and agriculture from a commercial and ecological perspective, positioning it as a fundamental determinant of health.

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Ethical Issues and Management in Palliative Care

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Introduction



Palliative care is an approach aimed at improving the quality of life of individuals facing life-threatening diseases and their families. It involves practices to prevent and alleviate suffering, especially pain, by addressing physical, psychosocial, and spiritual needs through early diagnosis and detailed evaluation. The approach promotes active participation of patients and families in decision-making processes while adopting a multidisciplinary approach. The World Health Organization (WHO) recently stated that access to palliative care is a human right (1). Palliative care, which prioritizes the patient's quality of life, includes not only alleviating physical symptoms but also managing psychological distress, social isolation, and spiritual needs. Various ethical issues arise during the palliative care process, which corresponds to the last stage of life. Physicians, patients, and family members may face ethical dilemmas regarding decisions on whether to prolong a person’s life with medical technology or allow the natural dying process to continue. The delivery of palliative care services should align with universal ethical values, ethical codes, professional values, legal regulations, and patient rights (2). When developing a palliative care plan, patient goals and preferences should be taken into account, within the bounds of current medical standards and applicable laws (3).

Beauchamp and Childress' four basic principles of medical ethics are widely used in ethical decision-making processes (4). The principles of autonomy, non-maleficence, beneficence, and justice, known as general medical ethics principles, must also apply to palliative care. However, while these ethical principles provide a useful foundation for evaluating decision-making

dilemmas, they are insufficient on their own to resolve many clinically challenging situations (5). In palliative care, ethical issues include privacy, informing the patient and family, informed consent, withholding and withdrawing treatment, refusal of treatment, futile treatment, decision-making capacity, advance directives, do-not-resuscitate decisions, deep sedation and analgesia, euthanasia, and issues related to religion and spirituality (3).

Ethical Principles

Principle of Respect for Autonomy

The principle of autonomy asserts that patients have the right to accept or reject the healthcare recommendations made by clinicians (6). Everyone has the right to decide what kind of care they wish to receive and to have those decisions respected. Therefore, physicians must adhere to the principle of autonomy even for patients who have lost their decision-making ability. This can only be ensured through the appropriate use of advance directives (7). The principle of autonomy is implemented through informed consent given by individuals who have the ability to make decisions. It also provides the individual with the ability to change their decisions at any time (8). The physician is responsible for ensuring that decisions are based on full information, free of coercion, and grounded in autonomous action requiring capacity (9). However, it should be remembered that the decisions made by the patient should not harm them.

Principle of Non-Maleficence

The central principle of medicine, 'Primum non nocere' (first, do no harm), is also a cornerstone of ethical principles (6). Physicians are obligated to minimize risk and harm as much as possible while preventing and alleviating symptoms. If the risks associated with a chosen method outweigh the expected benefits, decisions must be made considering the patient’s requests (10).

Principle of Beneficence

It requires physicians to act in the best interests of their patients (6). If a terminally ill patient who lacks decision-making capacity has not documented what his or her wishes would be when faced with such a situation, healthcare decisions are made by the physician in consultation with

the patient's family member or proxy. In this case, the physician's responsibility should be to advocate for approaches that promote the best care for the patient (7).

Principle of Justice

Justice refers to the right of every individual to receive care according to the current standard, irrespective of their social status. It requires the fair and equal distribution of limited medical resources and impartiality in healthcare delivery. There is no consensus on what constitutes a fair and equitable approach to balancing individual preferences and requirements with the needs of society (8). Healthcare providers have an ethical obligation to ensure that patients are treated fairly and appropriately at the end of their lives (6, 7).

Ethical Issues in Palliative Care

Informing the Patient and Family

After being informed about their condition, the patient should be able to make decisions freely, without pressure, about their medical condition (6). With advancements in patient rights, individuals today have more say in the treatments they receive. The healthcare team must be knowledgeable about care, understand the patient's preferences, and address any concerns. Article 15 of the Patient Rights Regulation (PHR) states: "*The patient has the right to request information orally or in writing about their health status, the medical procedures to be applied, their benefits and potential risks, alternative methods of medical intervention, the probable outcomes if the treatment is refused, and the course and results of the disease.* " The patient may also request that no information be provided about their health status to themselves, their family, or their relatives. We must respect the patient's right to both know and not know. It is quite common for patients to request not to be informed about their condition. This situation creates an ethical dilemma for the physician. The control over who knows the information and how much they wish to know should be left to the patient (3,11,12). Informed consent, based on the individual's right to autonomy, is one of the physician's ethical obligations (7).

Decision-Making Capacity and Advance Directives

Advance directives are derived from the ethical principles of patient autonomy. These are treatment decisions made in advance by an individual in case they are no longer able to make decisions regarding their health in the future. There are two forms of advance directives: medical will and medical power of attorney. A medical will involves a person expressing their treatment preferences, verbally, preferably in writing, or sometimes witnessed, in case they lose the ability to make decisions at any stage of their illness. A medical power of attorney involves a person designating a proxy in advance to make healthcare decisions on their behalf in case they lose the ability to make decisions. The healthcare proxy is considered the legal representative of the patient in cases of severe medical conditions. Parents or legal guardians of individuals under the age of 18 are generally considered medical proxies (7,8). Advance care planning should include both forms of advance directives. These directives should be regularly reviewed with the patient at specific intervals. Issues related to life-sustaining interventions such as pain management, cardiopulmonary resuscitation, mechanical ventilation, nutrition and fluid support, restriction/termination of dialysis, the setting of end-of-life care, and even issues related to organ transplantation may be addressed in these directives (13,14).

Futile/Useless Treatment

Futile treatments are those that do not solve the problem that needs to be addressed, do not eliminate the expected fatal outcome, are not directed toward any purpose, waste resources, are excessively risky, and offer no additional hope of benefit (15). The World Medical Association (WMA) defines futile medical treatment as one that *"offers no reasonable hope for recovery or improvement*" or "'*provides no permanent benefit to the patient*" (8). Evaluating a treatment as inappropriate protects the healthcare team from being held accountable for not providing that treatment, and it also establishes the boundaries of medical care that family members can request. In many countries today, administering and insisting on inappropriate treatment is considered "malpractice" (15). Physicians should not offer aggressive treatments that provide no medical benefit to the patient but instead impose a burden on both the patient and society,

nor should they leave the patient and family in an ethical dilemma with futile treatment options (16).

Withholding or Withdrawing Treatment

Ethical dilemmas encountered towards the end of life often revolve around decisions to withhold or withdraw treatment. Withdrawing treatment is defined as discontinuing therapies that were initially started to support life but are now thought to be prolonging the dying process (such as the application of mechanical ventilation or vasoactive agents). Withholding treatment refers to the decision not to start or increase life-sustaining treatments. An example of withholding treatment is a do-not-resuscitate (DNR) order (7,16). When both the patient and the physician agree that there is no benefit to starting or continuing a new intervention, the correct course of action is clear, but the physician needs skills to manage these discussions sensitively. Respecting the autonomy of a patient who requests continued or new treatment should be questioned when it leads to serious harm, the unnecessary and inequitable distribution of resources, or an action that requires the physician to act against professional codes or the law (7,19). A patient with decision-making capacity may decide to limit life support. For patients without decision-making capacity, decisions should be made according to the patient's proxy or any previously given directives. Of course, withholding or withdrawing treatment does not mean the discontinuation of care for the patient. Care should continue in accordance with the principles of palliative care (3).

Refusal of Treatment

Patients have the right to refuse treatment. Informed consent also means informed refusal. If the patient does not have the capacity to make a decision, this right is exercised by the patient's representative. In the case of a conflict with the family's views, the patient's wishes are decisive (3,16). In case of conflict of ideas with the family, a decision should be made in accordance with the patient's demands. A patient with decision-making capacity has the right to determine what benefits/risks they are willing to accept and what quality of life they are willing to endure, based on their values and expectations. One of the fundamental rights of the patient is the right

to informed refusal, which is strongly protected by both international and national regulations. Informed consent also implies informed refusal, and a patient with decision-making capacity has the right to freely refuse treatment (16).

Voluntary Assisted Death

Medical-assisted death or physician-assisted death is a practice where the physician provides a prescription for a lethal drug that the patient can administer themselves, based on the patient's explicit request. Voluntary active euthanasia, or simply "euthanasia," refers to the practice where, at the patient's request, the physician administers a lethal drug, typically through intravenous (IV) injection, to cause death. Self-administration is an option in countries where medical-assisted death is allowed, but clinician administration is much more common. Although medically assisted dying and/or voluntary active euthanasia have been legalized/decriminalized in many countries, there are still countries where it is considered a crime. In countries where medical-assisted death and/or voluntary active euthanasia is legal, the physician has the right to refuse the patient's request (7,17). Euthanasia is divided into two types: active and passive. Active euthanasia is the induction of death, usually by injection of a drug. Passive euthanasia is the indirect induction of death by withdrawal of treatment (18). Assisted death is applied under conditions such as having the mental capacity to make medical decisions, being over 18 years old, living in a region where medical-assisted death is legal, having a terminal illness, and a prognosis of less than six months to live (19). However, euthanasia and physician-assisted death, as part of end-of-life care practices, are viewed as unethical by the prevailing opinion. In the Republic of Turkey, Article 13 of the Patient Rights Regulation (PHR) states, "*Euthanasia is prohibited. No one can waive the right to life, whether for medical reasons or in any other way. Even if requested by the person or another, no one can take another's life.*" This emphasizes the right to life, even in the case of the individual's own decision (3,12). The physician should possess the ability to determine the patient's preferences and provide information honestly and sensitively (9).

Principles for Addressing Ethical Issues

Adhering to the following principles will be effective in resolving ethical issues that may arise during the palliative care process:

- Respecting the needs and decisions of the patient and family members,
- Developing a communication channel that aligns with the needs and choices of the patient and family, ensuring their full participation in palliative care,
- The healthcare team should regularly meet with family members during the palliative care process and ensure agreement on care goals,
- Evaluations should be conducted at regular intervals regarding needs and goals (20).

Conclusion

Palliative care, which aims to prevent suffering, enhance the quality of life, and provide a dignified death while respecting the patient's wishes, is an area where ethical dilemmas frequently arise. The obligation to decide between life-prolonging medical interventions and allowing the natural dying process creates ethical issues for physicians.In palliative care, the wishes of the patient and their family should be prioritized, while medical and ethical principles should be followed. This is of critical importance in terms of protecting the rights of the patient and family members. Family physicians, due to their continuous relationships with patients, biopsychosocial approach, and good communication skills, are in an excellent position to provide counseling on end-of-life care and make decisions in line with the patient's best interests.

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A Comprehensive Approach to Developmental and Behavioral Surveillance in Primary Care

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Developmental and behavioral surveillance is recommended for all children during preventive health care visits. Developmental and behavioral problems are common in children and adolescents. In a nationally representative cross-sectional survey (1997-2016), the caregiver-reported prevalence of intellectual disability, autism spectrum disorder (ASD), and other developmental delays among children age 3 through 17 years ranged between 6 and 15 percent, depending upon how the questions were worded[1]. The prevalence of developmental disabilities has increased since the 1990s, with most of the increase due to ASD and ADHD. Factors hypothesized to have contributed to the increased prevalence include increased awareness and improved identification, increased survival of children born preterm, increased survival of children born with congenital anomalies and genetic disorders, and increased prenatal risk factors such as older parental age and multiple births.[2]

The combination of surveillance and screening for developmental-behavioral problems in children increases early identification, enabling earlier intervention, which is associated with improved outcomes. Early identification permits earlier treatment of underlying medical conditions that may present with developmental-behavioral problems (eg, metabolic disorders). Early identification also permits caregivers to better match their expectations to their child's abilities, to provide developmentally appropriate activities and stimulation, and to feel that they are doing all that they can to assist their child[3,4]

Risk factors [5]

Risk factors for developmental and behavioral problems include :

-Prenatal exposures (eg, infections, alcohol, smoking)

-Birth complications (eg, prematurity or low birth weight)

-Perinatal infections (eg, herpes simplex virus, Zika virus

-Medical conditions (eg, lead poisoning, congenital heart disease)

-Genetic conditions (eg, Down syndrome, fragile X syndrome)

-Adverse childhood or family experiences (eg, poverty, including housing or food insecurity; exposure to racism; abuse or neglect)

-Parental/caregiver unemployment or mental health problems (eg, depression, anxiety, substance use)

-Parents/caregivers with limited education/literacy

-Teenage parents

Approach to Screening

Developmental screening refers to the use of a standardized test to identify asymptomatic children at risk for a developmental disorder; children who screen positive should undergo developmental-behavioral evaluation. Developmental-behavioral evaluation is necessary to diagnose developmental-behavioral disorders. Our approach to developmental-behavioral screening is largely consistent with that recommended by the American Academy of Pediatrics (AAP) [6].

When to screen

Children <4 years — We provide developmental-behavioral screening with a validated test. Any time a caregiver or clinician has concerns about development (eg, not sitting by age 9 months, lack of joint attention by 12 months); the screening test may be targeted to the concern (eg, motor development, attention).

We provide developmental-behavioral screening at the following well-child visits:

9-month visit – Screening at the 9-month visit may identify motor (table 2), vision, hearing, or communication problems.

18-month visit – General developmental screening at the 18-month visit may identify fine and gross motor delays, language delays, and symptoms of autism spectrum disorders (ASD).

24-month visit – Repeating ASD-specific screening at the 24-month visit facilitates identification of children with ASD who were missed at the 18-month screening.

30-month visit – Screening at the 30-month visit may identify motor, language, and cognitive delays.

Four-year old visit – Developmental-behavioral screening at the four-year visit should focus on school readiness (social-emotional well-being, caregiver engagement in the child's education, promotion of the five Rs [reading, rhyming, routines, rewards, relationships] and risk factors for developmental problems) and motor skills. Screening at age 4 years provides the opportunity for remediation before kindergarten entry to optimize successful kindergarten participation and peer interaction.

Children ≥5 years – We agree with the AAP Task Force on Mental Health recommendation to screen asymptomatic children ≥5 years annually for mental health disorders and impaired psychosocial functioning with a validated behavioral screening test.

Developmental screening tests – Developmental screening tests target conditions affecting the traditional developmental domains (eg, cognitive, language, motor, social). Some focus on a specific domain; others on general development. Some developmental screening tests also screen for behavioral concerns. Each developmental screening tool has its own threshold level for what is considered a "positive" test or a test that identifies increased risk.[6,7]

Follow-up

Positive screen — When the results of a developmental-behavioral screen are "positive" or concerning, the child should undergo developmental-behavioral and medical evaluations. Developmental or behavioral evaluations can be conducted by a medical specialist such as a

pediatric neurologist, developmental-behavioral pediatrician, child psychiatrist, neurodevelopmental pediatrician, or pediatric physiatrist[8].

Medical evaluation — The baseline medical evaluation of a child with a positive developmental screen should include[9]:

- Hearing evaluation
- Vision screen
- Review of the newborn metabolic screen
- Review of growth parameters, particularly head circumference
- Updated family, social, and environmental history looking for risk factors for developmental delays

Additional evaluation may be necessary if the child is identified with a specific disorder. The evaluation depends upon the disorder, as examples:

- Autism spectrum disorder
- Cerebral palsy
- Intellectual disability

The combination of developmental surveillance and screening for developmental-behavioral problems increases early identification, enabling early intervention, which is associated with improved outcomes. Early identification also permits earlier treatment of underlying medical conditions that present with developmental-behavioral problems.

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Sustainable Climate Friendly Preventive Health Services

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Climate change is expected to profoundly impact health systems and efforts to improve and sustain human health over the coming decades. It is widely recognized as one of the greatest threats and challenges to human health and well-being. It jeopardizes the achievement of Universal Health Coverage (UHC) and increases the burden of climate-sensitive health outcomes. These impacts are projected to increase as greenhouse gas (GHG) emissions continue to rise. In the long term, the impacts of climate change hazards will depend on the extent to which transformative and regulatory actions are taken to reduce carbon emissions. The health risks from climate change are many and varied. Increased intensity and frequency of extreme weather events such as extreme heat, storms, floods, and droughts, increased air pollution, and increased infectious diseases such as water-borne and vector-borne diseases can all cause a variety of diseases, strain health services, and disrupt livelihoods. Climate change risks to health and health systems arise from a combination of multiple hazards, multiple vulnerabilities, and multiple exposures and exposure pathways. Health systems actions should aim to manage health risks by increasing resilience and reducing greenhouse gas emissions. The WHO's health system impacts and sustainable climate change are structured around key goals such as promoting actions that both reduce carbon emissions and improve health, and building more climate-resilient and environmentally sustainable health systems. The COP26 Health program includes two initiatives to be implemented by health systems: climate resilience and low-carbon sustainability. A healthier population and a stronger health system will be more resilient to climate change. The health sector is a significant contributor to greenhouse gas emissions, although it is not among the sectors responsible for the majority of emissions. Although the

majority of these emissions occur in highly developed countries, this is rapidly changing as economies grow increasingly dependent on fossil fuels. Health systems account for approximately 5% of global emissions, largely due to energy-intensive production and transportation of supplies, energy consumption, transportation and waste treatment. To ensure a comprehensive health response to climate change risks and protect people's health and health systems, 10 components or functions (Climate transformative leadership and governance; climate-smart health workforce; assessment of climate and health risks and greenhouse gas emissions; integrated risk monitoring, early warning and greenhouse gas emission tracking; health and climate research; climate-resilient and low-carbon infrastructures, technologies and supply chains; management of environmental determinants of health; climate-sensitive health programmes; preparedness and management for climate emergencies; sustainable climate and health financing) are proposed, which when implemented by health systems will translate into increased climate resilience and reduced greenhouse gas emissions, based on six building blocks (i) leadership and governance; (ii) health workforce; (iii) health information systems; (iv) essential medical products and technologies; (v) service delivery; and (vi) financing). Climate-resilient and environmentally sustainable health facilities contribute to climate-friendly sustainability by contributing to emission reductions through water, sanitation, health waste management, hygiene and environmental cleaning infrastructure and sustainable energy, while also strengthening the resilience of the sector to climate change impacts. Interventions such as equipping health facilities with the Water and Sanitation for Health Facility Improvement Tool (WASH FIT) for water- and food-borne diseases, expanding the scope of disease surveillance for zoonotic and vector-borne diseases and ensuring adequate animal and human vaccination coverage at the edges of existing geographic distributions to detect spread, planning for increased treatment demand during high-risk seasons or weather conditions for allergic diseases and cardiopulmonary health, conducting seasonal nutritional screening in high-risk populations for nutrition, and raising awareness of signs of heat stress for maternal, newborn, and child health are climate-smart preventive health interventions for health systems. In addition, Mediterranean-type diets rich in plant-based foods and emphasizing plant-based

protein sources, and physical activities such as active transportation methods such as cycling and walking, which are included in preventive health services, reduce the risk of diseases caused by air pollution by reducing CO2 emissions and ensure climate-smart sustainability by minimizing greenhouse gas production Health systems play a vital role in addressing these challenges by reducing greenhouse gas emissions, improving infrastructure resilience, and implementing early warning systems for disease outbreaks. Health organizations, programs, and partners committed to climate-resilient and low-carbon sustainable health systems will be better able to predict, prevent, prepare for, and manage climate-related health risks while contributing to environmental sustainability.

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Multiple Drug Use in Older Patients

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Keynote Presentation

Multiple drug use (polypharmacy) in older patients is a significant issue that requires a comprehensive and multifaceted approach. Polypharmacy is generally defined as the concurrent use of multiple medications by a single patient. Although there is no universally accepted minimum number of drugs to define polypharmacy, it is commonly described as the use of five to ten or more medications (1). Mostly in the literature, the use of five or more drugs is accepted as polypharmacy (2). Although polypharmacy typically refers to prescription medications, the use of over-the-counter medications, herbal remedies and supplements also needs to be carefully considered.

A large-scale meta-analysis conducted with data from various parts of the world reported a polypharmacy prevalence of 37% among adults, which increased to 45% in the subgroup aged 65 and older. This prevalence appears to rise with age, whereas factors such as gender, geographic location, and study design did not significantly influence the prevalence results (3).

With aging, physiological changes occur in body composition (such as increased fat mass and decreased skeletal muscle and total body water), reduced albumin levels, lower hepatic metabolism and decreased creatinine clearance. These changes may lead to prolonged effects of lipophilic drugs, increased serum levels of hydrophilic drugs, elevated free drug levels of those bound to albumin, and extended half-lives of drugs metabolized in the liver and kidneys (4). Due to the rise in multimorbidity with age, involvement of multiple physicians, prescribing cascades (where side effects of drugs are treated with additional medications), influences of medical guidelines, and patient or caregiver demands can all contribute to polypharmacy.

When evaluating polypharmacy, the appropriateness of drug use should also be assessed. In cases of appropriate polypharmacy where deprescrebing is not possible, switching to combination preparations may help reduce the total number of medications.

Use of a greater number of medications has been associated with increased risks of adverse drug reactions, drug-drug interactions, poor treatment adherence, falls, hospitalization, and mortality (5–8). Polypharmacy is also linked to diminished physical and cognitive function, even when controlling for disease burden (9).

Due to their anticholinergic side effects—such as cognitive impairment, hallucinations, dry mouth, blurred vision, constipation, nausea, urinary retention, sweating abnormalities, and tachycardia—medications such as tricyclic antidepressants (e.g., amitriptyline, nortriptyline, doxepin), antipsychotics (e.g., clozapine, thioridazine), antimuscarinic agents for incontinence (e.g., oxybutynin, tolterodine), certain antidepressants (e.g., paroxetine), and first-generation antihistamines or sedatives (e.g., diphenhydramine) should be used with caution (10,11). Numerous tools are available to assess inappropriate medication use or anticholinergic burden.

The 2023 update of the Beers Criteria, supported by the American Geriatrics Society, recommends the use of newer oral anticoagulants (NOACs) instead of warfarin for conditions such as non-valvular atrial fibrillation and venous thromboembolism, while avoiding rivaroxaban over other NOACs in the long term due to bleeding risk. Beers Criteria also recommends caution with hypoglycemic agents such as sulfonylureas, discourages the use of aspirin for primary cardiovascular prevention and avoiding NSAIDs (12). Similarly, the 2023 STOPP/START criteria provide guidance on medications that should be stopped or initiated in the elderly (13). The TIMES to STOPP/START criteria, published in Turkey in 2020, are a culturally adapted tool for assessing inappropriate drug use in the elderly population (14).

Effective management of polypharmacy includes regular medication reviews at primary, secondery and tertiary health institutions , dose reduction when appropriate, comprehensive evaluation and education of patients and caregivers about correct drug use and the

personalization of treatments and therapeutic goals according to the patient's social, physical, psychological, and cognitive frailty. Smart pillboxes, reminder technologies, and alerts in electronic prescribing systems can also contribute to safer medication management.

Promoting rational drug use across all levels of healthcare, adopting a multidisciplinary approach, implementing health policies aimed to supporting appropriate polypharmacy, and developing age-friendly practices are essential steps toward better care for the older population.

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Occupational Equity, Equality and Beyond for Women Family Physicians

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Abstract

Purpose: In the last 20 years, since the implementation of the family physician system in our country in 2005, important steps have been taken in the provision of primary health care services. However, there are still no gender-specific regulations for physicians. For this reason, the study was designed to investigate whether professional justice and equality are sufficiently provided based on the experiences of female family physicians.

Methods: The population of this study, which was conducted between March and April 2025, consisted of 12,000 female family physicians working in our country. 161 female family physicians participated in this study, and a data form consisting of 32 questions about demographic information, professional experience and perceptions of equality and equity was used online.

Results: The mean age of the participants was 33.80 ± 5.02 years and they had an average of 4.16 ± 3.82 years of experience as family physicians. The majority (60.2%) were married and 70.8% had no children. A significant proportion of participants (61.5%) believed that their perception of gender did not influence their decision to become a family physician. Of the participants, 87.6% reported a lack of workplace regulations to support female doctors and 70.8% reported that measures to prevent discrimination on the grounds of marriage or motherhood were inadequate. 83.2% reported that measures should be taken regarding flexible working hours and safety.

Conclusion: Our data reveal significant gender-based challenges, including discrimination in

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the workplace, safety concerns and barriers to career advancement, highlighting the need for interventions to promote equality.

Keywords: Equality, Equity, Family Medicine, Women

Introduction

In 1849, the first woman graduated from medical school and after a century-long break, the number of women graduating from medical school has steadily increased in the last 50 years.(1) Although numerical equality has been achieved, inequalities such as promotion to academic positions and underrepresentation in academic publishing still persist.(2,3) The Wonca Working Group on Women and Family Medicine, which was established in 2004, has set out its recommendations for gender equality in health; Ensure gender equality in access to health services, work towards the elimination of gender-based violence in all Wonca initiatives, defend women's right to reproduction and safe motherhood, advocate for women's active participation in decision-making processes and equal distribution of resources, integrate gender perspectives into medical curricula and education, integrate into residency training, professional development and patient care across the life cycle, promote the integration and understanding of healthy human sexuality across the life cycle in medical curricula and education, residency training, professional development and patient care, and encourage and support research on the impact of sex on health.(4,5)

In 2025, when the family medicine system in Türkiye will be in its 20th year, there are few gender-specific regulations for women family physicians. Although women constitute a significant proportion of family physicians, their experiences of professional equity and equality have not been sufficiently researched. This study aims to assess women family physicians' perceptions of equity and equality in their professional environment, focusing on workplace conditions, career advancement and gender-based discrimination.

Methods

Study design & Ethics statement

Our cross-sectional study was conducted between March and April 2025. Approval was obtained from the Health Sciences University Adana City Training and Research Hospital Clinical Research Ethics Committee in March 2025.

Setting

The population of the study consisted of 12000 female family physicians working in our country. The sample size was calculated as 149 people with the Epi-Info statistical program. Female family physicians who agreed to participate and completed the consent form were included in the study (n:160), while participants who did not agree to participate or who later withdrew their consent were excluded.

Data sources/ measurement

The data collection form used in the study included 32 questions about demographic information, professional experience and perceptions of equality and equity. The data collection form was sent via e-mail and completed online by the participants.

Statistical methods

Data were reviewed for completeness, coded, and input into SPSS version 24 (IBM Corp, Armonk, NY). Descriptive statistics (mean, standard deviation, median, frequency, ratio, minimum, maximum, mean, standard deviation, median, minimum, maximum) were performed on the demographic information, professional experience and the answers given to the questions examining the perceptions of equality and equity of the participants. Statistical significance was set at 0.05.

Results

The mean age of the participants was 33.80 ± 5.02 years and they had an average of 4.16 ± 3.82 years of experience as family physicians. The majority (60.2%) were married and 70.8% had no children. Of the participants, 49.1% worked in city centers, 42.2% in districts and 8.7% in rural areas. Participants were distributed across regions of Turkey, with the highest proportions coming from the Mediterranean (24.2%) and Southeast Anatolia (22.4%). (Table 1)

Table 1 Demographic Information

		Mean±SD	
Age		33.80±5.02	
Duration of work as a family physician		4.16±3.82	
		n	%
Marital status	Single	64	39.8
	Married	97	60.2
Do you have children?	Yes	47	29.2
	no	114	70.8
Workplace	District	68	42.2
	Rural	14	8.7
	City center	79	49.1
Number of physicians at your family health center	1	7	4.3
	2	7	4.3
	3	20	12.4
	4	33	20.5
	5	46	28.6
	>6	48	29.8
Region of work	Mediterranean	39	24.2
	Eastern Anatolia	17	10.6
	Aegean	18	11.2
	Southeastern Anatolia	36	22.4
	Central Anatolia	12	7.5
	Black Sea	18	11.2
	Marmara	21	13.0

A significant proportion of participants (61.5%) believed that their perception of gender did not influence their decision to become a family physician. Among female doctors, 37.9% found their working hours unfair, while 65.8% reported an excessive or very high workload. 70.2% of participants reported experiencing professional disadvantages due to gender. In addition, 87.6% reported a lack of workplace arrangements to support female doctors, and 70.8% said that measures to prevent discrimination on the grounds of marriage or motherhood were inadequate. Safety concerns were common, with 83.2% expressing concern about flexible working hours and increased safety concerns during these hours, and 66.5% reported feeling restricted in choosing family medicine units due to gender-related concerns.(Table 2)

Table 2. Occupational experiences

		n	%
Do you think gender perception played a role in your decision to become a family physician?	Yes	62	38.5
	No	99	61.5
Do you think your working hours are fair?	Yes	67	41.6
	No	61	37.9
	Undecided	33	20.5
How do you evaluate your workload?	Very high	48	29.8
	High	58	36.0
	Moderate	55	34.2
Do you think your gender provides an advantage in your profession?	Yes	48	29.8
	No	113	70.2
Have you experienced professional disadvantages due to your gender?	Sometimes	108	67.1
	Never	13	8.1
	Rarely	21	13.0
	Frequently	19	11.8
Do you think you have faced discrimination at work due to your gender?	Yes	40	24.8
	No	94	58.4
	Undecided	27	16.8
Do you think your gender affects your professional advancement?	Yes	47	29.2
	No	66	41.0
	Undecided	48	29.8
Do you think your gender makes a difference in terms of salary and benefits?	Yes	7	4.3
	No	147	91.3
	Undecided	7	4.3
Are there any arrangements at your workplace to meet the needs of being a woman?	Yes	14	8.7
	No	141	87.6
	Undecided	6	3.7
Do you think necessary measures are taken to prevent discrimination against women due to marriage and maternity and to ensure effective work rights?	Yes	14	8.7
	No	114	70.8
	Undecided	33	20.5
Do you think there is positive discrimination for female employees?	Yes	7	4.3
	No	134	83.2
	Undecided	20	12.4
Do you think you can comfortably choose any family physician unit in placement announcements without concern due to your gender?	Yes	40	24.8
	No	107	66.5
	Undecided	14	8.7
Does your gender affect your decision regarding units with mobile health services in family physician placement announcements?	Yes	113	70.2
	No	48	29.8
Do you have security concerns regarding flexible working hours in the family physician unit?	Yes	134	83.2
	No	20	12.4
	Undecided	7	4.3

Only 45.3% of respondents believed that equality was protected in their professional life, while 29.2% disagreed and 25.5% felt that it was partially ensured. Perceptions of equality were less positive, with 74.5% stating that equality is not ensured, while only 4.3% fully agreed. Participants indicated the following areas where they felt they were constrained by their gender: management/promotion processes (20.4%), patient-physician relationships (20.4%), work-life balance (18.36%) and leadership opportunities (16.32%) (Table 3). (Table 3) Gender-based challenges significantly affected professional experiences ($p < 0.001$), particularly expectations for more empathy (mean: 3.64 ± 1.06), difficulties accessing leadership roles (mean: 3.32 ± 1.41) and conflicts between working hours and family responsibilities (mean: 4.11 ± 1.06).(Table 3)

Table 3 Perception of Equality and Equity

		n	%
Do you think the principle of equality is applied in your professional life?	Yes	73	45.3
	No	47	29.2
	Partly	41	25.5
Do you think the principle of equity is applied in your professional life?	Yes	7	4.3
	No	120	74.5
	Partly	34	21.1
In which areas do you think you are restricted due to being a woman?			
	%		
Management/promotion processes	20.40		
Task division and assignment	8.16		
Patient-physician relationships	20.40		
Professional development opportunities	12.44		
Work-life balance	18.36		
Access to leadership positions	16.32		
I don't think there is any restriction	4.08		
To what extent do you think your female gender affects the following challenges?			
	Mean±SD		p
Gender-based attitudes from patients and colleagues	2.88±0.91		0.000
Expectation of more empathy and emotional support compared to male colleagues	3.64±1.06		0.000
Difficulties in accessing leadership positions in family medicine	3.32±1.41		0.000
Childcare and family responsibilities due to intense working hours	4.11±1.06		0.000

Discussion

The data obtained in the study emphasize the significant gender-based challenges faced by female family physicians in Turkey. There are many studies in the literature that examine the difficulties experienced by female physicians due to gender-based prejudices. Ruzycki et al. highlighted gender inequalities that disadvantage women physicians in terms of compensation, leadership achievement, and experiences of discrimination.(6) Another study in Canada reported that even increased professional or academic advancement did not result in pay equity between women and men physicians.(7) Another study reported that women in academic medicine did not achieve the same levels of career advancement, compensation, and leadership as their male counterparts. (8) Settles et al. emphasized in their study that female physicians were able to demonstrate higher academic achievement after controlling for harassment and discrimination, generally positive, non-sexist perceptions and effective leadership, compared to female scientists who experienced more gender discrimination.(9) Mathews et al. reported that female physicians were only willing to work in rural areas if they had a family nearby or if they had a spouse. (10) Carty et al.. reported that although almost half of medical school graduates were women, very few of them turned to surgery, and one of the reasons for this was the concern of having children. (11) Shrier et al. in their study of physician mothers and physician daughters, in which they examined intergenerational differences, found that the new generation of female physicians were less satisfied with their careers, less likely to control their work environment, and more likely to report daily stress in the work environment.(12) In a study conducted in Saudi Arabia, it was reported that the majority of male and female physicians believe that there is gender equality among physicians in terms of salary, benefits, promotion opportunities and entry into any field in medicine or pediatrics, but not in surgery, while there are significantly fewer women in consultant positions and this deficiency needs to be addressed.(13)

Although there are no gender-based pay inequalities in Türkiye, the lack of workplace accommodations for women, particularly around marriage and motherhood, is a critical gap. High workload and safety concerns, particularly in flexible working arrangements, disproportionately affect women physicians, limiting their ability to choose specific roles or

units. Perceptions of injustice are particularly pronounced, with only 4.3% believing that fairness is fully achieved, reflecting systemic problems in management, promotion and leadership opportunities. Shannon et al. In their article Gender equality in science, medicine and global health: where we are and why it matters, Shannon et al. conclude that achieving gender equality is not only a tool for health and development, its impact has far-reaching benefits and can ensure justice for all.(14) The high percentage (83.2%) of participants in this study who expressed safety concerns during flexible working hours indicates the need for improved safety measures. Similarly, reported limitations in career advancement and leadership roles are in line with gender inequality trends in the literature, where women are underrepresented in senior positions. Expecting more empathy from female physicians adds to their emotional and professional burden. To address these issues, policymakers should consider gender-sensitive arrangements, such as flexible but safe working hours and measures to promote work-life balance. Affirmative action policies can help close gaps in leadership and promotion. In addition, training programs that address gender biases among patients and colleagues can reduce discriminatory attitudes.

Conclusion

Women family physicians in Turkey face barriers to professional equity and justice due to gaps in systemic arrangements. While the family medicine system strengthens primary health care, the lack of gender-specific regulations leaves women vulnerable to discrimination, excessive workload and limited career opportunities. In particular, the data suggests that interventions such as providing working environments where doctors feel safe and support for work-life balance are needed.

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European Young Family Doctors' Movement (EYFDM): Empowering the Next Generation of Family Physicians

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Keynote Presentation

The European Young Family Doctors' Movement (EYFDM), formerly known as the Vasco da Gama Movement, is a dynamic network established in 2004 under the auspices of WONCA Europe.[1,2] EYFDM brings together family medicine residents and early-career family doctors (within the first five years of practice) from across Europe, fostering professional development, international collaboration, and the exchange of innovative ideas.[1,3] EYFDM's core mission is to support young family physicians through educational opportunities, mentorship, and advocacy.[1] The movement organizes annual conferences, workshops, and exchange programs, such as the Hippokrates Exchange, which enables young doctors to experience primary care in different European countries.[4] These initiatives not only enhance clinical skills and cultural competence but also promote the core values of family medicine, including patient-centered care, continuity, and community orientation.[3] Türkiye has played a significant role in EYFDM, hosting key events and actively participating in its activities. [1] The movement's inclusive structure encourages the involvement of both residents and young specialists, providing a platform for networking, leadership development, and international exposure.[1,3] Participation in EYFDM activities, such as the WONCA Europe Conference, EYFDM Forum and exchange programs in all around Europe offers invaluable experiences for young doctors seeking to broaden their horizons and contribute to the advancement of family medicine.[5]

In summary, EYFDM serves as a vital bridge for young family doctors, connecting them with peers and mentors across Europe, and empowering them to shape the future of primary care. Its ongoing efforts continue to inspire and equip the next generation of family physicians for the challenges and opportunities ahead.[1,2]

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Healthy Living for Cognitive Longevity: Dietary Recommendations in Primary Care

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Keynote Presentation

The number of people living with dementia is projected to increase dramatically over coming years. (1, 2) This increase is predicted globally, representing a huge global challenge for both primary and secondary care (2). Family medicine doctors regularly review people with dementia, but many of us lack confidence and knowledge about cognitive health and managing dementia (3-5).

The Lancet commission report on dementia, 2024, sets out a series 14 modifiable risk factors, which if tackled, could prevent or delay up to 45% of cases of dementia in future years (6).

Many of these risk factors cluster around diet, and other lifestyle factors such as alcohol, smoking, and physical activity (6). Dietary changes such as reducing sugar, and modifying cholesterol may have dramatic effects on dementia risk (6).

Patients are often motivated to reduce their risk of dementia. As we are not confident in our knowledge or the evidence, there are missed opportunities to advise patients on diet or lifestyle advice that may reduce their risk.

This lecture will discuss:

- Definitions of dementia and cognitive health
- Epidemiology of dementia across Europe, with a special focus on predicted changes in dementia in Türkiye
- The Lancet commission report on modifiable risk factors for dementia

- Dietary factors associated with dementia and cognitive health
- Recommendations for dietary advice for cognitive health
- Our role as family medicine doctors in this context.

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Lifestyle Medicine: Principles in Family Medicine

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0009-0007-3210-1163

Keynote Presentation

Lifestyle Medicine is an evidence-based medical approach that focuses on the prevention, management, and potential reversal of chronic diseases through the adoption of healthy behaviors. In the context of Family Medicine, it emphasizes the integration of lifestyle interventions—such as balanced nutrition, regular physical activity, adequate sleep, stress management, avoidance of harmful substances, and social connectedness—into everyday clinical practice.

Family physicians are uniquely positioned to implement lifestyle medicine and interventions due to their sustained relationships with patients across all ages and life stages. This allows for longitudinal monitoring, early identification of risk factors, and personalized guidance that aligns with patients' values and circumstances. However, the application of lifestyle medicine in family practice requires a paradigm shift—from an illness-centered model to one that prioritizes health promotion and disease prevention and faces challenges such as time constraints, lack of training, and systemic barriers along with practical solutions and policy recommendations.

Equipping family medicine practitioners with knowledge and skills in behaviour change counselling and motivational interviewing is not only practical but essential and a profound opportunity to improve individual and population outcomes sustainably.

Bosnian Cuisine: Culinary Heritage and Health Benefits

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Keynote Presentation

Bosnian cuisine, a vibrant blend of diverse cultural influences, reflects the historical, geographical, and social crossroads of the region. Located in Southeast Europe, Bosnia and Herzegovina has been shaped by centuries of Ottoman rule, Mediterranean influences, and Central European traditions. This unique fusion of Eastern and Western culinary practices has resulted in a cuisine that is rich in flavor, variety, and nutritional value. Central to this cuisine are the use of locally grown vegetables, fresh meats, dairy products, and grains, often prepared through slow-cooking methods that bring out deep, complex flavors. Signature dishes such as ćevapi (grilled minced meat), burek (flaky pastry filled with meat or cheese), sarma (stuffed cabbage rolls), and pite (savory pies) reflect the blend of influences from Turkish, Slavic, and Mediterranean cooking traditions.

Beyond its cultural richness, Bosnian cuisine also offers notable health benefits. Many traditional dishes are based on nutrient-dense ingredients that contribute to a balanced diet. In recent years, there has been a growing recognition of the health benefits of traditional, home-cooked meals, especially those that are rich in fresh ingredients and cooked with minimal processing. As global trends shift toward healthier eating, Bosnian cuisine offers a timeless approach to balanced and nourishing meals. The focus on whole foods, lean proteins, healthy fats, and vegetables aligns with many contemporary dietary guidelines that emphasize plant-based eating and the consumption of whole, minimally processed foods.

Moreover, the communal nature of Bosnian meals, often enjoyed with family and friends, fosters a sense of connection and well-being that is also supported by modern studies on the importance of social eating in maintaining mental health.

Bosnian cuisine is not only a reflection of the country's rich cultural heritage but also an example of how traditional food practices can contribute to physical health and well-being. With its emphasis on fresh ingredients, lean meats, vegetables, legumes, and whole grains, Bosnian food offers numerous health benefits, including improved heart health, digestive function, and overall vitality. By examining both the cultural significance and the nutritional value of Bosnian dishes, we can appreciate how these culinary traditions promote a healthy and balanced lifestyle, making Bosnian cuisine a valuable contribution to the broader conversation about global health and nutrition. Through its deep-rooted connection to the land and the people, Bosnian cuisine remains a vital aspect of cultural identity, bringing together nourishment and tradition in every dish.

Nutritional Habits and Cancer Risk in Southeastern Anatolia

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Keynote Presentation

Turkey geographically belongs to both Asia and Southeastern Europe and is spread over the Anatolian peninsula in the Northern Mediterranean belonging to Europe and Asia. Located at the crossroads between Eastern and Western traditions, Turkey has a very rich historical and cultural background and a rich cuisine.

Especially the Southeastern Anatolia region and the Adana region are very rich regions in terms of spicy food and spicy nutrition.

In addition to the direct relationship between eating habits and gastrointestinal complaints, there is also a relationship with cancers. In this presentation, the effects of regional eating habits on cancers and GI diseases and the points we should pay attention to when evaluating our patients and making recommendations as family physicians, as well as the points we should focus on for academic studies will be discussed.

ORAL PRESENTATIONS

Assessment of Patients with Pressure Ulcers by Home Care Services

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Oral Presentation – OP121

Aim: Pressure ulcers are tissue losses and ulcerations that occur as a result of long-term pressure disrupting circulation in the skin and subcutaneous tissues. Pressure ulcers are a complication that is frequently seen in patients who are bedridden for a long time, are quite difficult to treat, disrupt the rehabilitation program and can be severe enough to lead to the death of the patient.

Home Health Services follow up patients with a high incidence of pressure ulcers, such as the disabled, elderly and those with chronic diseases. In this study, we evaluated the files of Home Health patients with pressure ulcers; we aimed to determine the factors affecting the depth of pressure ulcers.

Materials and Methods: The study is a retrospective cross-sectional study. The files of 142 patients with pressure ulcers who were followed up at Izmir City Hospital Home Health Service were included in the study. The presence of chronic disease, mobility, nutritional status, number, location, stage of pressure ulcers, albumin, glucose and CRP values of the patients were recorded. Pressure sore stage 1-2 and stage 3-4 were compared in terms of dependent and independent variables. The statistical analysis of the study was performed using the SPSS 16 package program.

Findings: Among the patients with pressure sores, 66.9% (n=95) were female. The mean age of the patients was 76.7±13.8 years. In the univariate analyses, it was found that those with Alzheimer's disease, those using nutritional products, those with wounds in the sacral region and those who were immobile had more advanced wound stages (respectively; p=0.007, p=0.004, p<0.001, p=0.006). Again, in the univariate analyses, plasma albumin values of those with wound stages 3 and 4 were found to be significantly lower than those with wound stages 1 and 2 (p=0.011). According to the logistic regression analysis created on the wound stage, the risk of having a stage 3-4 wound was found to increase 3.041

times in those with Alzheimer's diagnosis, 4.091 times in those with wounds in the sacral region, and 1.007 times in those with a one-unit increase in CRP ($p<0.001$ for all variables).

Result: In the study, it was observed that the presence of Alzheimer's diagnosis, immobility, and the need for nutritional support increased the depth of the wound stage. The study shows the value of a multidisciplinary approach in patients with pressure ulcers; psychologists, dietitians and physiotherapists should follow up the patients in collaboration. The fact that preventable factors such as nutritional support are among the factors that increase the depth of pressure ulcers is an important result of our study.

Keywords: Home Health, Pressure Ulcer, Skin Disseases

Purpose

Pressure ulcers are tissue losses and ulcerations that occur as a result of long-term pressure disrupting circulation in the skin and subcutaneous tissues. Pressure ulcers are a complication that is frequently seen in patients who have been bedridden for a long time, are quite difficult to treat, disrupt the rehabilitation program and can be severe enough to lead to the death of the patient. Pressure ulcers have high costs and morbidity, and are preventable pathologies.

Home Health Services follow up patients with a high incidence of pressure ulcers, such as the disabled, elderly, and those with chronic diseases. In this study, we evaluated the files of Home Health patients with pressure ulcers; we aimed to determine the factors affecting the depth of pressure ulcers.

Material and Method

The study is a retrospective cross-sectional descriptive study. Ethical approval for the study was obtained from the Izmir City Hospital ethics committee and the study was conducted in accordance with the principles of the Declaration of Helsinki. The files of 142 patients with pressure ulcers who were followed up at the Izmir City Hospital Home Health Service were included in the study. Patients' ages, genders, presence of chronic diseases, mobility, air mattress usage, diet, number of pressure sores, location, stage, total protein, albumin, hemoglobin, glucose, urea, uric acid and CRP values were recorded.

Pressure sores are examined in 4 stages.

Stage 1: There is redness that does not fade with pressure, but skin integrity is not impaired.

Stage 2: There is partial loss in the dermis, the wound bed is pink-red, superficial wounds without crust. There may be ruptured or preserved bullae.

Stage 3: There is full-thickness loss in the skin. Subcutaneous fat tissue can be seen, but there is no muscle, bone or joint involvement; necrosis, tunnels and gaps under the wound may occur. There may be crusting in the wound.

Stage 4: There is full-thickness loss in the skin and involvement of bone, joint and muscle tissue, necrosis may occur. There may be crust or eschar on a part of the wound floor, and there is often a tunnel and gap under the wound (1,2).

Pressure ulcer stage 1-2 and stage 3-4 were compared in terms of dependent and independent variables. Statistical analysis of the study was performed using SPSS 16 package program. Continuous variables were evaluated as median (min-max), categorical variables as n (%).

Findings

66.9% (n=95) of patients with pressure ulcers were female. The mean age of the patients was 76.7±13.8. 10.6% (15) of the patients were mobile, 16.9% (25) were semimobile, and 72.5% (103) were immobile.

8.5% (12) of the patients were using air mattresses. 46.5% (66) of the patients were receiving nutritional support; 13.4% (19) were fed by gastrostomy and 4.2% (6) were fed by nasogastric tube.

Table 1. Chronic diseases of patients.

	%(n)
Hypertension	%60,6(86)
Diabetes Mellitus	%35,9(51)
Coronary Artery Disease	%30,3(43)
Cerebro Vascular Disease	%29,6(42)
Alzheimer	%28,9(41)
Cancer	%14,1(20)
COPD/Asthma	%12,0(17)
Chronic Renal Failure	%9,9(14)

Hyperlipidemia	%7,7(11)
Epilepsy	%6,3(9)
Parkinson	%5,6(8)

Of the patients, 36.6% (52) had stage 1-2, 24.6% (35) had stage 2-3, 20.4% (29) had stage 3-4, and 18.3% (26) had unstageable necrotic wounds. Of the patients, 47.9% (68) had wounds on the sacrum, 23.2% (33) on the back, 12.7% (18) on the foot, 10.6% (15) on the heel, 3.5% (5) on the leg, and 3% (2.1) on the head.

Table 2. Laboratory values of patients with pressure sores.

	Mean (min-max)
Glucose	115,4 (20,0-97,0)
Hemoglobin	10,4(6,5-16,4)
Crp	52,9(0,5-348,0)
Bun (Ürea)	28,3(7,0-147,0)
Uric acid	5,5(1,9-14,7)
Total Protein	63,3(43,0-87,0)
Albumin	3,3(1,8-4,6)

In the univariate analyses, it was found that those with Alzheimer's diagnosis, those using nutritional products, those with wounds in the sacral region and those who were immobile had more advanced wound stages (respectively; p=0.007, p=0.004, p<0.001, p=0.006). Again in the univariate analyses, plasma albumin values of those with wound stages 3 and 4 were found to be significantly lower than those with wound stages 1 and 2 (p=0.011). According to the logistic regression analysis created on wound stage, it was found that the risk of having a stage 3-4 wound increased 3.041 times in those with Alzheimer's diagnosis, 4.091 times in those with wounds in the sacral region and 1.007 times in those with a one-unit increase in CRP values (p<0.001 for all variables).

Discussion

The mean age of patients with pressure sores included in our study was 76.7±13.8. The mean age of patients with pressure sores was reported as 72.5 in the study of Turgut N and colleagues (3). The mean age was reported as 56 in the study of Gürsoy K (4).

In our study, it was determined that 72.5% of the patients were immobile. In the study of Dizer B and colleagues, which included 198 patients, it was stated that 49.2% of the patients were immobile (5). In the study conducted by Eren T with 91 patients with pressure sores registered in the home care unit at the Gaziosmanpaşa Taksim Health Application and Research Center, it was reported that 52.7% were bedridden.

In our study, 46.5% of the patients received nutritional support; 13.4% were fed by gastrostomy and 4.2% by nasogastric tube. In the study conducted by Demirci Şahin A and Seyrek S with 75 patients, it was stated that 23.9% of them received nutritional support; 9.9% were fed with PEG and 1.4% with nasogastric tube (6).

When the chronic disease diagnoses of the patients in our study were examined, it was seen that the most common were Hypertension, Diabetes Mellitus, and coronary artery disease. In the study conducted by Macit K and his friends, the most common chronic diseases of the patients were Diabetes Mellitus, Hypertension, and Cerebrovascular accident. In the study conducted by Lyman and his friends, the most common diagnoses of the patients were Diabetes Mellitus, Cerebrovascular accident, and hip fracture. In the study conducted by Demirci Şahin A and Seyrek S, the patients frequently had Diabetes Mellitus, Hypertension, and Cerebrovascular accident disease diagnoses (6).

In our study, it was observed that the pressure sores were most frequently located in the sacrum region and were stage 1-2. It has been observed that studies in the literature have reached similar results to our study (7,8,9).

In our study, the average CRP was determined to be 52.9. Dizer B et al. reported that CRP levels were >100 in a study that included 198 people (5). In our study, it was observed that an increase in CRP increased the risk of having stage 3-4 wounds. In the study conducted by Koban et al, it was stated that there was no significant relationship between CRP elevation and wound stage (10).

In our study, it was observed that the average plasma albumin was 3.3 g/dl; plasma albumin values of those with wound stages 3 and 4 were lower. In Demirci Şahin's study, the average albumin level was stated as 3.2 g/dl (6). In the study of E İnözü et al., the average albumin value was stated as 2.5 g/dl, and it was stated that healthy wound healing was achieved in patients whose malnutrition was corrected and who were provided with the necessary essential proteins, vitamins and minerals (11).

Result

In the study, it was observed that the presence of Alzheimer's diagnosis, immobility, and the need for nutritional support increased the depth of the wound stage. The study shows the value of a multidisciplinary approach in patients with pressure ulcers; psychologists, dietitians and physiotherapists should follow up the patients in collaboration. The fact that preventable factors such as nutritional support are among the factors that increase the depth of pressure ulcers is an important result of our study.

Keywords: Home health, Pressure ulcer, Skin disseases

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Evaluation of the Relationship Between Premenstrual Syndrome, Sleep Quality, and Melatonin in Medical Faculty Students

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Oral Presentation – OP122

Aim: Premenstrual syndrome (PMS) is a condition characterized by physical, behavioral, and emotional symptoms that emerge during the luteal phase of the menstrual cycle and subside with menstruation. PMS can affect daily activities, quality of life, academic performance, social activities, and sleep quality. This study aimed to evaluate the relationship between premenstrual syndrome, sleep quality, and melatonin levels in medical faculty students who experience intensive coursework and stressful exam periods.

Materials and Methods: This study was approved by the Ethics Committee of Selçuk University Faculty of Medicine with decision number 2023/590 on December 19, 2023. The study was conducted at Selçuk University Faculty of Medicine. The study population consisted of 174 medical students enrolled at Selçuk University Faculty of Medicine during the February-April period of the 2023-2024 academic year. The Premenstrual Syndrome Scale (PMSS) was administered to students from Year I to Year VI to form the study groups. A total of 87 students with PMS and 87 students without PMS were included in the study. Participants completed a sociodemographic data form and the Pittsburgh Sleep Quality Index (PSQI) to assess sleep quality. Blood samples for melatonin level analysis were collected and stored at -80°C until analysis. Melatonin levels were measured using the ELISA method with an appropriate kit. Data were analyzed using the

Statistical Package for the Social Sciences (SPSS) version 25.0. Statistical significance was set at $p<0.05$.

Results: A total of 174 students participated in the study, including 87 with PMS and 87 without PMS. The mean age of the students was 20.00 ± 1.66 (18-23) years. The average PMSS score was 117.46 ± 2.30 (range 58-206). Dysmenorrhea was more common among students with PMS and was statistically significant ($p<0.001$). Among the participants, 51.7% (n=90) had good sleep quality, while 48.3% (n=84) had poor sleep quality. Sleep quality was significantly poorer in the PMS group compared to the non-PMS group ($p<0.001$). Total and component PSQI scores were higher in the PMS group than in the non-PMS group, which was statistically significant ($p<0.05$). Melatonin levels were lower in the PMS group and were statistically significant ($p<0.001$). A positive and significant correlation was found between the total PSQI score and the total and subcomponent PMSS scores ($p<0.05$).

Conclusion: This study demonstrates that premenstrual syndrome adversely affects sleep quality. Students with PMS were found to experience more frequent dysmenorrhea complaints, lower melatonin levels, and poorer sleep quality. Therefore, it is crucial to provide students with information on strategies for coping with PMS and dysmenorrhea, raise awareness of the importance of sleep hygiene, and offer education on dietary and lifestyle modifications aimed at increasing melatonin levels. These approaches can contribute to improving students' quality of life in both academic and social domains.

Keywords: Premenstrual Syndrome, Medical Faculty Students, Sleep Quality, Melatonin

The Analysis of Suicide Among Healthcare Workers in Medical Specialty Theses: A Systematic Review

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Oral Presentation – OP123

Introduction and Aim:

Suicide is a critical global public health issue, influenced by numerous individual, societal, and occupational factors. Healthcare workers face unique risks due to stressful working environments, heavy workloads, occupational trauma, and burnout, placing them at a higher risk of suicide compared to the general population. Suicide among healthcare workers is not only an individual tragedy but also has significant implications for healthcare systems, potentially jeopardizing the sustainability of public health services. In Turkey, medical specialty theses are an essential source of scientific knowledge, contributing to the understanding of specific health issues and informing the healthcare system. However, there is limited information regarding the extent to which suicide is addressed in these theses, particularly studies focusing on healthcare workers.

The aim of this study is to evaluate the presence and distribution of research on suicide among healthcare workers in medical specialty theses published in Turkey. Additionally, it seeks to examine the general scope of suicide research across various disciplines and to identify trends over time. The findings from this study are expected to guide future research on the mental well-being of healthcare workers and the occupational risks associated with suicide, thereby supporting initiatives to address these challenges effectively.

Methods:

This retrospective study was conducted on December 11, 2024. Theses addressing the topic of suicide were searched in the database of the Higher Education Council Thesis Center. The keyword “suicide” was used in Turkish as the primary search term. The titles, abstracts, and methodology sections of the retrieved theses were reviewed. Medical specialty theses published between 1986 and 2024 were included in the study.

Results:

A total of 209 theses were identified in this study. Among these, 18 (8.6%) were published in 2024, 32 (15.3%) in 2023, 15 (7.1%) in 2022, and 13 (6.2%) in 2021. Of the theses, 154 (73.6%) were conducted in the field of Psychiatry, 16 (7.6%) in Forensic Medicine, 14 (6.6%) in Emergency Medicine, 8 (3.8%) in Pediatrics, 4 (1.9%) in Family Medicine, and 13 were from other disciplines. It was found that only 3 of these 209 theses (1.4%) addressed the topic of suicide among healthcare workers. These three theses were completed in 2023 and were conducted in the departments of Family Medicine, Psychiatry, and Child and Adolescent Psychiatry. Additionally, all three studies focused on medical students.

Conclusion:

The topic of suicide has been addressed in medical specialty theses across various disciplines. However, there is a notable lack of research focusing on suicide among healthcare workers. The limited studies on this topic were exclusively conducted on medical students. The increasing number of theses on suicide in recent years is noteworthy. This study demonstrates the insufficiency of research on suicide among healthcare workers in medical specialty theses. Understanding the suicide risk among healthcare workers, finding solutions to this problem, and supporting their mental well-being are crucial for the sustainability of public health services.

Keywords: Suicide, Healthcare Workers, Medical Specialty Theses

Review of Medical Specialization Theses on Earthquakes in Turkey

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Oral Presentation – OP124

Introduction: Turkey has experienced many large, destructive earthquakes throughout its history due to its geological location. Beyond their physical devastation, earthquakes lead to physical, psychological, and social problems that profoundly affect public health. Medical specialty theses are important for forming the scientific basis of medical research and disaster management strategies. This study aimed to examine medical specialization theses on earthquakes to provide guidance for future research in this field.

Materials and Methods: This descriptive and retrospective study analyzed specialization theses containing the term "earthquake" in their titles, accessed through the Turkey Higher Education Council's "National Thesis Center" website between December 8 and 18, 2024. Six theses with restricted full-text access were excluded. The data were analyzed using frequency and percentage distributions based on publication year, study type, study location, academic discipline, research topic, and sample characteristics.

Results: Among the 38 theses included in the analysis, most of them (n=25, 65.8%) were published in 2024. The average page count of the theses was 108.1 ± 40.9 (min 58 – max 247). The majority of the theses (n=21, 55.3%) were cross-sectional, while 26.3% (n=10) were retrospective in design. The theses were conducted in 17 different provinces of Turkey, with the highest numbers in Kahramanmaraş (n=8, 21%) and Adana (n=5, 13.2%). Regarding academic disciplines, family medicine accounted for the largest proportion of theses (n=13, 34.2%), followed by psychiatry (n=6, 15.8%) and emergency medicine (n=5, 13.2%). The most common research topic was the psychological effects of earthquakes (n=22, 57.9%), including

anxiety, depression, and post-traumatic stress disorder. It was determined that 55.3% (n=21) of the study sample consisted of adult individuals affected by the earthquake, 18.4% (n=7) were healthcare workers, 7.9% (n=3) were children and their parents, 5.3% (n=2) were women, and 2.6% (n=1) were pregnant women.

Conclusion: The results of our study indicate that after the earthquake of February 6, 2023, there was an increase in the number of thesis studies related to earthquakes, with most of the studies focusing on the psychological effects of the earthquake

Keywords: Earthquake, Turkey, Thesis, Medical Specialization

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Analysis of Disaster Health Research in Medical Specialty Theses in Turkey from 1993 to 2024

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Oral Presentation – OP125

Introduction and Aim

Disasters, both natural and human-induced, have significant impacts on health systems, requiring a well-coordinated response and preparedness to minimize health consequences. Understanding the scope of academic work in disaster health is crucial for identifying gaps and directing future research priorities. This study aimed to explore the body of work on disaster health within medical specialty theses in Turkey, providing insights into trends, focus areas, and potential research needs in this critical field.

Materials and Methods

This retrospective study was conducted on December 19, 2024, to evaluate medical specialty theses related to disaster health in Turkey. The search was performed using the Thesis Center of the Council of Higher Education database with the keywords “Disaster” and “Earthquake.” While no specific date range was imposed, the identified theses were completed between 1993 and 2024, reflecting over three decades of academic contributions to disaster health.

Results

A total of 71 theses were identified, including 27 theses using the keyword “Disaster” and 44 theses using the keyword “Earthquake.” Three theses included both keywords. Among the 27 theses identified with the keyword “Disaster,” 7 (25.9%) were published in 2024, 4 (14.8%) in 2023, and 4 (14.8%) in 2022. Of these, 10 (37%) were completed in the Department of Emergency Medicine, 8 (29.6%) in the Department of Family Medicine, and 7 (25.9%) in the Department of Public Health. Additionally, 7 (25.9%) of these theses were conducted in Ankara, and 3 (11.1%) in Istanbul. Among the 44 theses identified with the keyword “Earthquake,” 25 (56.8%) were published in 2024, 8 (18.1%) in 2023, and 2 (4.5%) in 2001. These included 13 (29.5%) from the Department of Family Medicine, 11 (25%) from the Department of Psychiatry, 5 (11.3%) from the Department of Emergency Medicine, and 4 (9%) from the Department of Public Health. A significant portion of these theses focused on regions affected by the February 6 earthquakes, with 10 (22.7%) conducted in Kahramanmaraş, 6 (13.6%) in Adana, and 5 (11.3%) in Istanbul. Out of the total 71 theses, 33 (46.4%) focused on earthquake survivors affected by the February 6 earthquakes, and 11 (15.4%) addressed topics such as earthquake and disaster awareness and disaster management plans following the February 6 earthquakes.

Conclusion

These findings demonstrate that an interdisciplinary approach has been adopted in disaster health and that this field has gained significant academic importance in recent years. Emergency Medicine, Family Medicine, Public Health, and Psychiatry departments were prominent in disaster-related theses. Notably, a substantial number of studies were conducted in 2023 and 2024, particularly after the February 6 earthquakes, and focused on affected regions. Conducting more studies in relevant regions and specialties before disasters, rather than after, can enhance knowledge and contribute to disaster management and earthquake response processes.

Keywords: Disaster Health, Earthquake, Medical Specialty Theses

The Need for Consolidation in Family Medicine Journals in Turkey: Challenges and Opportunities

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Oral Presentation – OP127

Introduction

Family medicine plays a pivotal role as the first point of contact in healthcare systems, ensuring accessible and comprehensive care for individuals. This discipline thrives on the dissemination of evidence-based knowledge and practices, which are facilitated through scientific journals. These journals serve as essential platforms for the academic community, enabling the publication and exchange of original research findings and advancements in the field. In Turkey, several family medicine journals aim to contribute to the growth of the discipline; however, questions arise regarding their impact, visibility, and scientific contribution within the global and national contexts.

Objective

This study aims to analyze family medicine journals published in Turkey, evaluate their current status based on their indexing and classification, and propose recommendations to enhance their scientific contributions. By identifying strengths and areas for improvement, the study seeks to provide a foundation for potential consolidation strategies to strengthen the overall impact and visibility of family medicine research in Turkey.

Materials and Methods

The study was conducted on December 15, 2024. As part of the research, family medicine journals listed on the website of the Family Medicine Academy in Turkey were reviewed. Index

information for the nine journals included in the study was obtained from relevant databases and journal websites. Index classifications were made according to the categories defined by the Interuniversity Board. The journals were classified as follows: International articles (1a: SCIE or SSCI, 1b: AHCI, 1c: ESCI or Scopus, 1d: Other international indexes), and National articles (TR Index).

Results

Most of the journals reviewed in this study have managed to be indexed in national and international databases over time. Turkish Journal of Family Medicine and Primary Care, launched in 2007, is currently indexed in TR Index. Similarly, the Turkish Family Medicine Journal, published since 1997, is also included in TR Index. Ankara Medical Journal, which started publication in 2012, is indexed in both Scopus and TR Index. The Anatolian Journal of Family Medicine and the Eurasian Journal of Family Medicine, launched in 2012 and 2018, respectively, are indexed in Scopus and TR Index. The Konuralp Medical Journal, published since 2009, is indexed in ESCI and TR Index. The Family Practice and Palliative Care journal, launched in 2016, is indexed only in TR Index. The Journal of Turkish Family Physician and Smyrna Medical Journal, started in 2010 and 2011, respectively, are indexed in Other International Indexes.

All journals are also indexed in various other international databases.

Conclusion

This study reviewed nine family medicine journals published in Turkey. Among these journals, three are simultaneously indexed in Scopus and TR Index, while one is indexed in ESCI and TR Index. Some journals have advanced in indexing levels rapidly, while others have progressed more slowly. Although family medicine is a relatively new discipline in Turkey, these journals have successfully sustained their presence at national and international levels. However, the existence of many journals in the field leads to the dispersion of scientific contributions. Consolidating resources could enhance the scientific impact and publication

quality of these journals. Moreover, merging journals struggling with publication challenges could result in the emergence of journals with higher impact factors.

Keywords: Family Medicine, Journals, Consolidation, Turkey

Short-term Results in Smoking Cessation with Cytisine: Preliminary Results

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Oral Presentation – OP128

Introduction

Tobacco use is a global public health problem that causes more than 8 million deaths each year. In the treatment of nicotine addiction, the combination of pharmacotherapy (varenicline, bupropion, nicotine replacement therapy, cytisine) and behavioural therapies has emerged as the most effective approach. Cytisine, a naturally occurring alkaloid, has a high affinity for nicotine receptors and is non-addictive while alleviating nicotine withdrawal symptoms. Due to its pharmacological similarity to nicotine, it supports the smoking cessation process by reducing rewarding effects.

Materials and Methods

The study is a preliminary outcome study conducted on 44 clients who applied to the smoking cessation outpatient clinic at the Seyhan District Health Directorate Pınar Healthy Life Centre between May and December 2024. Written informed consent was obtained from the clients, sociodemographic information, smoking and health status were recorded and Fagerström Nicotine Dependence Test was applied.

Results

Of the 44 clients treated with cytisine, 56.8% were male, 43.2% were female, and the mean age was 44.1±10.5 years. The mean cigarette consumption was 22 pack/year; this rate was 21 pack/year in quitters and 23.6 pack/year in non-quitters. At the end of the one-month treatment, 63.6% (28 patients) of the clients quit smoking, while 36.4% (16 patients) failed to quit

smoking. In 8 of the 16 patients who could not quit smoking, the treatment was terminated on the 3rd-5th days because the desire to smoke did not decrease. Discussion

Studies supporting the efficacy of cytisine for smoking cessation show that it increases quit rates at least twofold compared to placebo and is equivalent to other pharmacotherapies such as varenicline. Cytisine is a promising treatment option due to its ability to reduce the rewarding effects of nicotine, alleviate withdrawal symptoms, low cost and safe profile. Its effectiveness may be enhanced when combined with more intensive behavioural support.

Keywords: Smoking Cessation, Nicotine Addiction, Drug Therapy

Determination of Health Profile and Affecting Factors in Patients with Osteoarthritis Applying to a Family Health Center

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Oral Presentation – OP130

Objective

Osteoarthritis (OA) is a chronic musculoskeletal disease that has no systemic components and causes biomechanical and degenerative changes, which can start from the articular cartilage and affect other structures that make up the joint over time [1]. As a result of the prolongation of life expectancy, the increase in obesity and the spread of sedentary lifestyle, the incidence and prevalence of osteoarthritis are gradually increasing [2]. Osteoarthritis is symptomatic in approximately 10% of the world's population. In a systematic review of the results of 88 studies, the prevalence of osteoarthritis worldwide was found to be 16% [3,4]. Some of the factors that increase the risk of developing knee osteoarthritis are; female gender, advanced age, obesity, sedentary life, some occupational groups such as firefighters, construction workers, some sports such as American football, continued burden on damaged joints and some genetic factors [5]. Although osteoarthritis can affect all synovial joints, it is more common in the body's load-bearing joints such as knees and hips. Destruction of the articular cartilage is manifested by bone hypertrophy, subchondral sclerosis, biochemical and morphological changes in the synovial membrane and joint capsule. Changes in the joint and surrounding structures in knee osteoarthritis; It causes clinical signs and symptoms such as pain, stiffness, joint swelling, crepitation, decreased range of motion, and deformation, resulting in difficulty in performing daily activities, gait disturbances, decreased mobilization, and decreased quality of life [6]. Pain, defined by the

International Association for Pain Research as "an unpleasant sensory and emotional experience that accompanies or can be identified with existing or possible tissue damage" [7] is the most common symptom of osteoarthritis and the most common reason for hospital admission of patients [7]. Pain and limitation of joint movement affect the daily life of patients. Night pain causes a decrease in the sleep duration and quality of patients. With the addition of the existing comorbid disorders of the patients to the table, their quality of life decreases considerably [8]. Research shows that the incidence and prevalence of osteoarthritis increases with changing living conditions and the increase in the elderly population. There are many variable factors that affect the quality of life in patients with osteoarthritis. The physical, social, mental and environmental factors that make up the health profile of the person should be taken into consideration and all dimensions should be evaluated together in order to ensure complete well-being. In this study, it is aimed to determine the health profiles and influencing factors of individuals with osteoarthritis.

Material and Method

In this cross-sectional study, 190 participants who applied to Kartal Dr. Lütfi Kırdar City Hospital Büyükada Education Family Health Center between 01.04.2021-30.09.2021, who were diagnosed with osteoarthritis according to the American College of Rheumatology (ACR) osteoarthritis criteria and whose compliance with the criteria was confirmed by the researcher were included. Participants with any psychological disorder and a history of joint prosthesis were excluded from the study. Sociodemographic data form prepared by the researcher and Nottingham Health Profile (NSP) Scale were applied to all participants. Participants' age, gender, height, weight, body mass index, marital status, living environment, occupation and income status, chronic diseases and smoking/alcohol habits were questioned. The NSP Scale was started to be developed in 1975 at the Department of Community Health at Queens Medical Center, University of Nottingham, England and completed in 1981. The first part of the scale, which consists of two parts, can also be applied individually and consists of 38 questions answered as "yes" and "no". In our study, the first part of the scale with 38 questions was used.

It consists of 6 subheadings: physical mobilization, emotional reactions, pain, sleep, energy level and social isolation. The number of questions in each subheading is different from each other and the score of the questions in each section is different. When scoring, the points for that section are collected under each subheading and the scoring of each subsection is between "0" and "100". In the evaluation of the scale, high scores are interpreted as being more affected by the disease and low scores are interpreted as being less affected by the disease [9,10]. The study data were analyzed in SPSS 22.0 program. In the analyses, frequency, percentage, frequency, mean, standard deviation, median and minimum-maximum value were used from the descriptive criteria. The assumption of normal distribution of all variables was evaluated with the Kolmogorov Smirnov test, and Student t test, ANOVA test, Pearson correlation analysis were used for normally distributed continuous variables and Mann-Whitney U, Spearman correlation analysis, Kruskal-Wallis test were used for abnormally distributed variables. In all analyses, $p<0.05$ values were considered significant. For the study, ethical approval was obtained from the Ethics Committee of Kartal Dr. Lütfi Kırdar City Hospital on 24/02/2021 and numbered 514/196/18 9. Our research was conducted in accordance with the Helsinki Declaration and the Good Clinical Practice Guidelines.

Results

The mean age of the 190 participants included in the study was 65.3±8.3 years. The sociodemographic characteristics of the participants are shown in Table 1. The mean score of the participants in the NSP Scale energy level subheading was 32.6±38.0. A significant difference was found between the participants' NSP Scale energy level subheading and gender, marital status, living environment, occupation, and presence of chronic disease. The mean score of the participants in the pain sub-dimension of the scale was 53.4±25.5. There was a significant difference between the participants' NSP Scale pain sub-dimension and gender, age groups, marital status, occupation, and presence of chronic disease. The mean score of the participants in the emotional reaction sub-heading of the scale was 9.8±19.6. A significant difference was found between the NSP Scale emotional reaction sub-dimension of the participants and only

the presence of chronic disease. The mean score of the participants in the sleep sub-heading of the NSP Scale was 32.6±38.0. A significant difference was found between the participants' NSP Scale sleep sub-dimension and age, marital status, occupation, and presence of chronic disease. The mean score of the participants in the social isolation sub-dimension of the scale was 3.2±11.2. There was a significant difference between the social isolation sub-dimension of the participants and their gender, marital status, living environment, occupation, and presence of chronic disease. The mean score of the participants in the physical mobility sub-dimension of the scale was 41.7±19.5. A significant difference was found between the participants' NSP Scale physical mobility sub-dimension and gender, age, marital status, living environment, occupation, and presence of chronic disease. The relationship between the sociodemographic characteristics of the participants and the sub-titles of the NSP Scale is shown in Table 2. There was a weak positive correlation between the age of the participants and the energy level, pain and sleep subheadings of the NSP Scale and a moderate positive correlation with the pain subheading. There was a moderate positive correlation between the participants' body mass indexes (BMI) and the social isolation subheading of the NSP Scale and a weak positive correlation between all other subheadings. The relationship between age and BMI, and NSP total scale score and subscale scores are given in Table 3.

Conclusion

Osteoarthritis is the most common form of arthritis, and it is becoming a social health problem due to the aging population and the increasing prevalence of obesity, and its burden on health costs is gradually increasing [11]. The fact that it is common in the community, causes a decrease in the quality of life, the burden of disability and increasing health costs increase the importance of osteoarthritis treatment. The majority of the individuals participating in the study are women. There are similar results in the literature. It is thought that the reason for the high number of female participants may be related to the rate of admission to the health institution. In a study conducted by İlhan et al., it was concluded that 67.5% of those who applied to the family health center were women, and this situation resulted in women's higher level of anxiety

and the increase in the frequency of female-specific diseases with age, resulting in more demand for health services [12]. Age is an important risk factor for the development of OA. Decreased articular cartilage perfusion and changes in joint geometry in middle and older age are important factors in increasing the prevalence [13]. In a study by Atamaz et al. [14], in which they examined the factors associated with pain and disability in knee OA with 160 patients, they found that advanced age has an effect on pain and loss of function. Diker et al. [15], in their study with 144 individuals over 65 years of age, looked at the relationship of osteoarthritis with quality of life and demographic variables; found that there was no significant relationship between age and NSP Scale pain, social isolation, and sleep score. Ünver et al. [16], found a significant relationship between BMI and radiological stage, pain, and physical functions in patients with knee osteoarthritis and concluded that this could be explained by the increase in axial load on the joint. Obesity is one of the leading modifiable risk factors of osteoarthritis [17]. It has been reported that weight gain may play a role in the formation of knee osteoarthritis and the course of the disease not only due to mechanical reasons but also through metabolic effects [18]. As a result of a meta-analysis, it was found that the probability of osteoarthritis in obese or overweight individuals was 2.96 compared with normal weight individuals [19]. Based on the result that the physical and mental health of the person is negatively affected with weight gain and the quality of life decreases, it may be a research topic to determine how the quality of life will change by reapplying the NSP Scale after 5-10% weight loss by following up the patients.The pain experienced by patients in OA adversely affects the individual physically, socially and psychologically and leads to a decrease in quality of life [20]. In Yılmaz T.'s study [21], when the subtitle of pain and physical functions were compared, it was concluded that pain adversely affected physical function, quality of life and sleep quality. Two studies conducted in individuals over the age of sixty with knee and hip osteoarthritis concluded that there was a deterioration in sleep quality. Wilcox et al. [22] reported that elderly individuals with knee OA had problems falling asleep (31%), maintaining sleep (81%), and waking up early during the day (51%) at least once a week. In the study conducted by Özvurmaz et al. [23] in individuals over 65 years of age, the fact that 89% of the participants in the study had

impaired sleep quality supported the deterioration of sleep quality with age. In a study, it was concluded that individuals with knee or hip OA had limitations in certain activities due to the pain they experienced and that some people avoided doing activities due to fear of pain [24]. Nutrition and physical activity recommendations to prevent weight gain, regular weight monitoring should be made an important part of primary protective strategies against knee osteoarthritis. Physical mobility and quality of life were found to be positively related. Based on this result; Explaining the importance of regular physical activity at each visit, creating a personalized exercise prescription when necessary, and regular follow-up are valuable in terms of preventive medicine. It is thought that more studies with a large sample, including different patient groups, are needed in order to obtain more reliable results on this subject.

Table 1. Sociodemographic characteristics of the participants

		Woman	Man	Total
		65.6±8.5	64.7±7.7	65.3±8.3
Age	40-60 years	26.6(37)	33.3(17)	28.4(54)
	61-80 years	70.5(98)	64.7(33)	69.0(131)
	≥ 81 years	2.9(4)	2.0(1)	2.6(5)
Marital status	The married	76.3(106)	94.1(48)	81.0(154)
	single	0.7(1)	2.0(1)	1.1(2)
	Widowed/Divorced	23.0(32)	3.9(2)	17.9(34)
living environment	Solo/ Carer	16.6(23)	3.9(2)	14.1(25)
	Nuclear family	74.8(104)	92.2(47)	79.5(151)
	Extended family	8.6(12)	3.9(2)	7.4(14)
Job	Not working	21.6(30)	51.0(26)	29.5(56)
	working	58.3(81)	0.0(0)	42.6(81)
	Retired	20.1(139)	49.0(25)	27.9(53)
Income	Below minimum wage	1.4(2)	0.0(0)	1.1(2)
	Minimum wage	59.0(82)	39.2(20)	53.7(102)
	Above minimum wage	39.6(55)	60.8(31)	45.2(86)
Cigaret	not drinking	53.2(74)	21.6(11)	44.7(85)
	Drinks	30.2(42)	58.8(30)	37.9(72)
	left	16.6(23)	19.6(10)	17.4(33)
Alcohol	not drinking	92.1(128)	74.5(38)	87.4(166)
	Drinks	7.9(11)	25.5(13)	12.6(24)

Table 2. Sociodemographic characteristics of the participants and their relationship with the sub-headings of the NSP Scale

		Energy Level		Pain		Emotional Reaction		Sleep		Social Isolation		Physical Mobility	
		Median(min-max)	P	Median(min-max)	P	Median(min-max)	P	Median(min-max)	P	Median(min-max)	P	Median(min-max)	P
Gender	Woman	33.3(0.0-100.0)	0.000	50.0(0.0-100.0)	0.004	0.0(0.0-88.8)	0.097	20.0(0.0-100.0)	0.499	0.0(0.0-80.0)	0.024	50.0(0.0-100.0)	0.000
	Man	0.0(0.0-66.6)		37.5(12.5-100.0)		0.0(0.0-55.5)		20.0(0.0-100.0)		0.0(0.0-20.0)		37.5(0.0-62.5)	
Age	40-60 years	0.0(0.0-100.0)	0.441	37.5(12.5-100.0)	0.015	0.0(0.0-88.8)	0.119	0.0(0.0-100.0)	0.010	0.0(0.0-60.0)	0.623	37.5(0.0-75.0)	0.000
	61-80 years	33.3(0.0-100.0)		50.0(0.0-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-80.0)		50.0(0.0-100.0)	
	≥ 81 years	33.3(0.0-100.0)		75.0(50.0-100.0)		11.1(0.0-22.2)		20.0(0.0-100.0)		0.0(0.0-60.0)		75.0(37.5-75.0)	
Marital status	The married	0.0(0.0-100.0)	0.001	50.0(0.0-100.0)	0.021	0.0(0.0-88.8)	0.122	20.0(0.0-100.0)	0.047	0.0(0.0-80.0)	0.000	0.0(0.0-80.0)	0.000
	Single	16.6(0.0-33.3)		43.7(25.0-62.5)		5.5(0.0-11.1)		0.0(0.0-0.0)		0.0(0.0-0.0)		25.0(12.5-37.5)	
	Widowed/Divorced	66.6(0.0-100.0)		62.5(12.5-100.0)		0.0(0.0-77.7)		0.0(0.0-100.0)		0.0(0.0-60.0)		56.2(12.5-100.0)	
Lliving environment	Solo/ Carer	50.0(0.0-100.0)	0.005	62.5(12.5-100.0)	0.182	0.0(0.0-77.7)	0.117	20.0(0.0-80.0)	0.380	0.0(0.0-60.0)	0.000	50.0(12.5-87.5)	0.022
	Nuclear family	0.0(0.0-100.0)		50.0(0.0-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-80.0)		37.5(0.0-87.5)	
	Extended family	50.0(0.0-100.0)		56.2(25.0-100.0)		11.1(0.0-55.5)		20.0(0.0-100.0)		0.0(0.0-20.0)		50.0(0.0-100.0)	
Job	Not working	33.3(0.0-100.0)	0.000	62.5(0.0-100.0)	0.000	0.0(0.0-88.8)	0.118	20.0(0.0-100.0)	0.015	0.0(0.0-80.0)	0.000	50.0(0.0-100.0)	0.000
	working	0.0(0.0-100.0)		37.5(12.5-100.0)		0.0(0.0-55.5)		0.0(0.0-100.0)		0.0(0.0-20.0)		25.0(0.0-75.0)	
	Retired	33.3(0.0-100.0)		50.0(12.5-100)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-0.0)		37.5(12.5-87.5)	
Income	Below minimum wage	50.0(0.0-100.0)	0.256	50.0(25.0-75.0)	0.082	11.1(0.0-22.2)	0.714	40.0(0.0-80.0)	0.686	0.0(0.0-0.0)	0.165	50.0(25.0-75.0)	0.723
	Minimum wage	33.3(0.0-100.0)		50.0(0.0-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-80.0)		37.5(0.0-100.0)	
	Above minimum wage	0.0(0.0-100.0)		50.0(0.0-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-60.0)		37.5(0.0-87.5)	
Cigaret	Not drinking	33.3(0.0-100.0)	0.406	50.0(0.0-100.0)	0.184	0.0(0.0-88.8)	0.566	20.0(0.0-100.0)	0.818	0.0(0.0-80.0)	0.705	50.0(0.0-100.0)	0.435
	Drinks	16.6(0.0-100.0)		50.0(12.5-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-60.0)		37.5(0.0-75.0)	
	Left	0.0(0.0-100.0)		50.0(0.0-100.0)		0.0(0.0-88.8)		0.0(0.0-100.0)		0.0(0.0-40.0)		37.5(0.0-75.0)	
Alcohol	Not drinking	33.3(0.0-100.0)	0.456	50.0(0.0-100.0)	0.774	0.0(0.0-88.8)	0.587	20.0(0.0-100.0)	0.856	0.0(0.0-80.0)	0.338	37.5(0.0-100.0)	0.862
	Drinks	0.0(0.0-100.0)		56.2(25.0-100.0)		0.0(0.0-88.8)		20.0(0.0-100.0)		0.0(0.0-60.0)		37.5(12.5-62.5)	
Chronic disease	Yes	33.3(0.0-100.0)	0.010	50.0(0.0-100.0)	0.002	0.0(0.0-88.8)	0.038	20.0(0.0-100.0)	0.005	0.0(0.0-80.0)	0.013	37.5(0.0-100.0)	0.000
	No	0.0(0.0-100.0)		37.5(0.0-100.0)		0.0(0.0-55.5)		0.0(0.0-100.0)		0.0(0.0-0.0)		25.0(0.0-75.0)	

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Google Trends Searches on Acute Stress Disorder Following Earthquakes in Turkey

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Oral Presentation – OP131

Objective

Earthquakes are unavoidable natural disasters that humanity has encountered throughout history. On February 6, 2023, Turkey experienced two devastating earthquakes with an interval of nine hours, both originating in Kahramanmaraş. These earthquakes significantly impacted the mental health of the population, affecting 11 provinces and causing widespread devastation, homelessness, and loss of loved ones. Following traumatic events such as earthquakes, individuals may develop Acute Stress Disorder (ASD). The severity of such trauma can be influenced by factors such as gender, ethnicity, education level, frequency, and duration of the traumatic events. ASD manifests within 3 to 30 days following a severe trauma, with symptoms including distress, avoidance, and heightened startle responses. This study aimed to investigate the relationship between Google searches related to ASD symptoms and the Kahramanmaraş Earthquake.

Materials and Methods

Search terms prepared through a literature review were queried in the Google database. A total of 22 search terms were identified. The terms were filtered by country and time period. The time frame of January 2, 2022, to December 22, 2024, was selected. The week from February 5 to 12, 2023, was excluded from the analysis. The first 30 days following the earthquake were

evaluated for the post-earthquake period. Weekly and annual search volumes for the terms were recorded. Peak values (100) indicated high interest, while a value of 0 indicated low interest.

Results

During the study period, Google Trends searches for terms indicative of ASD symptoms were analyzed. The most frequently searched terms were “depression,” “insomnia,” “panic attack,” “stress,” “unhappiness,” “fear,” “anxiety,” and “tension.” All 22 terms reached a peak value at least once. Comparisons of pre-earthquake and the first 30 days post-earthquake revealed increased interest in terms such as acute stress disorder, anxiety, earthquake fear, depression, anxiety, tension, startle, panic attack, nervous breakdown, stress, trauma, and insomnia. Analysis of 2022, 2023, and 2024 data showed heightened interest in 2023. The average search volume for the queried terms was 49.78±25.90 pre-earthquake and 53.91±26.03 post-earthquake. Search volumes for terms related to ASD were significantly higher in the post-earthquake period ($p<0.001$).

Conclusion

The average search volumes for terms related to Acute Stress Disorder were significantly higher in the post-earthquake period ($p<0.001$). The psychological impact of natural disasters like earthquakes on mental health should not be overlooked. Early diagnosis of Acute Stress Disorder is critical, as it can prevent the development of Post-Traumatic Stress Disorder (PTSD). Therefore, it is essential for the Ministry of Health to implement initiatives aimed at protecting public mental health.

Keywords: Acute Stress Disorder, Earthquake, Fear

Analysis the Impact of the February 6, 2023 Earthquakes on Suicide-Related Internet Searches in Turkey

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Oral Presentation – OP132

Objective: On February 6, 2023, two major earthquakes centered in Kahramanmaraş affected several neighboring provinces in Turkey. This study aimed to evaluate the impact of these earthquakes on suicide-related internet searches in Turkey using Google Trends, and to analyze the corresponding search volumes.

Materials and Methods: The search volumes of suicide-related terms in Turkey were analyzed using the Google Trends database for the period between January 2, 2022, and January 10, 2025. Searches from the week of February 5–11, 2023, were excluded from the analysis. A total of 44 search terms were identified based on a literature review of suicide-related keywords. In Google Trends data, search volume scores range from 0 to 100, where 0 does not indicate a complete absence of interest, and 100 represents a peak in interest. Statistical analyses were performed using SPSS software.

Results: Each search term reached a peak at least once during the study period. The terms with the highest search volumes were "stress" (S:11922), "anxiety disorder" (S:11671), "depression" (S:11280), "anxiety" (S:9328), "suicide news" (S:8385), and "painless suicide" (S:6937). The terms with the lowest search volumes were "suicide plan" (S:106), "most effective suicide" (S:147), "suicide photos" (S:183), "suicide by self-immolation" (S:191), and "child suicide" (S:201). The average search volume for all terms was 19.45 before the earthquakes and 17.66

after the earthquakes, a difference that was not statistically significant (p=0.703). However, an increase in search volumes was observed for terms such as "suicide," "painless death," "painless suicide," "quick suicide," "easy suicide," "suicide with a gun," "mass suicide," "how to commit suicide," and "suicide plan" in the post-earthquake period.

Conclusion: An analysis of suicide-related internet searches in Turkey via the Google Trends database revealed that search volumes were statistically similar before and after the earthquakes. However, there was increased interest in certain suicide-related terms following the earthquakes. Suicide remains a significant public health concern, and the psychological effects of societal stressors such as earthquakes should not be overlooked. Identifying trends in suicide-related behaviors is crucial for guiding the development of preventive health policies.

Keywords: Suicide, Google Trends Database, Earthquake

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Clinical and Demographic Characteristics of Pediatric Ophthalmology Patients: A Retrospective Analysis from a University Hospital

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Introduction

Ocular diseases represent physiological disorders stemming from environmental or genetic factors, often culminating in significant visual impairments and aesthetic concerns. Early diagnosis and timely intervention for these conditions in the pediatric population are essential to mitigate adverse effects on children's visual and overall development. This study aims to evaluate the clinical and demographic characteristics of pediatric patients who presented to the pediatric ophthalmology clinic of a university hospital within a one-year period, thereby contributing to insights for preventive health strategies.



Methods

Ethics approval for this study was obtained from the Kırıkkale University Clinical Research Ethics Committee. The medical records of pediatric patients attending the Ophthalmology Department at Kırıkkale University Medical Faculty Hospital were retrospectively reviewed. Demographic data, including age, gender, and clinical diagnoses, were extracted from patient files. Participants were categorized into three age groups: 0–1 year, 1–7 years, and 7–18 years. Diagnoses were classified into five categories: refractive disorders, strabismus, eyelid disorders (e.g., ptosis, entropion, ectropion), other

conditions (e.g., conjunctivitis, blepharitis, uveitis, epiphora, red eye, ocular tumors), and routine examinations.

Results

Medical records of 2,376 pediatric patients who visited the ophthalmology service in 2023 were analyzed. The distribution of patients by age groups was as follows: 624 patients aged 0–1 year, 766 patients aged 1–7 years, and 986 patients aged 7–18 years. Gender distribution across age groups was comparable ($p > 0.05$). The predominant reason for presentation in the 0–1 year age group was routine examination, while refractive disorders were the most common diagnosis among patients aged 7–18 years. In the 1–7 year age group, presentations were primarily due to routine examinations and refractive disorders.

Conclusion

The prevalence of refractive disorders among pediatric patients increases with age. Failure to address refractive errors promptly may result in complications such as amblyopia and strabismus. This underscores the critical role of routine ophthalmologic evaluations in pediatric primary healthcare settings. Particular emphasis should be placed on visual acuity assessments in school-aged children to identify and address refractive errors early.

Keywords: Refractive Errors, Pediatric Ophthalmology, Primary Care, School-Aged Children

An Analysis of Studies on Child Neglect and Abuse in the Web of Science Database

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Oral Presentation – OP135

Objective: The fact that children lack sufficient power to protect themselves makes them the group most frequently exposed to neglect and abuse. For this reason, children stand out as the most important group to be supported and protected. This study aimed to evaluate studies on child neglect and abuse featured in the Web of Science database**.**

Method: This study was conducted using the search term "child neglect and abuse" in the Web of Science database. As a result of the search, 10,833 studies published between 1980 and 2025 were categorized according to the features of the Web of Science.

Results: It was determined that there were 10,833 studies in the Web of Science database between 1980 and 2025. Among these studies, 744 (6.86%) were conducted in 2021, 708 (6.53%) in 2022, 699 (6.45%) in 2020, and 615 (5.67%) in 2024. It was found that 9,228 (85.18%) of the studies were articles, 818 (7.55%) were reviews, and 239 (2.20%) were book reviews. According to the Web of Science categorization, 3,556 (32.82%) studies were in the category of family studies, 3,468 (32.01%) in social services, 1,494 (13.79%) in psychiatry, and 1,456 (13.44%) in social psychology. It was found that 367 (3.38%) of these studies originated from the University of California, 309 (2.85%) from Ohio University, and 278 (2.56%) from the University of North Carolina. The language distribution revealed that 10,370 (95.72%) studies were in English, 167 (1.54%) in German, 81 (0.74%) in Spanish, and 56 in Turkish. It was also identified that 5,554 of the studies were conducted in the United States,

922 (8.51%) in the United Kingdom, and 54 (0.49%) in Turkey. Regarding publication sources, 2,973 (27.44%) studies were published by Elsevier, 1,117 (10.31%) by Springer Nature, and 1,050 (9.69%) by Wiley.

Conclusion: It was determined that the highest number of studies was conducted in 2021, with most of these studies taking the form of articles. Within the Web of Science categorization, the majority of the studies were found to focus on family studies. These studies predominantly originated from the University of California, were published in English, conducted in the United States, and published by Elsevier. The level of development and progress of a society is directly related to the healthy physical, mental, and social growth of its children. Preventing and addressing child neglect and abuse should not only be the responsibility of those working in this field but also the fundamental responsibility of every individual in society. Conducted studies will enhance knowledge and awareness; therefore, more research is needed on the topic of child neglect and abuse.

Keywords: Web of Science, Child Neglect, Child Abuse

Does Artificial Intelligence Cause Anxiety Among Medical Students?

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Oral Presentation – OP136

Objective: With the rapid development of technology, artificial intelligence (AI) technologies have started to be used in every field. The healthcare sector is one of the leading areas where artificial intelligence technologies are frequently employed. Although artificial intelligence technologies facilitate the functioning of healthcare services, the unpredictable development of AI in the future is one of the main concerns among healthcare professionals. This study aims to assess the levels of anxiety about artificial intelligence among medical students, who are the future healthcare professionals.

Material and Methods: The population of this descriptive cross-sectional study consists of students from Yozgat Bozok University Faculty of Medicine. The study aimed to reach all medical students without sampling. A personal information form and the artificial intelligence anxiety scale were used in the study. Numerical data were evaluated using descriptive statistical methods such as standard deviation, mean, and categorical variables were evaluated using numbers and percentages. The chi-square test was used for the evaluation of categorical variables, while the Student's t-test and one-way ANOVA were used for numerical variables.

Results: A total of 490 medical students participated in the study. Of the participants, 60.4% (n=296) were female, and 39.6% (n=194) were male. The distribution of participants by year was as follows: 16.5% (n=81) were first-year, 20.6% (n=101) second-year, 19.2% (n=94) third-year, 13.1% (n=64) fourth-year, 15.1% (n=74) fifth-year, and 15.5% (n=76) sixth-year students. The mean age of the participants was 21.80 ± 2.45 years (min: 18- max: 41). Among the participants, 50.8% (n=249) were knowledgeable about AI applications in healthcare, while

49.2% (n=241) were not. Additionally, 91.2% of the participants stated that AI applications in healthcare are necessary, and 88% (n=431) expressed a desire to utilize AI-determined algorithms in the disease diagnosis process. The mean score on the artificial intelligence anxiety scale was 47.09 ± 12.78 (min: 16-max: 80). Female participants had significantly higher mean scores on the AI anxiety scale compared to males ($p<0.05$). Participants who did not find AI-recommended treatment algorithms reliable had higher mean scores on the AI anxiety scale, which was statistically significant ($p<0.05$).

Conclusion: Although future medical professionals recognize the necessity of AI applications in healthcare and wish to benefit from AI in diagnostic processes, the treatment algorithms proposed by AI are not considered reliable, thus causing anxiety among medical students. Incorporating AI-related content into medical school curricula could help alleviate students' concerns about the use of AI in healthcare.

Keywords: Artificial Intelligence, Medical Student, Anxiety

Evaluation of Anxiety, Depression, and Quality of Life in Children with Solid Tumor Diagnosis

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Oral Presentation – OP139

Purpose: The aim of the study is to assess anxiety, depression, and quality of life in children diagnosed with solid tumors and to investigate the effects of this disease on the child's academic and social life.

Materials and methods: A total of 50 pediatric patients aged 6 to 18 diagnosed with solid tumors were followed up in the Department of Pediatric Hematology and Oncology at the University of Health Sciences, Adana Faculty of Medicine, Adana City Education and Research Hospital, between August 1, 2024, and August 1, 2025. Inclusion criteria required that patients not be undergoing active psychiatric treatment and be literate in Turkish. The Child Anxiety and Depression Scale, the Depression Scale for Children, the Childhood Anxiety and Depression Screening Scale, and the Quality of Life Scale for Children were administered by a Child and Adolescent Psychiatry specialist in a semi-structured manner.

Results: Among 50 patients (median age: 13 years), 16% showed depressive symptoms (CDI ≥19), and 56% had high anxiety levels (SCARED ≥25). Maternal education was positively associated with anxiety ($p<0.001$), while paternal education showed a negative correlation

(p=0.009). Gender and age significantly impacted emotional well-being and quality of life. These findings highlight the role of socioeconomic factors in pediatric psychological health.

Conclusion: Accurate evaluation of the psychosocial status of children diagnosed with solid tumors is critical for improving their quality of life and providing emotional support.

Keywords: Solid Tumors, Pediatric Oncology, Anxiety, Depression, Quality of Life, Child Development

Examination of Knowledge Levels About Healthy Baby Monitoring, Health Literacy Levels and Related Factors of Women Aged 18-49 Who Apply to Family Health Centers

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Oral Presentation – OP141

Purpose: We aimed to determine the healthy baby monitoring and health literacy knowledge levels of women of childbearing age, to determine the affecting factors, to raise awareness on the subject, and to eliminate any deficiencies.

Material and Methods: Sociodemographic data, healthy baby follow-up survey questions, and adult health literacy scale (AHLS) results of women aged 18-49 who applied to family health centers were recorded. We used SPSS 22.0 for statistical analysis. The suitability of the data for normal distribution was evaluated with the Kolmogorov-Smirnov test. Analysis of the difference between data in group comparisons was performed using Mann-Whitney U and Kruskal-Wallis tests. Spearman correlation analysis was applied for group correlations. Continuous data were expressed as mean ± standard deviation (SD) values, and categorical data as numbers (n). A value of $P < 0.05$ was considered statistically significant.

Result: The mean age of the participants (n = 196) was 29.22±8.52 (18-48). There are 72 participants with secondary school or lower education levels, 53 high school graduates, and 71 university graduates. 123 of the participants are married, and 105 have children. 27 of the mothers receive support about baby care. When we look at the average score of healthy baby

follow-up, those whose income is more than their expenses, those who are between 24-31 and 32 years old and above, those who are secondary school graduates, civil servants, and those who have children, those who have one child among those who have children are found to be higher, and there is a significant difference ($p < 0.01$). When the AHLS mean score is examined, the mean score of those who are university graduates, civil servants, those who are single, those who do not have children, and those who have a child are found to be higher, and there is a significant difference ($p < 0.01$). A significant positive correlation was found between the healthy baby follow-up score average and AHLS score average ($p < 0.01$).

Conclusion: It was found that those with low socioeconomic and educational levels, those who were not working, and those who had more than one child had low mean scores for both healthy baby follow-up and AHLS scores. Easily accessible, flexible education models should be offered to these groups in primary care. In addition, responsibilities should be shared among families, and interactive monitoring and vaccination programs should be created.

Keywords: Primary Care, Healthy Baby Monitoring, Health Literacy

Evaluation of the Relationship between Night Eating Behavior and Sleep Quality, Depression and Anxiety Levels

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Oral Presentation – OP142

Objective: Night eating syndrome (NES) was defined by Stunkard in 1955 as a disorder characterized by morning anorexia, evening hyperphagia, and insomnia in patients with treatment-resistant obesity. The results obtained from the studies have shown that individuals with poor sleep quality have irregular eating habits. Individuals with psychological problems such as depression, anxiety, and eating disorders have more difficulty in controlling their eating and having adequate and balanced nutrition than healthy individuals. The aim of our study is to reveal the relationship between the night eating behaviors of patients who applied to Ankara Bilkent City Hospital Family Medicine polyclinics and their sleep quality, depression, and anxiety levels.

Materials and Methods: 371 patients between the ages of 18-65 who applied to Ankara Bilkent City Hospital Family Medicine polyclinics were included in the study. Participants were administered a questionnaire form including sociodemographic data affecting their eating habits, the Night Eating Questionnaire (NQI), Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI). Statistical analyses were performed using the IBM SPSS 27.0 program.

Findings: The study included 371 participants (118 males, 253 females) aged 18-64 with a mean age of 32.86 ± 10.31. According to the scores of the participants from the ADL, 40 of them were found to have NES at a rate of 10.8%. It was found that 92.5% of patients with NES had poor sleep quality, 27.5% had depression, 20% had mild anxiety, 5% had moderate anxiety, and 22.5% had severe anxiety, and when the PSQI scores were evaluated, 81.4% had poor sleep quality. A positive correlation was obtained between ADL and PSQI scores, and between BDI and BAI scores. No statistically significant relationship was observed between ADL and BDI and BAI scores. A statistically significant relationship was found between ADL and income status, obesity, daily television viewing, time spent in front of the screen, time to fall asleep after screen exposure, smoking, mealtime routine, mood while consuming meals, and any beverage consumption from dinner until bedtime. A statistically significant relationship was found between PSQI and marital status, income status, occupation, time to fall asleep after screen exposure, any beverage consumption until falling asleep, daily coffee consumption, consumption of products such as cola, caffeine, and milk ayran from dinner until falling asleep.

Conclusion: It was observed that 10.8% of the participants had NES and patients with NES had worse sleep quality. It was determined that there was no significant relationship between NES and depression and anxiety. Early recognition of NES in individuals and organization of treatment and follow-up will help more effective treatment of the existing pathology and prevent complications that may develop as a result of NES. When these results are evaluated, it is recommended that more comprehensive research be conducted on this subject.

Keywords: Night Eating Syndrome, Sleep, Sleep Quality, Anxiety, Depression

Contrast Sensitivity: A Hidden Guard of Clear Vision and the Impact of Corneal Cross-Linking in Early-Stage Keratoconus

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Oral Presentation – OP143

Introduction and Aim

Keratoconus is a progressive, non-inflammatory corneal ectatic disorder characterized by corneal thinning, irregular astigmatism, and protrusion, leading to visual disturbances. While early stages of the disease may preserve good visual acuity, subtle changes in the quality of vision, such as distorted or shadowed images, often impair the patient's functional vision. These changes are frequently associated with higher-order aberrations and reduced contrast sensitivity, which are critical components of visual performance. Contrast sensitivity, in particular, plays an essential role in activities of daily living, such as reading, driving, and recognizing faces, especially under low-light or high-glare conditions.

Despite the widespread use of visual acuity tests in keratoconus evaluations, these tests do not adequately reflect the challenges experienced by patients, as they fail to capture qualitative aspects of vision, such as contrast sensitivity. Addressing these challenges is crucial, as they directly impact the quality of life in keratoconus patients. Corneal collagen cross-linking (CXL) has emerged as a transformative treatment modality for halting the progression of keratoconus by strengthening the biomechanical stability of the cornea. However, its effects on qualitative visual outcomes, such as contrast sensitivity, remain under-explored. Understanding these effects is vital to fully appreciating the benefits of CXL in improving not just the structure but also the functional vision of keratoconus patients.

The aim of this study is to evaluate the importance of contrast sensitivity in the early stages of keratoconus and to investigate the impact of CXL on visual performance and contrast sensitivity. By conducting a comprehensive analysis of contrast sensitivity changes before and after CXL, this study seeks to provide valuable insights into how this treatment influences the overall visual quality and functional vision of keratoconus patients.

Material and Methods

This retrospective study included 13 eyes at early stages of keratoconus, selected from a total of 50 eyes belonging to 25 patients. The participants consisted of 17 males and 8 females, aged between 15 and 25 years. All included eyes had clear corneas and an uncorrected visual acuity (UCVA) of 20/20 despite experiencing visual disturbances, such as distorted or shadowed images. All patients were examined by the same physician using the following standardized ophthalmic evaluations: Objective and subjective refraction tests to determine refractive errors, Intraocular pressure measurement using applanation tonometry, Slit-lamp biomicroscopy for anterior segment examination, Fundoscopy for posterior segment evaluation, Corneal topography to assess corneal curvature and irregularities, Corneal pachymetry to measure central corneal thickness (CCT), Contrast sensitivity testing using the CC100XP Computerised Test Chart, Cross-Linking Procedure (CXL). Corneal collagen cross-linking (CXL) was performed on all 13 eyes using the epi-off CUSTOM FAST CXL protocol. The same physician carried out all procedures to ensure consistency.

Study Timeline

All tests were conducted for each eye: Baseline measurements prior to CXL and Follow-up measurements three months post-CXL.Contrast sensitivity tests were performed using the CC100XP Computerised Test Chart at spatial frequencies of 3, 6, 9, and 12 cycles per degree (cpd). Data were analyzed using two-tailed statistical tests, with a p-value < 0.05 considered statistically significant. The primary outcomes included changes in contrast sensitivity and corneal parameters. Contrast sensitivity significantly improved at 3, 6, and 9 cpd three months

after CXL ($p < 0.05$). No significant change was observed at 12 cpd ($p > 0.05$). Central corneal thickness showed no statistically significant difference before and after CXL.

Results

This retrospective study analyzed 13 eyes in the early stages of keratoconus, selected from a total of 50 eyes belonging to 25 patients. The study population consisted of 17 male and 8 female participants, aged between 15 and 25 years. All 13 eyes included in the analysis had clear corneas and an uncorrected visual acuity (UCVA) of 20/20, despite experiencing visual disturbances such as distorted or shadowed images.

Patients underwent comprehensive ophthalmic evaluations conducted by the same physician, including objective and subjective refraction, intraocular pressure measurement, slit-lamp biomicroscopy, fundoscopy, corneal topography, corneal pachymetry, and contrast sensitivity testing. The CC100XP Computerised Test Chart was used to measure contrast sensitivity at spatial frequencies of 3, 6, 9, and 12 cycles per degree (cpd). Corneal collagen cross-linking (CXL) was performed on all eyes using the epi-off CUSTOM FAST CXL protocol.

At baseline, diminished contrast sensitivity at higher spatial frequencies (6, 9, and 12 cpd) and increased higher-order corneal aberrations were identified as the primary causes of visual impairment in the untreated keratoconus patients. Three months after undergoing CXL, a statistically significant improvement in contrast sensitivity was observed at 3, 6, and 9 cpd ($p < 0.05$). However, the improvement at 12 cpd was not statistically significant ($p > 0.05$).

No statistically significant difference was found in central corneal thickness (CCT) when comparing pre- and post-CXL measurements ($p > 0.05$). All statistical analyses were performed using two-tailed tests, with p-values < 0.05 considered statistically significant.

Conclusion

This study demonstrates that corneal collagen cross-linking (CXL) effectively enhances contrast sensitivity, particularly at lower and mid-spatial frequencies, in the early stages of keratoconus, without causing significant changes in central corneal thickness. Keratoconus is a progressive degenerative disorder characterized by corneal thinning and irregularity, leading to blurred and distorted vision as the cornea assumes a conical shape. While patients with early-stage keratoconus may retain full Snellen visual acuity, they often report visual disturbances and dissatisfaction due to corneal surface irregularities and reduced contrast sensitivity.

By reshaping and strengthening the corneal structure, CXL not only halts the progression of keratoconus but also improves visual quality by addressing these subtle but impactful issues. These findings highlight the importance of incorporating contrast sensitivity assessments into the evaluation and management of keratoconus, as well as the potential of CXL to enhance functional vision and quality of life in affected patients.

Keywords: Keratoconus, Contrast Sensitivity, Corneal Cross Linking

Cholesteatoma: Retrospective Analysis of Demographic Characteristics, Intraoperative Findings, and Complications of Patients in a Tertiary Referral Centre

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Oral Presentation – OP144

Objective: In this study, the surgical techniques, complications due to cholesteatoma and management of the complications are presented on the cases undergone the cholesteatoma surgery in a single tertiary referral centre.

Materials and methods: This retrospective study included 131 patients who underwent surgery for cholesteatoma at our department between November 2022 and December 2024. Demographic data, previous otologic surgery history, preoperative hearing level, type of surgery (intact canal wall [ICW], canal wall down [CWD] or radical mastoidectomy), ossiculoplasty techniques, presence of complications (tegmen defect, facial canal dehiscence, labyrinthine fistula etc.), and operation time were analyzed.

Results: There were 74 male and 57 female patients with a mean age of 43.3 (10-82) years. 69 of them had a right side and the remaining had left side cholesteatoma. None of the operated patients had normal hearing level on the operated side (<15 decibel). Moderate to profound hearing loss (HL) was detected in 78.7% of the patients. The most detected ossicular damage was erosion of long process of incus (83.2%) and an intact ossicular chain was detected only in 21 patients (16%). As an ossiculoplasty surgical technique, total ossicular replacement prosthesis was used in 29 patients (22.1%), partial ossicular replacement prosthesis was used in 25 patients (19.1%), and incus interposition and/or bone cement was performed in 17 patients (13%). 17 patients did not undergo hearing reconstruction (patients with profound IC and/or

radical mastoidectomy). The most commonly used surgical technique was CWD mastoidectomy (61.8%), and 37.4% were revision surgery. The mean operation time was 265 (130-480) minutes.

As for complications, 4 patients had subperiosteal abscess, 2 patients had suppurative labyrinthitis, and 6 patients had peripheral facial paralysis (PFP). Complete recovery was observed in all patients with PFP postoperatively. 27 patients had labyrinthine fistula and type 2 fistula was detected more frequently (66.7%). Type 3 fistula was observed only in 1 patient. Postoperatively only two patients had decrease in bone conductions at high frequencies (above 2000 Hz), while bone conduction hearing thresholds were preserved in all other patients with a fistula. 36 patients had tegmen defect including four patients had meningoencephalic herniation (MEH) and 1 patient had cerebrospinal fluid leakage (CSFL). Tegmen defect repair was performed in 4 patients with MEH and/or CSFL,and 2 patients with tegmen defects larger than 1 cm (total 6 patients). More than one complication was present in 3 patients (1 patient had MEH+LSSC fistula+Grade 2 PFP// 1 patient had MEH+CSFL// 1 patient had LSSC fistula+subperiosteal abscess).

Conclusion: Cholesteatoma is a histologically benign but clinically locally destructive disease. In cholesteatoma cases, tegmen defect, labyrinthine fistula, peripheral facial paralysis, sensorineural hearing loss, ossicular chain damage are observed at a very high rate. The treatment of cholesteatoma is surgical and the primary aim of surgery is eradication of the disease. For this purpose, a surgical method that will minimize the residual and/or recurrent disease (ICW, CWD or radical mastoidectomy) should be preferred according to the extent of the disease. Appropriate management of complications such as tegmen defect, facial paralysis and labyrinthine fistula reduces the morbidity of the disease.

Keywords: Cholesteatoma, Canal Wall Down, Surgical Technique, Tegmen Defect, Facial Paralysis, Labyrinthine Fistula, Hearing Loss

Factors Affecting Covid-19 Vaccine Acceptance and Hesitancy Among Adults in Turkey

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Abstract

Objective

This study aims to investigate the factors influencing COVID-19 vaccine acceptance and hesitancy among individuals aged 18 and older.

Method

This cross-sectional analytical study was conducted in Turkey. Participants aged 18 and over were recruited online between October 2, 2021, and November 1, 2021, using convenience and snowball sampling methods via WhatsApp groups, Facebook groups, and email communities. The survey included sociodemographic information, the COVID-19 Vaccine Literacy Scale, and the COVID-19 Fear Scale. Data were analyzed using IBM Statistics Package for Social Sciences (SPSS ver. 22.0).

Results

A total of 1,729 individuals participated in the study, including 1,059 (61.2%) women and 670 (38.8%) men. The COVID-19 vaccine acceptance rate was found to be 92.9%. The average age of vaccinated individuals was higher than that of unvaccinated individuals, and their COVID-19 fear scores were also higher. Those with higher functional vaccine literacy scores were more likely to receive the COVID-19 vaccine than those with lower scores ($p < 0.001$). Additionally,

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COVID-19 vaccine acceptance was found to be; 1.8 times higher in men ($p = 0.013$), 3 times higher in healthcare workers ($p < 0.001$), 2.2 times higher in individuals who had previously received the flu vaccine ($p = 0.012$), 3.3 times higher in those who believed the COVID-19 vaccine would end the pandemic ($p < 0.001$), 2.1 times higher in individuals who had not witnessed serious side effects in their close circle after vaccination ($p = 0.001$), 1.1 times higher with each unit increase in fear scores, 2 times higher in those who did not receive anti-vaccine recommendations ($p = 0.017$).

Conclusion

This study provides crucial insights into the factors associated with COVID-19 vaccine acceptance and hesitancy in Turkey. More importantly, our findings serve as a valuable resource for healthcare providers in developing strategies to increase vaccine acceptance and ensure the continuity of vaccination to mitigate and ultimately end the adverse effects of the COVID-19 pandemic.

Keywords: Vaccine Hesitancy, Vaccine Acceptance, COVID-19 Vaccine, COVID-19 Vaccine Literacy Scale.

Introduction

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) outbreak a pandemic (1). As of December 2024, more than 770 million COVID-19 cases and approximately 7 million deaths have occurred worldwide due to COVID-19 (2). As a result of intensive scientific investments in vaccine development, COVID-19 vaccines were rapidly made available first in developed countries, and later to the rest of the world. Studies have confirmed that COVID-19 vaccines are effective in preventing people from contracting the disease and reducing the risk of hospitalization and death (3, 4).

The World Health Organization, based on the recommendations of the WHO Strategic Advisory Group of Experts on Immunization (SAGE) and national prioritization based on cost-

benefit analyses, recommends the integration of a single-dose COVID-19 vaccination into primary healthcare services (5). Due to the hesitancy and refusals surrounding vaccines, which have become a significant issue globally, vaccine hesitancy was included among the top 10 global health threats by WHO in 2019 (6). This poses a significant threat to COVID-19 vaccination efforts as well (7). For all these reasons, it is necessary to identify public concerns regarding the vaccine in order to administer the COVID-19 vaccine to a sufficient number of people. Studies have shown that vaccine acceptability can be influenced by socio-demographic factors such as education level, gender, and income, as well as attitudes and beliefs related to COVID-19 (8-10).

Identifying the factors that influence the willingness to get vaccinated and increasing public support for vaccination will also boost trust in COVID-19 vaccines. Understanding the determinants of public acceptance and hesitancy regarding vaccines will support the efforts of public health professionals to gain broader acceptance of vaccines, enabling society to reach a higher level of immunity. Therefore, this study was conducted to investigate the factors influencing participants' acceptance and hesitancy regarding COVID-19 vaccination.

Material and Methods

The population of the study consists of individuals aged 18 and older living in Turkey. According to 2020 data from the Turkish Statistical Institute (TÜİK), the target population for individuals aged 18 and older is 62 million. Using the OpenEpi program, the minimum required sample size was calculated as 385 people with a 50% frequency, 5% margin of error, and a 95% confidence level. A total of 1,729 participants were included in the study. The data collection form was created via Google Forms and applied online to individuals aged 18 and older using a random and snowball sampling method through WhatsApp groups, Facebook groups, and email communities.

Ethical approval for the study was obtained from the Ondokuz Mayıs University Clinical Research Ethics Committee (Date: 23/09/2021, Decision no: 2021/450). Data were analyzed using IBM SPSS Statistics (version 22.0). Descriptive statistics were

presented as counts and percentages, while distribution statistics were reported as mean ± standard deviation (median), first quartile, and third quartile. The chi-square test was used to compare differences between two groups for categorical variables. Normality of continuous variables was assessed using the Shapiro-Wilks and Kolmogorov-Smirnov tests. For normally distributed data, independent sample t-tests and ANOVA were used for comparisons. For non-normally distributed data, Mann-Whitney U and Kruskal-Wallis tests were employed. Binary logistic regression analysis was performed using the enter method for independent variables that were statistically significant ($p<0.05$) in univariate analyses. The dependent variable was determined as "Receiving the COVID-19 Vaccine." In the study, situations with a type 1 error rate below 5% were considered statistically significant.

Results

A total of 1,729 participants took part in the study. The vaccine acceptance rate was found to be 92.9%. Most participants were women (61.2%), had an average economic status (76.6%), were married (73.9%), had children (68.2%), had a university education or higher (84.8%), did not have a chronic disease (79.8%), and were not healthcare workers (53%). The majority of participants had not contracted COVID-19 (68.7%) and had not lost a close relative to COVID-19 (74.7%). Moreover, most participants had not received the seasonal flu vaccine (67.2%), were concerned about contracting COVID-19 (90.6%), believed that the COVID-19 vaccine would end the pandemic (64.5%), and recommended the COVID-19 vaccine to others (89%).

A statistically significant relationship was found between gender, healthcare worker status, concern about a close relative contracting COVID-19, receiving the seasonal flu vaccine, belief in the vaccine ending the pandemic, recommending the vaccine to others, and whether a close relative experienced serious health problems after COVID-19 infection, with the status of receiving the COVID-19 vaccine ($p<0.001$).

The average age of participants was 38.6 ± 10.85 years. The mean age of individuals who had received the COVID-19 vaccine was higher than that of those who had not, and the difference was statistically significant ($p<0.001$).

The average score of the COVID-19 fear scale was 18.77, and the median score was 18. Those who had received the COVID-19 vaccine had higher fear scale scores compared to those who had not received the vaccine. The difference was statistically significant ($p<0.001$). It was found that individuals with higher scores on the COVID-19 vaccine literacy scale and functional vaccine literacy scale were more likely to have received the COVID-19 vaccine compared to those with lower scores, and the difference was statistically significant ($p<0.001$).

The most common reasons for receiving the COVID-19 vaccine were that it reduces the likelihood of death and severe illness (57.3%), followed by believing that the benefits of the vaccine outweigh the harms (56.7%), and considering the vaccine necessary not only for their family but also to protect others' health (53.5%). The least common reason for receiving the vaccine was obligation (e.g., required by my workplace or to travel abroad) (8.6%).

The most trusted sources of information about the COVID-19 vaccine were scientific publications (22.5%), Ministry of Health statements (19.7%), statements by scientists (17.1%), and WHO statements (12.7%). The most common reason for not receiving the COVID-19 vaccine was that it was a new vaccine and there was insufficient scientific research (76.1%). Other reasons included concerns about the vaccine's reliability/side effects (71.5%), believing that the vaccine was ineffective due to the virus mutating (59.8%), and preferring other preventive measures (hygiene, masks, social distancing) (36.8%). The least common reason for vaccine hesitancy was fear of needles (3.4%).

Table 1. Logistic Regression Analysis for Some Variables Affecting the Status of Receiving the COVID-19 Vaccine in Participants

Variables	**β**	**Standard Error**	**Wald Statistic**	**df**	**OR (%95 CI)**	**p-value**
Gender Female **(Reference)** Male	0.563	0.227	6.159	1	**1.8** (1.1-2.7)	**0.013**
Healthcare Worker	1.102	0.257	18.443	1	**3.0** (1.8-4.9)	**<0.001**
No **(Reference)**						

Yes						
Received Seasonal Flu Vaccine **No (Reference)** Yes	0.777	0.309	6.322	1	**2.2** (1.2-4.0)	**0.012**
Belief that the COVID-19 Vaccine will end the pandemic No **(Reference)** Yes	1.187	0.227	27.410	1	**3.3** (2.1-5.1)	**<0.001**
Serious side-effects in close circle after COVID-19 Vaccination No Yes **(Reference)**	0.731	0.213	11.748	1	**2.1** (1.4-3.1)	**0.001**
COVID-19 Fear Scale Scores	0.115	0.018	41.943	1	**1.1** (1.1-1.2)	**<0.001**
Age	0.011	0.01	1.209	1	1.0 (0.9-1.0)	0.271
Functional Vaccine Literacy	0.258	0.149	3.004	1	1.3 (0.9-1.7)	0.083
Recommendation Againist Vaccination No Yes **(Reference)**	0.691	0.289	5.707	1	**2.0** (1.1-3.5)	**0.017**

In univariate analyses, variables that were found to be statistically significant ($p<0.05$) were included in the binary logistic regression model using the enter method to identify factors that may influence the likelihood of receiving the COVID-19 vaccine. The dependent variable is the status of receiving the COVID-19 vaccine, which is a binary categorical variable with responses "yes" or "no." The accuracy of the model was 93.5%. The predictions made by the model did not differ significantly from the actual outcomes (Hosmer and Lemeshow test $p=0.777$). All participants were included in the analysis (1729 participants), and there were no missing data or outliers (Table 1).

Factors influencing the acceptance of the COVID-19 vaccine included: being male, which increased the likelihood by 1.8 times ($p=0.013$), being a healthcare worker, which increased the likelihood by 3 times ($p<0.001$), having previously received the seasonal flu vaccine, which increased the likelihood by 2.2 times ($p=0.012$), believing that the COVID-19 vaccine would

end the pandemic, which increased the likelihood by 3.3 times (p<0.001), not experiencing serious side effects in close relations after receiving the COVID-19 vaccine, which increased the likelihood by 2.1 times (p=0.001), a 1-point increase in the fear scale score, which increased the likelihood by 1.1 times, and not recommending vaccination against COVID-19, which increased the likelihood by 2 times (p=0.017) (Table 1).

Discussion and Conclusion

The COVID-19 pandemic has significantly affected public health worldwide, and vaccination has become one of the most important measures to control the spread of the virus. This study aimed to investigate the factors influencing the acceptance of the COVID-19 vaccine in Turkey, focusing on sociodemographic characteristics, health beliefs, and experiences related to the vaccine.

Our findings indicate that factors such as being male, being a healthcare worker, having received the seasonal flu vaccine, believing that the COVID-19 vaccine will end the pandemic, not experiencing serious side effects in close relations after vaccination, and a higher fear of COVID-19 were positively associated with COVID-19 vaccination acceptance. Additionally, individuals who did not recommend vaccination to others were less likely to get vaccinated.

In our study, the acceptance rate of the COVID-19 vaccine was found to be 92.9%, which is similar to the first-dose vaccination rate of 93.3% reported by the Ministry of Health (11). In a study conducted by Feleszko and colleagues across 21 countries, vaccine acceptance rates ranged from 41% to 89%. It was noted that 82% of participants in Turkey considered the vaccine to be safe, and 87% found it to be effective (12).

In our study, the most common reasons for not receiving the vaccine were the belief that insufficient scientific research had been conducted on the vaccine, concerns about its reliability and side effects, and the belief that the virus had become ineffective due to mutations. A study by Sato and colleagues also found similar main reasons for vaccine refusal (13).

The fact that participants considered the Ministry of Health to be one of the most reliable sources of information is in line with a similar study conducted in Canada (14). Many studies emphasize that healthcare providers are regarded as the most reliable source of information about vaccines, influencing vaccination attitudes, and that proper information can increase vaccination rates (15, 16).

Our results show that an increase in COVID-19 fear is associated with a higher vaccination rate, and similar studies have found that lower levels of COVID-19 fear are linked to reluctance or indecision about receiving the COVID-19 vaccine (17-19). The increase in vaccination rates with the rise in COVID-19 fear is consistent with studies that show how risk perception affects individuals' health behaviors (20).

Our results show that the average score of the communicative/critical skills subdomain of COVID-19 vaccine literacy is higher than that of the functional subdomain. This finding is consistent with previous studies (9, 21). In our study, those who scored higher on the functional subdomain of the COVID-19 Vaccine Literacy Scale had higher vaccine acceptance. This positive relationship between functional literacy and favorable attitudes toward vaccination is similar to the findings in the study by Öztürk and colleagues (21). In our results, while a relationship was found between functional vaccine literacy and vaccination in univariate analyses, it was not found to be significant in the Binary Logistic Regression analysis using independent variables with the enter method. Similarly, no significant relationship was found between communicative/critical vaccine literacy and vaccination in our analyses. This is consistent with the study conducted by Bangledeşte, where no significant relationship was found between vaccine literacy and vaccination (22). Another study conducted on parents also found that COVID-19 vaccine literacy did not have a significant effect on whether they vaccinated their children (23).

In our study, the most common reasons for not getting vaccinated were the belief that insufficient scientific research had been conducted on vaccines and concerns about the reliability and side effects of vaccines. On the other hand, the most common reasons for getting

vaccinated were the belief that vaccines reduce deaths and severe illnesses and the perception that the benefits of vaccination outweigh the risks. While the WHO has recommended integrating COVID-19 vaccines into primary health care services (5), to reduce vaccine hesitancy and increase vaccine acceptance, our study also highlights the need for national health service providers, who are considered one of the most reliable sources, to further educate the public about vaccines.

In our study, the logistic regression model showed that being male, being a healthcare worker, receiving the flu vaccine, believing that the COVID-19 vaccine will end the pandemic, not experiencing severe side effects in the close environment after the COVID-19 vaccine, and an increase in COVID-19 fear scale scores all increased the likelihood of receiving the COVID-19 vaccine. In the study conducted by Gültekin and colleagues, it was found that those who regularly received the flu vaccine had statistically significantly higher positive attitude scores towards the COVID-19 vaccine compared to those who did not get the flu vaccine (24). Receiving the flu vaccine is a factor that increases the likelihood of accepting the COVID-19 vaccine, reflecting individuals' trust in vaccines and their willingness to protect their health.

A study conducted on public employees in Turkey found that the experiences of individuals around them after vaccination could influence their decision to get vaccinated. These findings are similar to the results of our study (25). Information should be provided regarding the potential side effects that may arise after COVID-19 vaccinations, with an emphasis on measures to reduce unwanted effects. Such information can be effective in reducing individuals' hesitations towards the vaccine.

In conclusion, the factors influencing COVID-19 vaccination acceptance in Turkey include gender, occupation, previous vaccination behavior, belief in the vaccine’s role in ending the pandemic, fear of COVID-19, and experiences with side effects. Public health strategies should focus on addressing vaccine hesitancy, improving public trust, and emphasizing the importance of vaccination in ending the pandemic. Understanding and addressing the barriers to vaccine

acceptance will be crucial in achieving widespread vaccination and controlling the spread of COVID-19.

The study has several limitations. The data were collected via online surveys, which may not fully represent the entire population, particularly those who have limited access to technology or are less active online. Additionally, the study relied on self-reported data, which may be subject to bias.

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Comparison of the State-Trait Anxiety Levels in Patients with and without Chest Pain who Admitted to Dicle University Hospital

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Oral Presentation – OP149

Introduction and Objective: Chest pain is one of the most common reasons for presentation to emergency departments, cardiology outpatient clinics and primary health care centers. This pain may be due to cardiac, pulmonary, gastroenterologic, musculoskeletal and psychiatric causes. In the majority of patients, pain is due to non-cardiac causes and chest pain due to psychiatric causes is seen in a significant proportion. In this study, we aimed to determine whether pain is related to anxiety by comparing trait and state anxiety levels of patients presenting to cardiology outpatient clinic with chest pain and patients presenting to family medicine for another reason.

Materials and Methods: In our cross-sectional and prospective study, a case group of 105 patients aged 18-65 years who presented with chest pain between 01.06.2024 and 31.08.2024 and a control group of 105 patients of the same age, gender and educational level who presented with a reason other than chest pain were prospectively evaluated. A form inquiring sociodemographic data and the nature of chest pain and the Trait-State Anxiety Inventory (STAI) were used as data collection tools. The data obtained were analyzed using SPSS 27.0 program.

Results: Of the patients, 54.3% were female and 45.7% were male. The mean age was 34.6±10.7 years. The mean STAI-I score of patients with chest pain was 42.8±10.4 and the mean STAI-II score was 47.6±8.8. In patients without chest pain, the mean STAI-I score was

40±10.4 and the mean STAI-II score was 44.5±8.07. STAI-II scale scores of patients with chest pain were significantly higher than those of patients without chest pain (p=0.006). While STAI-I and STAI-II scale scores of women were higher than men in patients with chest pain, no significant difference was found between genders in terms of scale scores in the group without chest pain (p=0.012 and p=0.031, respectively). Additional complaints such as palpitations (p<0.001), shortness of breath (p<0.001), fatigue (p=0.019), fever (p=0.039), malaise (p<0.001), muscle-joint pain (p=0.008) and stress (p=0.012) were found to be present at a significantly higher rate in patients with chest pain than in patients without chest pain.

Conclusion: It was found that patients with chest pain had higher anxiety levels compared to those without chest pain. It is important to take a detailed history of these patients in primary care, evaluate them with physical examination and additional examinations, and refer them correctly. In this way, recurrent hospital admissions can be avoided and access to the right treatment can be ensured.

Keywords: Chest Pain, Anxiety, Trait-State Anxiety Inventory.

The Relationship Between Hypoxemia Severity and Hematological and Biochemical Parameters in Acute Exacerbations of Chronic Obstructive Pulmonary Disease

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Oral Presentation – OP151

Objective

Chronic Obstructive Pulmonary Disease (COPD) is a common and fatal disease worldwide. Hypoxemia during COPD exacerbations reduces tissue oxygenation, leading to significant metabolic imbalances. This study aims to investigate the relationship between hematological and biochemical parameters and different levels of hypoxemia in patients experiencing COPD exacerbations.

Materials and Methods

This retrospective study included 92 patients hospitalized with a diagnosis of COPD exacerbation between 2019 and 2024 in our pulmonary diseases clinic. The patients were categorized into normal (>80 mmHg), mild (60–80 mmHg), and moderate (40–59 mmHg) hypoxemia groups based on arterial partial oxygen pressure (PaO2). Blood gas, hemogram, and CRP values were compared according to the degree of hypoxia.

Results

The mean age of the patients was 67.5 ± 12.09 years, with 47.8% being female and 52.2% male. The distribution of hypoxemia levels showed that 8.7% of the patients had normal oxygen levels, 44.6% had mild hypoxemia, and 46.7% had moderate hypoxemia. As the severity of

hypoxia increased, PaO2 and oxygen saturation (SO2) values significantly decreased ($p<0.001$).

RDW (Red Cell Distribution Width) levels were significantly higher in the moderate hypoxemia group ($p=0.041$). Lactate levels were highest in the moderate hypoxia group, followed by the mild hypoxia and normal groups, though this was not statistically significant ($p=0.82$). White blood cell (WBC) and neutrophil levels were highest in the moderate hypoxemia group but did not reach statistical significance ($p=0.293$).

A positive correlation was found between Neutrophil-to-Lymphocyte Ratio (NLR) and Platelet-to-Lymphocyte Ratio (PLR) ($p=0.000$). A significant relationship was observed between PLR and RDW ($p=0.0479$). Additionally, a negative correlation was found between lactate levels and CRP ($p=0.005$).

Conclusion

As hypoxemia severity increased in COPD exacerbations, PaO2 and SO2 levels significantly decreased, highlighting the worsening of gas exchange impairment. Hypoxia plays a crucial role in COPD exacerbations by triggering systemic inflammation due to insufficient oxygen delivery to tissues.

The increase in RDW during hypoxia may be associated with hypoxia-induced erythropoietin release, stimulating erythrocyte production. However, this process may be irregular, leading to greater variability in erythrocyte size. This finding suggests a potential link between inflammation, erythropoiesis, and hypoxia-related erythrocyte production.

The increase in lactate levels can be explained by the effects of hypoxia on tissues and the activation of anaerobic metabolism. The negative correlation between lactate and CRP suggests that systemic inflammation may not always be pronounced in COPD exacerbations, and CRP levels may remain relatively low compared to lactate.

The positive correlation between NLR and PLR supports the prominent role of systemic inflammation in COPD exacerbations. The relationship between PLR and RDW indicates the potential effects of inflammation on erythropoiesis and platelet production.

In conclusion, this study demonstrates that increasing degrees of hypoxemia during COPD exacerbations lead to significant changes in hematological and biochemical parameters. Evaluating RDW and lactate levels in the management of COPD patients may aid in predicting disease progression and prognosis. Further prospective studies with larger sample sizes are needed to validate these findings.

Keywords: Hypoxia, COPD, Lactate

Determination of the Prevalence of Prediabetes in a Family Health Unit

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Oral Presentation – OP152

Objective

Diabetes Mellitus is a significant chronic disease in terms of mortality and morbidity worldwide. Identifying and managing prediabetes, the stage preceding the disease, is crucial. This study aims to determine the prevalence of prediabetes in a family health center in Izmir, one of the primary care centers where preventive medicine is essential.

Methods

Our study is a retrospective, cross-sectional study examining the HbA1c and fasting blood sugar levels of individuals aged 18 and over who applied to the İzmir Karabağlar Unit 13 clinic between August 2022 and August 2023. Patients diagnosed with prediabetes were categorized by age and gender. SPSS 25.0 package program was used for statistical analysis of the data.

Results

The number of patients who applied to our family health unit during the specified dates was 2018, with an average age of 42.21±16.19 (minimum: 18, maximum: 94). Of the participants, 45.9% were female and 54.1% were male. Retrospective examination of the patients who applied to our clinic between August 2022 and August 2023 revealed that 320 patients were diagnosed with prediabetes. Of these, 62.2% (199 individuals) were female and 37.8% (121

individuals) were male. When evaluating age groups, it was found that 72% (n=230) of the prediabetic individuals were in the 40-64 age range. The prevalence of prediabetes in our study was determined to be 15.85%, while the prevalence of impaired fasting glucose was 9.21% (186 people). The prevalence of prediabetes was 21.46% in women and 11.09% in men. The average age of the individuals included in the study was 52.82±12.10 years, the average HbA1c was 5.93±2.89, and the average fasting blood sugar was 100.02±11.32 mg/dl. HbA1C was measured in 89.3% of the patients diagnosed with prediabetes, and fasting blood sugar was measured in all of them. It was found that 58.15% of the patients diagnosed with prediabetes also had impaired fasting glucose. The youngest patient diagnosed with prediabetes was 18 years old, and the oldest was 94 years old. When analyzing the prevalence of prediabetes by age group, it was found to be highest at 71.9% in the 40-64 age group and lowest at 3.8% in the age group of 75 years and older. A significant relationship was found between fasting blood glucose levels and HbA1c levels and age groups. The prevalence of prediabetes was significantly higher in individuals aged 40-64 compared to other age groups ($p<0.05$).

Conclusion

In our study, we found that the prevalence of Impaired Fasting Glucose is similar to that reported in the literature; however, the prevalence of prediabetes is at lower levels. We determined that the prevalence of prediabetes significantly increases with age, suggesting that the age group between 40 and 64 should be screened more frequently. Prediabetes is an important health issue, and we believe that awareness of prediabetes should be raised among individuals of all ages and genders. Early diagnosis of prediabetes is very important in order to prevent the increase in diabetes cases.

Keywords: Prediabetes, Impaired Fasting Glucose, Diabetes Mellitus

Knowledge, Attitudes and Behaviors of Patients Applying to the Family Medicine Outpatient Clinic of a University Hospital towards Influenza and Pneumococcal Vaccines

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Abstract

Purpose:

In this study, the knowledge and attitudes of individuals between the ages of 18-65 about influenza and pneumococcal vaccines, which is an important issue in terms of public health, will be evaluated. The aim of the study is to increase the level of knowledge of these individuals and to positively change their behaviors regarding vaccines.

Materials and Methods:

This cross-sectional study was conducted on patients aged 18-65 years who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic. The sample size was calculated as a minimum of 206 people in power analysis with a 5% margin of error at 95% confidence interval.

Results: A total of 206 patients who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic between June 2024 and August 2024 were included in our study. A total of 233 patients, 152 women and 81 men, were included in the study. The mean age of the participants was 36.4 years and the age distribution was between 18 and 64 years.

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Conclusion: Vaccination is the preferred method to protect against influenza and pneumococcal agents, which have high morbidity and mortality rates and are frequently seen in the community. It is an issue where the level of knowledge should be high in the whole society, especially in risk groups.

In this study, influenza and pneumococcal vaccination awareness of patients aged 18-65 years was investigated: Since influenza and pneumococcal vaccines are vaccines that are administered for a fee except for risk groups, it was observed that those with high income and good professional status had a higher rate of vaccination.

Introduction and Purpose: In addition to general preventive health measures such as personal hygiene, provision of clean drinking water and waste management, active or passive immunization methods are also important to protect against infectious diseases. Vaccination is the most effective and economical method to protect against infectious diseases[1].

Infectious diseases are an important issue in all age groups and not only children but also adults should be vaccinated. Immunization is a lifelong process; therefore, vaccinations are as critical for adults over the age of 18 as they are for children. Especially for the elderly, vaccines play an important role in preventing vaccine-preventable diseases and deaths. There are several important factors for assessing vaccine uptake in adults. These factors include the presence of risk factors such as chronic diseases, the weakening of the immune system in old age and the more severe course of infections, the decline in immunity obtained with previous vaccines over time, and the unavailability of recently developed new vaccines in childhood. For these reasons, it is important to take these factors into account when considering vaccination in the adult age group. [2]

The 18 vaccine-preventable diseases that are currently available for all age groups, most of which are included in routine immunization programs, are Diphtheria, Tetanus, Pertussis, Hepatitis A, Hepatitis B, Measles, Rubella, Rotavirus, Herpes Zoster, Pneumococcus,

Meningococcus, Influenza, HPV, Polio, Haemophilus Influenza type b, Varicella and Mumps. [1]

Pneumonia and influenza infections are among the leading causes of death among the elderly and are vaccine-preventable diseases. Influenza vaccine is effective in reducing influenza-related illnesses, pneumonia, hospital admissions and deaths. In addition, pneumococcal vaccine has been proven to be effective in preventing pneumonia and bacteremia caused by Streptococcus pneumoniae bacteria in individuals aged 65 years and older. [3]

In this study, the knowledge and attitudes of individuals between the ages of 18-65 about influenza and pneumococcal vaccines, which is an important issue in terms of public health, will be evaluated. The aim of the study is to increase the level of knowledge of these individuals and to positively change their behaviors regarding vaccines.

Materials and Methods:

This cross-sectional study was conducted on patients aged 18-65 years who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic. The sample size was calculated as a minimum of 206 people in power analysis with a 5% margin of error at 95% confidence interval.

Statistical analysis was performed using SPSS (Statistical PackagefortheSocialSciences) 27.0 package program. Categorical variables were summarized as numbers and percentages. Kolmogorov Smirnov test, Shapiro-Wilk test, çarpıklık□basıklık values were used to evaluate the normal distribution. It is stated that if the skewness and kurtosis values are between -1.5 and +1.5, the data can be interpreted as conforming to the normal distribution. For normally distributed parameters, t-test was used in pairwise group analyses and one-way ANOVA test was used in multiple group analyses. For non-normally distributed parameters, Mann Whitney U-test was used in pairwise group analyses and Kruskal-Wallis test was used in multiple group analyses. Chi-Square test was used to determine the relationship between categorical variables. Correlations between variables were evaluated by Spearman correlation analysis. The results

of the analysis are presented in tables and graphs. Statistical significance level was accepted as $p < 0.05$ in all tests.

Results: A total of 206 patients who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic between June 2024 and August 2024 were included in our study. A total of 233 patients, 152 women and 81 men, were included in the study. The mean age of the participants was 36.4 years and the age distribution was between 18 and 64 years.

Approximately 37% of the participants were in the 18-29 age group. Of the participants, 152 (65.2%) were female and 81 (34.8%) were male. While 145 (62.2%) of the participants were married, 88 (37.8%) were single. 173 (74.2%) of the participants graduated from university/high school, 40 (17.2%) from high school, 11 (4.7%) from middle school and 9 (3.9%) from primary school. Of the participants, 75 (32.2%) had a chronic disease and 158 (67.8%) did not have a chronic disease. Regarding smoking and alcohol use, 24% (n=56) of the participants smoked cigarettes and 3.9% (n=9) drank alcohol. It was observed that 35 (15%) of the participants had children under the age of 5 in the family they lived with, 17 (7.3%) had individuals over the age of 65 in the family they lived with, 55 (23.6%) had individuals with chronic diseases in the family they lived with, and 7 (3%) had immunocompromised individuals in the family they lived with.

Data on the descriptive characteristics of the participants are shown in Table 1.

Table 1. Descriptive Characteristics of Participants

		n	***%***
Age (years)			
$\bar{x}$±ss		36,44 ±12,32	
18-29		86	36,9
30-39		60	25,8
40-49		39	16,7
50 and above		48	20,6
Gender	Female	152	65,2%
	Male	81	34,8%
Marital Status	Married	145	62,2%
	Single	88	37,8%
Education	University/high school	173	74,2%

	High School	40	17,2%
	Secondary School	11	4,7%
	Primary School	9	3,9%
Income	0-15000	26	11,2%
	15000-30000	61	26,2%
	30000-50000	83	35,6%
	>50000	63	27,0%
Occupation	Civil Servant	95	40,8%
	Retired	6	2,6%
	Laborer	35	15,0%
	Housewife	16	6,9%
	Student	52	22,3%
	Other	29	12,4%
Place of Residence	Village	6	2,6%
	District	12	5,2%
	City	215	92,3%

n: Number of units, %: Percentage value

Table 1. Descriptive Characteristics of Participants (more)

		n	**%**
Chronic Disease Status	Yes	75	32,2%
	No	158	67,8%
Regular Medication Use	Yes	85	36,5%
	No	148	63,5%
Smoking	Yes	56	24,0%
	No	177	76,0%
Alcohol	Yes	9	3,9%
	No	224	96,1%
Are there any children under the age of 5 in the family you live with?	Yes	35	15,0%
	No	198	85,0%
Are there any elderly people over the age of 65 in the family you live with?	Yes	17	7,3%
	No	216	92,7%
Is there a person with chronic disease in the family you live with?	Yes	55	23,6%
	No	178	76,4%
Is there any immunocompromised person in the family you live with?	Yes	7	3,0%
	No	226	97,0%

n: Number of units, %: Percentage value

121 (51.9%) of the participants stated that they were informed about influenza and pneumococcal vaccines. Approximately 31% were informed by family physicians, 15.9% by

different branch physicians, 8.6% by family and friends, 8.2% by TV/radio/internet/social media and 5.6% by nurses or health personnel (Table 2).

Table 2. Information status of participants

		n	%
Have you been informed about the influenza (flu) and pneumococcal (pneumonia) vaccination?	Yes	121	51,9%
	No	112	48,1%
Family doctor		73	31,3%
Family/friend circle		20	8,6%
Physicians of different specialties		37	15,9%
TV/radio/internet/social media		19	8,2%
Nurse or medical staff		13	5,6%
Other		3	1,3%

n: Number of units, %: Percentage value

Those who have received influenza and pneumococcal vaccines constitute 16.7% of the respondents. Approximately 12% of those vaccinated stated that they were vaccinated to protect themselves, 3% to protect their family members, 2.1% because of chronic diseases, 2.1% because their physician recommended it and 1.7% to protect the people around them.

Table 3. Participants' status of influenza and pneumococcal vaccination

		n	%
Have you been vaccinated against influenza and/or pneumococcus?	Yes	39	16,7%
	No	194	83,3%
I get vaccinated to protect myself.		29	12,4%
I get it because of my chronic illness.		5	2,1%
I get vaccinated to protect family members.		7	3,0%
I get vaccinated because my physician recommends it.		5	2,1%
To protect the people around me.		4	1,7%
I have it for other... reasons.		1	0,4%

n: Number of units, %: Percentage value

Approximately half of those who did not get vaccinated stated that they did not get vaccinated because they did not get the flu frequently, 18% because no one informed them, 16.3% because they thought that the flu was a mild disease, 8.2% because of the side effects of the vaccine, and 6.9% because they thought that the vaccine was not effective. Of the participants, 156 (67%) thought that influenza and pneumococcal vaccines were safe and 161 (69.1%) thought that they were beneficial.

Table 4. Participants' reasons for not getting vaccinated

		n	%
I don't get it because I don't get flu often.		117	50,2%
I do not get vaccinated because of the side effects of the vaccine.		19	8,2%
I do not get vaccinated because flu is a mild disease.		38	16,3%
I do not get the vaccine because it is expensive.		2	0,9%
I do not get the vaccine because I am afraid of needles.		3	1,3%
I do not get the vaccine because I think it is not effective.		16	6,9%
I do not get the vaccine because I think the substances in the vaccine are harmful.		12	5,2%
I do not get vaccinated because no one informs me.		42	18,0%
Other... reasons.		2	0,9%
Do you think the influenza and pneumococcal vaccine is safe?	Yes	156	67,0%
	No	60	25,8%
	I don’t know	17	7,3%
Do you think the influenza vaccine is useful?	Yes	161	69,1%
	No	55	23,6%
	I don’t know	17	7,3%

n: Number of units, %: Percentage value

Table 5. The relationship between influenza and pneumococcal vaccination status and sociodemographic data

		Have you been vaccinated against influenza and/or pneumococcus?				p value
		Yes		No		
		n	%	n	%	
Gender	Female	23	59,0%	129	66,5%	0,474
	Male	16	41,0%	65	33,5%	
Marital Status	Married	27	69,2%	118	60,8%	0,420
	Single	12	30,8%	76	39,2%	
Education	University/high school	34	87,2%	139	71,6%	0,129
	High school	2	5,1%	38	19,6%	
	Secondary school	1	2,6%	10	5,2%	
	Primary school	2	5,1%	7	3,6%	
Income	0-15000	5	12,8%	21	10,8%	0,020**
	15000-30000	6	15,4%	55	28,4%	
	30000-50000	10	25,6%	73	37,6%	
	>50000	18	46,2%	45	23,2%	
Occupation	Civil Servant	22	56,4%	73	37,6%	0,302
	Retired	1	2,6%	5	2,6%	
	Laborer	6	15,4%	29	14,9%	
	Housewife	2	5,1%	14	7,2%	
	Student	6	15,4%	46	23,7%	
	Other	2	5,1%	27	13,9%	
Place of Residence	Village	0	0,0%	6	3,1%	0,408
	District	3	7,7%	9	4,6%	
	City	36	92,3%	179	92,3%	

**p<0.05, n: Number of individuals, % Percentage value

Table 5. The relationship between influenza and pneumococcal vaccination status and sociodemographic data (more)

		n	%	n	%	p value
Chronic Disease Status	Yes	18	46,2%	57	29,4%	0,063
	No	21	53,8%	137	70,6%	
Regular Medication Use	Yes	20	51,3%	65	33,5%	0,055
	No	19	48,7%	129	66,5%	
Are there any children under the age of 5 in the family you live with?	Yes	8	20,5%	27	13,9%	0,326
	No	31	79,5%	167	86,1%	
	Yes	5	12,8%	12	6,2%	0,173

Are there any elderly people over the age of 65 in the family you live with?	No	34	87,2%	182	93,8%	
Is there a person with chronic disease in the family you live with?	Yes	11	28,2%	44	22,7%	0,593
	No	28	71,8%	150	77,3%	
Is there any immunocompromised person in the family you live with?	Yes	2	5,1%	5	2,6%	0,332
	No	37	94,9%	189	97,4%	

**p<0.05, n: Number of individuals, % Percentage value

According to Table 5, a statistically significant relationship was found between the status of receiving influenza and pneumococcal vaccines and income status (p<0.05). There is no statistically significant relationship between other variables (p>0.05). According to these results, it can be said that 90.2% of those with an income between 15000-30000 did not receive influenza and pneumococcal vaccines.

Table 6. The relationship between information about influenza and pneumococcal vaccines and sociodemographic data

		Have you been informed about the influenza (flu) and pneumococcal (pneumonia) vaccine?				**p value**
		Yes		**No**		
		n	**%**	**n**	**%**	
Chronic Disease Status	Yes	46	38,0%	29	25,9%	0,049**
	No	75	62,0%	83	74,1%	
Regular Medication Use	Yes	53	43,8%	32	28,6%	0,016**
	No	68	56,2%	80	71,4%	
Are there any children under the age of 5 in the family you live with?	Yes	23	19,0%	12	10,7%	0,077
	No	98	81,0%	100	89,3%	
Are there any elderly people over the age of 65 in the family you live with?	Yes	10	8,3%	7	6,3%	0,735
	No	111	91,7%	105	93,8%	
Is there a person with chronic disease in the family you live with?	Yes	27	22,3%	28	25,0%	0,630
	No	94	77,7%	84	75,0%	
Is there any immunocompromised person in the family you live with?	Yes	4	3,3%	3	2,7%	0,779
	No	117	96,7%	109	97,3%	

**p<0.05, n: Number of individuals, % Percentage value

According to Table 6, a statistically significant ($p<0.05$) relationship was found between being informed about influenza and pneumococcal vaccines and having chronic diseases and regular drug use. Considering these data, it can be said that 61.3% of those with chronic diseases were informed about the vaccines and 62.4% of those who regularly use medication were informed about the vaccines.

Table 7. The relationship between thinking that influenza and pneumococcal vaccines are beneficial and safe and sociodemographic data

		Do you think the influenza and pneumococcal vaccine is safe?						p value
		Yes		No		I don't know		
		n	%	n	%	n	%	
Gender	Female	105	67,3%	35	58,3%	12	70,6%	0,413
	Male	51	32,7%	25	41,7%	5	29,4%	
Marital Status	Married	90	57,7%	41	68,3%	14	82,4%	0,073
	Single	66	42,3%	19	31,7%	3	17,6%	
Education	University/high school	126	80,8%	37	61,7%	10	58,8%	0,021**
	High school	20	12,8%	15	25,0%	5	29,4%	
	Secondary school	7	4,5%	4	6,7%	0	0,0%	
	Primary school	3	1,9%	4	6,7%	2	11,8%	
Income	0-15000	20	12,8%	6	10,0%	0	0,0%	0,092
	15000-30000	36	23,1%	19	31,7%	6	35,3%	
	30000-50000	52	33,3%	21	35,0%	10	58,8%	
	>50000	48	30,8%	14	23,3%	1	5,9%	
Occupation	Civil Servant	71	45,5%	21	35,0%	3	17,6%	0,001**
	Retired	3	1,9%	1	1,7%	2	11,8%	
	Laborer	14	9,0%	14	23,3%	7	41,2%	
	Housewife	10	6,4%	6	10,0%	0	0,0%	
	Student	42	26,9%	8	13,3%	2	11,8%	
	Other	16	10,3%	10	16,7%	3	17,6%	
Place of Residence	Village	4	2,6%	2	3,3%	0	0,0%	0,576
	District	6	3,8%	4	6,7%	2	11,8%	
	City	146	93,6%	54	90,0%	15	88,2%	

**p<0.05, n: Number of individuals, % Percentage value

According to Table 7, a statistically significant (p<0.05) correlation was found between thinking that influenza and pneumococcal vaccines are useful and safe and educational status and occupation. Accordingly, it can be said that 80.8% of those who think that influenza and pneumococcal vaccines are useful and safe are university or college graduates and 74.7% of them are civil servants.

The mean score obtained from the Vaccine Hesitation Scale used in the study was 34.45 (standard deviation: 7.22). The minimum score obtained from the scale is 10 and the maximum score is 45. The internal consistency coefficient (Cronbach's alpha) of the scale in the current sample was found to be 0.882 (Table-8).

Table 8. Statistics for the Vaccine Hesitancy Scale

	Cronbach's Alpha	**$\bar{x}$**	**ss**	**M**	**min**	**Max**
Vaccine Hesitancy Scale	0,882	34,45	7,22	35	10	45

$\bar{x}$: Mean, ss: Standard deviation, M: Median

Table 9. Statistics for the sub-dimensions of the Vaccine Hesitancy Scale

	$\bar{x}$	**ss**	**M**	**min**	**max**	**Cronbach's Alpha**
Risks	6,18	2,01	6	2	10	0,609
Lack of Trust	28,27	6,63	29	7	35	0,943

$\bar{x}$: Mean, ss: Standard deviation, M: Median

Table 10. Statistics of Vaccine Hesitancy Scale according to some variables

		Lack of Trust		**Risks**		**Vaccine Hesitancy Scale**	
		$\bar{x}$	**SS**	**$\bar{x}$**	**SS**	**$\bar{x}$**	**SS**
Gender	Female	3,99	0,99	3,06	0,98	3,78	0,84
	Male	4,13	0,86	3,15	1,06	3,91	0,71
p value		0,427		0,513		0,338	
Marital Status	Married	3,94	1,01	3,10	1,10	3,76	0,85
	Single	4,19	0,81	3,09	0,83	3,95	0,70

p value		0,116		0,845		0,130	
Education	University/high school	4,11	0,91	3,09	0,99	3,88	0,79
	High school	3,84	0,92	3,11	0,98	3,68	0,72
	Secondary school	4,14	1,16	3,41	1,02	3,98	0,97
	Primary school	3,44	1,34	2,67	1,44	3,27	0,97
p value		0,111		0,471		**0,045****	
Income	0-15000	4,04	1,16	2,88	1,06	3,79	0,86
	15000-30000	3,88	1,14	3,07	1,13	3,70	0,97
	30000-50000	3,99	0,80	3,05	0,93	3,78	0,68
	>50000	4,25	0,79	3,25	0,95	4,03	0,72
p value		0,143		0,496		0,127	
Occupation	Civil Servant	4,11	0,83	3,18	0,95	3,90	0,72
	Retired	3,67	1,65	2,42	1,02	3,39	1,21
	Laborer	3,80	1,08	3,20	1,05	3,66	0,85
	Housewife	3,69	1,22	3,09	1,20	3,56	1,07
	Student	4,39	0,71	3,13	0,92	4,11	0,61
	Other	3,75	1,01	2,72	1,13	3,52	0,87
p value		**0,039****		0,127		**0,015****	
Place of Residence	Village	4,00	0,96	2,92	1,07	3,76	0,95
	District	3,86	1,16	3,08	1,10	3,69	0,87
	City	4,05	0,94	3,10	1,00	3,84	0,80
p value		0,888		0,951		0,823	

**p<0.05, x̄: Mean, ss: Standard deviation

Table 10. Statistics of Vaccine Hesitancy Scale according to some variables (more)

		$\bar{x}$	SS	$\bar{x}$	SS	$\bar{x}$	SS
Chronic Disease Status	Yes	3,92	1,10	3,14	1,04	3,74	0,94
	No	4,10	0,86	3,07	0,99	3,87	0,73
p value		0,628		0,414		0,710	
Regular Medication Use	Yes	3,95	1,05	3,08	1,01	3,76	0,90
	No	4,09	0,88	3,10	1,01	3,87	0,74
p value		0,621		0,803		0,678	
Are there any children under the age of 5 in the family you live with?	Yes	3,69	1,24	3,06	1,19	3,55	1,02
	No	4,10	0,87	3,10	0,97	3,88	0,75
p value		0,130		0,723		0,102	
Are there any elderly people over the age of 65 in the family you live with?	Yes	4,05	1,07	3,09	1,11	3,84	0,76
	No	4,04	0,94	3,09	1,00	3,83	0,81
p value		0,868		0,913		0,850	
Is there a person with chronic disease in the family you live with?	Yes	4,02	1,00	3,09	0,91	3,82	0,77
	No	4,04	0,93	3,09	1,04	3,83	0,81

p value		0,983		0,864		0,725	
Is there any immunocompromised person in the family you live with?	Yes	4,08	1,17	3,43	1,37	3,94	0,87
	No	4,04	0,94	3,08	1,00	3,82	0,80
p value		0,681		0,310		0,576	

**p<0.05, x̄: Mean, ss: Standard deviation

According to Table 10, a statistically significant difference was found between educational status and vaccine hesitancy scale, and between occupation and lack of trust dimension and vaccine hesitancy scale (p<0.05). No significant difference was found between other variables (p>0.05). According to these results, it can be said that the mean of the vaccine hesitancy scale is lower in primary school graduates, while the mean of the lack of confidence and vaccine hesitancy scale is higher in students.

Table 11. Statistics between vaccination status and Vaccine Hesitancy Scale

		Lack of Trust		**Risks**		**Vaccine Hesitancy Scale**	
		$\bar{x}$	**SS**	$\bar{x}$	**SS**	$\bar{x}$	**SS**
Have you been vaccinated against influenza and/or pneumococcus?	Yes	4,19	1,05	3,23	0,93	3,98	0,94
	No	4,01	0,93	3,06	1,02	3,80	0,77
p value		0,076		0,351		**0,049****	

*Mann Whitney U Test, **p<0.05, x̄: Mean, SD: Standard deviation

According to Table 11, a statistically significant (p<0.05) difference was found between vaccination status and vaccine hesitancy scale. Accordingly, it can be said that the mean of the vaccine hesitancy scale of those who have been vaccinated is higher than those who have not.

Table 12. The relationship between being informed about influenza and pneumococcal vaccines and whether or not they have been vaccinated

			Have you been informed about the influenza (flu) and pneumococcal (pneumonia) vaccine?		p value
			Yes	No	
Have you been vaccinated against influenza and/or pneumococcus?	**Yes**	**n**	34	5	0,000**
		% Vaccination	87,2%	12,8%	
		% Being informed	28,1%	4,5%	
	No	**n**	87	107	
		% Vaccination	44,8%	55,2%	
		% Being informed	71,9%	95,5%	

*Chi-Square Test, **p<0.05, n: Number of individuals %: Percentage value

According to Table 12, a statistically significant relationship was found between vaccination and being informed about vaccination (p<0.05). When these results are examined, it is seen that 87.2% of those who were vaccinated were informed about vaccination, while 95.5% of those who were not informed about vaccination did not vaccinate.

Table 13. Participants' level of knowledge and sources of information

		n	%
When do you think is the best time to get the influenza and pneumococcal vaccine?	January-February-March	75	32,2%
	March-April-May	17	7,3%
	May-June-July	7	3,0%
	July-August-September	13	5,6%
	October-November-December	121	51,9%
Do you plan to get the influenza and pneumococcal vaccine next season?	Yes	70	30,1%
	No	163	69,9%
I get up-to-date information about the flu from the internet.		90	38,6%
I get current information about influenza from books.		9	3,9%
I get current information about influenza from congresses.		9	3,9%

I get current information about influenza from newspapers/magazines.		10	4,3%
I obtain current information about influenza from my doctor.		91	39,1%
I obtain current information about influenza from health institutions.		35	15,0%
I obtain current information about influenza from health personnel.		42	18,0%
I cannot access sufficient information about influenza.		25	10,7%

n: Number of units, %: Percentage value

Discussion: The present study aimed to determine the level of knowledge, attitudes and behaviors about influenza and pneumococcal vaccines among patients aged 18-65 years who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic.

Vaccination is one of the most cost-effective methods in preventing diseases and reducing morbidity and mortality due to infectious diseases. Although adult vaccination has become increasingly important in recent years, in many parts of the world, despite good vaccination rates in childhood, the use of vaccines for disease prevention in adults is not widespread enough and adult vaccination rates remain well below the targets [4]. Since the influenza vaccine is recommended to be administered to the whole population once a year, an awareness has been created in the society over time. However, vaccination rates still remain low. In a study conducted by Uzuner et al., only 24% of the participants received the influenza vaccine, which is known to be the most effective among adult vaccines, while 66% had heard of the vaccine but did not prefer to administer it [5]. In our study, 51.9% (n= 121) of the participants had information about influenza and pneumococcal vaccines, and 16.7% (n= 39) had received influenza and pneumococcal vaccines. Of those who were informed about the vaccines, 87.2% (n=34) had received the vaccines, while 71.9% (n=87) did not.

In our study, the rates of influenza and pneumococcal vaccination according to sociodemographic characteristics were analyzed; gender, marital status, educational status, occupation, place of residence, presence of chronic diseases and regular medication use, having children under the age of 5 in the family, having elderly people over the age of 65 in the family, No statistically significant difference was found according to the presence of a person with a chronic disease in the family they lived with and the

presence of an immunocompromised person in the family they lived with (p=0.474, p=0.420, p=0.129, p=0.302, p=0.408, p=0.063, p=0.055, p=0.326, p=0.173, p=0.593, p=0.332); p>0,05). However, there is a significant relationship between income status and vaccination status (p=0.020; p<0.05). According to this result, it is seen that 87.3% of the participants with an income of 30000 TL and below did not have these vaccinations, while 71.4% of the participants with an income of 50000 TL and above had these vaccinations.

In a thesis study conducted on patients diagnosed with diabetes mellitus who applied to family health centers in Denizli province, unlike our study, no statistically significant difference was found in the vaccination status of infuenza and pneumococcal vaccines according to income status (p=0.881, p=0.081; p>0.05), while the rates of vaccination with influenza and pneumococcal vaccines according to educational level and occupational status were found to be significant (p=0.016, p=0.022, p<0.001, p<0.05)[6]. In a study conducted in a Family Health Center in Mersin, no statistically significant relationship was found between vaccination status and gender and marital status, but similar to our study, a relationship was found between income status and vaccination [7]. In the study conducted by La et al. it was determined that the rate of influenza and pneumococcal vaccination was statistically significant with being female, increasing education level and high income level [8]. Having participants with different sociodemographic data in different populations may lead to different results. In general, it is seen that low income level and low education level lead to low vaccination rates.

The information status of the participants about influenza and pneumococcal vaccines was questioned and it was seen that 51.9% (n=121) were informed about the vaccines. In our study, a statistically significant relationship was found between being informed about influenza and pneumococcal vaccines and having a chronic disease (p=0.049) and regular medication use (p=0.016) (p<0.05). Considering these results, 61.3% (n=46) of those with a chronic disease and 62.4% (n=53) of those taking regular medication were informed about influenza and pneumococcal vaccines. It was also found that being informed about vaccines and vaccination status were statistically significantly related (p<0.05).

Participants were asked by whom the information was provided. It was concluded that most of the participants were informed about influenza and pneumococcal vaccines by family physicians (31.3%) and different branch physicians (15.9%); 8.6% were informed by family and friends, 8.2% by TV/radio/internet/social media, and 5.6% by nurses or other health personnel. In a study conducted by Mutlu et al. in Turkey, it was found that 76.93% of the participants were informed by a physician and

70.41% stated that the most motivating factor for vaccination was that it was recommended by a physician [9]. In our study, it was found that among the physician branches recommending vaccination, family physicians were more in number and other branch physicians were less in number. It is thought that this may be due to the fact that family medicine has a secure patient-physician relationship as the first step, knows its patients more closely on the basis of continuity, and has successfully carried out preventive medicine by adopting a holistic approach.

The reasons for vaccination were questioned. The reasons for vaccination were as follows: to protect myself, because I have a chronic disease, to protect family members, because my physician recommended it and to protect those around me. Of those who were vaccinated, 74.3% reported that they were vaccinated to protect themselves, 17.9% to protect their family members, 12.8% because they had a chronic disease and approximately 12% to protect the people around them. When those who did not get vaccinated were asked about the reasons for not getting vaccinated, 60.3% reported that they did not get vaccinated because they did not get influenza frequently, 21.6% because they were not informed, 19.5% because they thought that influenza was a mild disease, 9.7% because of the side effects of the vaccine, 8.2% because they thought that the vaccine was not effective, 6.1% because they thought that the substances in the vaccine were harmful, and approximately 2% because vaccines were expensive and they were afraid of needles. In a study conducted by Klett-Tammen et al., the reasons for receiving influenza vaccine were doctor's recommendation, family recommendation and to protect others, and it was found that the vaccination rates of the participants in the risk group increased compared to healthy individuals[10]. In a study conducted in South Korea, the most important motivating events for vaccination were reported as doctor's recommendation, notification from public health institutions and advertising campaigns, and the reasons for not being vaccinated were not being aware that they were in the risk group, being worried about side effects and not having time [11]. The conclusion drawn from our study, similar to other studies, is that we need to make the society more aware of vaccines and that vaccines should be recommended more.

In a study conducted by Szucs et al. using a telephone survey in Germany, Italy, Spain, the United Kingdom and France, the main reasons for vaccination were that the participants thought that influenza was an important disease (55.8%), that their family physician and nurse recommended it (55.2%) and that they did not want to infect their family members (36.1%). The reasons for not getting vaccinated were; because they did not think it was a serious disease (40.4%), because they never thought of getting

influenza vaccine (33.3%) and because no one recommended it (27.3%) [12]. In a study conducted by Mıstık et al. aiming to investigate the attitudes and behaviors of healthcare workers about influenza vaccination, the most common reason for not getting vaccinated was that they thought that the vaccine was not useful [13]. In general, it is seen that the reason why the participants do not get vaccinated is mostly due to the fact that they do not think that it is a serious disease and that there is no one to inform them. In order to improve this situation, it is thought that trainings should be given especially on vaccination and information should be provided by easily accessible sources.

When asked about the sources of information about influenza and pneumococcal vaccines in our study, 39.1% obtained information from their physicians, 38.6% from the internet, 18% from health personnel, 15% from health institutions, 4.3% from newspapers and magazines, 3.9% from congresses, 3.9% from books, and 10.7% could not access sufficient information. In the study conducted by Bolatkale et al. the level of knowledge about adult vaccines of individuals applying to the family medicine outpatient clinic was investigated and 49.3% of the patients stated that they applied to the doctor, 41.1% to the media, 23.3% to the internet, and 5.5% to their relatives and neighbors for information about vaccines [14]. In the study conducted by Klett-Tammen et al., health experts (91.1%), social security institutions (73.9%), television (68.1%), press (62.1%) and family members (58.7%) were classified as the source of information for influenza vaccination [10]. In his study, Ahmad Hamidi reported that 45% of the study participants were informed about influenza vaccination by friends and relatives, 40% by the media, and 30% by their family doctor [15]. Considering these data, it is seen that healthcare professionals and the media play an important role both in vaccination and as a source of information about vaccines.

In another question we asked to find out whether they thought influenza and pneumococcal vaccines were safe and useful, 156 (67%) patients thought that the vaccines were safe, 60 (25.8%) thought they were not safe and 17 (7.3%) had no information. While 161 (69.1%) of the participants thought that influenza and pneumococcal vaccines were beneficial, 55 (23.6%) thought they were not beneficial and 17 (7.3%) did not know. According to the data we obtained, there was a statistically significant ($p<0.05$) correlation between educational status and occupation and thinking that influenza and pneumococcal vaccines are safe and beneficial. Participants with a university or college degree (p: 0.021) and civil servants (p: 0.001) had a positive opinion about the safety and usefulness of vaccines. In a study conducted by Neli M. Ermenlieva and colleagues, the knowledge and attitudes of the participants about seasonal influenza vaccination were questioned and it was reported that 44.2% of the participants

thought that vaccination against influenza was not beneficial, 36.7% thought that vaccination was not effective and 27.5% thought that influenza vaccines were not safe [16]. In a study conducted in South Africa by Olatunbosun et al. in patients with diabetes, the majority of the participants (88%) stated that the vaccine was safe and 83.8% thought that the vaccine was effective [17]. In a study conducted at Akdeniz University, 22.3% of the participants had a negative opinion about the safety of the vaccine and 31% were afraid of its side effects [18]. It is seen that the benefit of influenza and pneumococcal vaccines and the confidence in these vaccines are affected by population and regional differences.

The Vaccine Hesitation Scale was used to evaluate the level of hesitation about vaccines, and the score obtained by the participants from this scale was found to be 34.45 (ss: 7.22). The scale used consisted of 2 dimensions as risks and lack of confidence, and the scores obtained for the dimensions were 6.18 (ss: 2.01) and 28.27 (ss: 6.63), respectively. A study using the same scale was applied to university students in Mersin and the vaccine hesitancy scale scores in the study were found to be low (21.10±5.3) [19]. In a study in which the vaccine hesitancy scale was used, the mean score of the Vaccine Hesitancy Scale was found to be 32.29±5.1 in a study in which Ege University Vocational School of Health students participated [20]. Considering the score ranges of the scales and the results of the studies conducted in different populations, it can be concluded that the vaccine hesitancy levels of the current sample are moderate.

One of the important results obtained in our study was that statistically significant differences were found between educational status and vaccine hesitancy scale scores, between occupation and scores in the dimension of lack of confidence and vaccine hesitancy scale scores. Accordingly, it can be said that the scores of the vaccine hesitancy scale are lower and the hesitancy towards vaccines is higher in primary school graduates, and the mean score of the vaccine hesitancy scale (36.9±5.49) of the participants who are students is higher and their hesitancy towards vaccines is lower. In two other studies conducted with students, the mean scores of the vaccine hesitancy scale were lower (21.10±5.3 and 32.29±5.1) [19, 20].

Vaccine hesitancy scale scores were compared with the status of receiving influenza and pneumococcal vaccines. A statistically significant difference was found. It was observed that the mean score of the Vaccine Hesitation Scale of those who had the vaccines (3.98±0.94) was higher than the mean score of those who did not have the vaccines (3.80±0.77) (p:0.049) (Table 11). In a study aiming to determine the Turkish validity and reliability of the Vaccine Hesitancy Scale, which was conducted in two family

health centres in Manisa between 2021 and 2022, the mean score of the Vaccine Hesitancy Scale of the participants who received vaccination was 34.65, while the mean score of the participants who did not receive vaccination was 25.18 [21]. In a study conducted on health vocational school students, it was stated that the scale scores of the participants who had received the vaccines were significantly ($p<0.001$) higher than the scale scores of those who had not received the vaccines [20]. In the literature, there are also studies indicating that vaccine hesitancy and having received vaccines are not significantly related [22]. As a result, it can be said that participants who have received influenza and pneumococcal vaccines have lower levels of hesitation about vaccines.

Conclusion: Vaccination is the preferred method to protect against influenza and pneumococcal agents, which have high morbidity and mortality rates and are frequently seen in the community. It is an issue where the level of knowledge should be high in the whole society, especially in risk groups.

In this study, influenza and pneumococcal vaccination awareness of patients aged 18-65 years was investigated: Since influenza and pneumococcal vaccines are vaccines that are administered for a fee except for risk groups, it was observed that those with high income and good professional status had a higher rate of vaccination. Influenza and pneumococcal diseases are common and preventable diseases. Due to the possibility of complications in risk groups, it was observed that participants with chronic diseases and regular medication use were informed more by family physicians and different branch physicians. Although the results of our study are not statistically significant, they are close to the significance level and it can be said that the vaccination rates of participants with chronic diseases and regular medication use are higher. Participants with higher education level were more likely to agree with the idea that influenza and pneumococcal vaccines are useful and safe vaccines than other participants. The mean score obtained from the Vaccine Hesitation Scale, which we used to measure the level of hesitation against vaccines in our study, was 34.45. Considering the score range of the scale and the results of studies conducted with other populations, it can be said that the vaccine hesitancy level of the current sample is at a moderate level. It can be said that the vaccine hesitancy of participants who are university / college graduates or current students is lower. The findings of our study showed that the mean Vaccine Hesitation Scale scores of the participants who received influenza and pneumococcal vaccines were higher than those who did not. Our study showed that doctors and then social media were highly effective as a source of information about influenza and pneumococcal vaccines and diseases. It can be said that family physicians have an important role in informing the patients who participated in

our study about vaccines. Although the clinical and epidemiological benefits of influenza and pneumococcal vaccines have been proven, it is seen that the vaccination status in the general population is insufficient.

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Evaluation of the Relationshıp between Obesity and Depression Level in Women

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Abstract

Aim: The main aim of our study was to determine the presence and severity of depression by using the Beck Depression Scale, to determine the body mass index and body fat percentage of the patients, and to investigate the relationship between body mass index and depression status in women who applied to Erciyes University Faculty of Medicine Dietetic Polyclinic for any reason.

Materials and Methods: This cross-sectional study was conducted with 125 female patients who applied to Erciyes University Faculty of Medicine Dietetic Outpatient Clinic between April 2024 and August 2024. The aim of the study was to investigate the relationship between obesity and depression level in women. The sample size was calculated as a minimum of 109 people in power analysis with a 5% margin of error at 95% confidence interval.

Results: Our study included 125 female patients who applied to the diet outpatient clinic between April 2024 and August 2024. The mean age of the participants was 44 years (SD: 14.1). There were 30 patients (24%) with a Body Mass Index (BMI) <25, 27 patients with a BMI between 25-29.99 (21.6%), and 68 patients (54.4%) with a BMI of 30 and above. There were 68 obese patients (54.4%) and 57 non-obese patients (45.6%). There were 32 single patients (25.6%) and 93 married patients (74.4%).

Conclusion: In our study, the BDI was significantly higher in the group with BMI>30 than in the group with BMI<25 ($p<0.05$). There are studies showing positive and negative correlations

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between BMI and depression, as well as studies showing no relationship between BMI and depression.

Introduction and Objective: Obesity is an important and preventable public health problem characterized by excessive fat accumulation in the body to the extent that it impairs health and decreases the quality of life by predisposing to organic disorders (1). Body mass index is calculated by dividing body weight (kg) by the square of height in meters. A body mass index (BMI) above 30 kg/m2 is considered obesity (1). The grouping of body mass index by WHO is as follows: Below 18.5 is underweight, 18.5-24.9 is normal weight, 25-29.9 is overweight, 30-34.9 is grade 1 obesity, 35-39.9 is grade 2 obesity, and 40 and above is grade 3 (morbid) obesity (1). In addition, adipose tissue accounts for 15-18% of body weight in adult men and 20-25% in women. A ratio of over 25% in men and over 30% in women constitutes obesity (2).

Depression can be considered as a mood disorder in which the person feels sad and unhappy, decreases interest in the activities he/she is interested in and does not enjoy these activities as much as before, is accompanied by feelings of guilt and worthlessness, and has symptoms of fatigue and exhaustion (3). It is thought that depressed individuals experience more stress, which may lead to obesity in certain individuals. Depression and psychological problems are less important and may be ignored in obese patients compared to medical complications such as diabetes and hypertension. The relationship of obesity with psychological factors and psychiatric diseases has been demonstrated in many studies (4). Depression is a common psychological problem related to obesity (5). Both obesity and depression are health problems whose prevalence is increasing worldwide. Studies conducted to show the relationship between obesity and depression mention a bidirectional relationship when evaluated together with other factors (6). Although studies have reported different results such as depression increasing the risk of obesity or obesity increasing the risk of depression, it has been shown that there is a mutual interaction between depression and obesity (7). There are studies in which no correlation was found between obesity and depression (8). Before starting treatment for obesity, obese

patients should be examined in terms of depression and anxiety and they should be started on medication or psychological therapy for the resolution of depression and anxiety (9). Studies have reported that the frequency of psychiatric symptoms is not different between obese and non-obese men, but depression and anxiety symptoms are higher in obese women compared to non-obese women (10).

The main aim of our study was to determine the presence and severity of depression by using the Beck Depression Scale, to determine the body mass index and body fat percentage of the patients, and to investigate the relationship between body mass index and depression status in women who applied to Erciyes University Faculty of Medicine Dietetic Polyclinic for any reason.

Materials and Methods: This cross-sectional study was conducted with 125 female patients who applied to Erciyes University Faculty of Medicine Dietetic Outpatient Clinic between April 2024 and August 2024. The aim of the study was to investigate the relationship between obesity and depression level in women. The sample size was calculated as a minimum of 109 people in power analysis with a 5% margin of error at 95% confidence interval.

Mean, standard deviation, frequency and ratio values were used in descriptive statistics of the data. The distribution of variables was measured by kolmogorov simirnov, shapiro-wilk test.

Kruskal-wallis, mann-whitney u test was used to analyze quantitative independent data with non-normal distribution. Chi-square test was used in the analysis of qualitative independent data, and fischer test was used when chi-square test conditions were not met. SPSS 27.0 program was used in the analysis. For statistical significance, p values below 0.05 were considered significant.

Results: Our study included 125 female patients who applied to the diet outpatient clinic between April 2024 and August 2024. The mean age of the participants was 44 years (SD: 14.1). There were 30 patients (24%) with a Body Mass Index (BMI) <25, 27 patients with a BMI between 25-29.99 (21.6%), and 68 patients (54.4%) with a BMI of 30 and above. There

were 68 obese patients (54.4%) and 57 non-obese patients (45.6%). There were 32 single patients (25.6%) and 93 married patients (74.4%).

40.8% of the patients were primary school graduates and 36.8% were university graduates. Approximately two thirds of the participants were not employed (65.6%). 65.6% (n=82) of the patients had a chronic disease. Diabetes mellitus was present in 25.6% (n=32), hypertension in 27.2% (n=34), and hypercholesterolemia in 14.4% (n=18). Descriptive characteristics of the participants are shown in Table 1.

Table 1: Descriptive characteristics of the participants

		Min-Max				Mean.±sd/n-%		
Age		20.0	-	79.0		44.0	±	14.1
Weight		48.3	-	144.4		80.2	±	19.4
Tall		143.0	-	176.0		160.3	±	6.8
BMI		17.9	-	56.6		31.4	±	8.1
BMI Group	≤ 18.5					3		2.4%
	18.5-24.99					27		21.6%
	25-29.99					27		21.6%
	30-34.99 Classs 1 Obesity					33		26.4%
	35-39.99 Class 2 Obesity					18		14.4%
	≥ 40 Class 3 Obesity					17		13.6%
Obese	(-)					57		45.6%
	(+)					68		54.4%
Chronic Disease	(+)					82		65.6%
	(-)					43		34.4%
Diabetes	(+)					32		25.6%
	(-)					93		74.4%
Hypertension	(+)					34		27.2%
	(-)					91		72.8%
Hypercholesterolemia	(+)					18		14.4%
	(-)					107		85.6%
Marital Status	Single					32		25.6%
	Married					93		74.4%
Education Status	Illiterate					2		1.6%
	Primary School					51		40.8%
	Middle School					9		7.2%

	High School					17		13.6%
	University					46		36.8%
Profession	Student					13		10.4%
	Retired					5		4.0%
	Desk Work					14		11.2%
	Physical Work					11		8.8%
	Not working					82		65.6%
Income	<Minimum Wage					44		35.2%
	Minimum Wage					33		26.4%
	Minimum Wage x 2					31		24.8%
	≥ Minimum Wage x 3					17		13.6%
Place of residence	Metropolitan					91		72.8%
	City					10		8.0%
	District					12		9.6%
	Village					12		9.6%
Cigarette Use	(+)					22		17.6%
	(-)					103		82.4%
Alchol Use	(+)					2		1.6%
	(-)					123		98.4%
Digital Screen Usage	1 hour					38		30.4%
	2 hour					23		18.4%
	3 hour					64		51.2%
Fat Mass		5.0	-	99.5		36.4	±	17.5
Fat Percentage		10.2	-	68.9		42.9	±	11.0
Lean Body Mass		34.6	-	54.1		43.9	±	4.3
Fat Free Percent		31.1	-	89.2		57.1	±	10.9
Fat Percent Group	≤%30					14		11.2%
	>%30					111		88.8%
Sleep Quality	Good					62		49.6%
	Bad					63		50.4%
How Many Hours You Sleep	≤6 Hour					53		42.4%
	6-9 Hour					63		50.4%
	≥9 Hour					9		7.2%
Physical Activity	I do it regularly					25		20.0%
	I don't it regularly					38		30.4%
	I am doing it					62		49.6%
	1 meal					3		2.4%

How many meals do you eat	2 meals					64		51.2%
	3 meals and more					58		46.4%
Which oil is most commonly used in cooking	Margarine					1		0.8%
	Butter					9		7.2%
	Sunflower Oil					47		37.6%
	Olive Oil					68		54.4%
How You Usually Eat	In the Hustle and bustle					33		26.4%
	Making Time					73		58.4%
	Watching TV					19		15.2%

Min:minimum, max:maksimum, sd:standart deviation, %:percent, n= number of people

The mean Beck Depression Scale (BDS) score of the participants was 13.6 (standard deviation: 8). There were 37 (29.6%) participants with a score between 0-9, 47 (37.6%) participants with a score between 10-16, 37 (29.6%) participants with a score between 17-29, and 4 (3.2%) participants with a score between 30-63. The minimum score obtained from the scale is 0 and the maximum score is 40.

Mean	sd	Minimum	Maximum	Cronbach alfa
13,6	5,90	0	40	0,901

sd: Standart deviation

Participants were divided into three groups according to Body Mass Index (BMI) as BMI<25, BMI 25-29.9 and BMI>30. The relationship between BMI and descriptive characteristics of the participants is given in Table 3. The age of the patients in the overweight (BMI 25-29.9) and obese (BMI≥30) groups was significantly ($p<0.05$) higher than the normal weight (BMI <25) group. The age of the patients did not differ significantly ($p>0.05$) between the groups with BMI 25-29.9 and ≥ 30. Weight was significantly ($p<0.05$) higher in the obese group than in the normal weight and overweight groups. In the group with BMI 25-29.9, weight was significantly ($p<0.05$) higher than in the group with BMI <25. Height was significantly ($p<0.05$) higher in the groups with BMI <25 and 25-29.9 than in the group with BMI ≥ 30. Height did not differ significantly ($p>0.05$) between the groups with BMI <25 and BMI 25-29.9.

The rate of chronic disease was significantly ($p<0.05$) higher in the groups with BMI 25-29.9 and ≥ 30 than in the group with BMI <25. The rate of chronic disease did not differ significantly ($p>0.05$) in the groups with BMI 25-29.9 and ≥ 30 (Table 3).

Diabetes rate was significantly ($p<0.05$) higher in the groups with BMI 25-29.9 and ≥ 30 than in the group with BMI <25. The rate of diabetes did not differ significantly ($p>0.05$) in the groups with BMI 25-29.9 and ≥ 30. The rate of HT and hypercholesterolemia did not differ significantly ($p>0.05$) between the groups.

Table 3. Association between BMI and descriptive characteristics

			[1]BMI <25 (n=57)				[2]BMI 25-29.9 (n=33)				[3]BMI ≥ 30 (n=35)			p	
Age	Ort.±ss		38.5	±	13.9		46.6	±	12.0		50.4	±	13.3	0.000	K
	Medyan		39.0[23]				49.0				52.0				
Weight	Ort.±ss		64.2	±	9.4		83.7	±	7.8		103.0	±	13.8	0.000	K
	Medyan		64.5[32]				84.7[3]				104.4				
Height	Ort.±ss		161.33	±	5.6		161.27	±	8.0		157.66	±	6.9	0.012	K
	Medyan		160.0				162.0[1]				157.0[1]				
Chronic Disease	(+)	n-%	29[23]		50.9%		24		72.7%		29		82.9%	0.004	X^2
	(-)	n-%	28		49.1%		9		27.3%		6		17.1%		
Diabetes	(+)	n-%	6[23]		10.5%		14		42.4%		12		34.3%	0.001	X^2
	(-)	n-%	51		89.5%		19		57.6%		23		65.7%		
HT	(+)	n-%	10[2]		17.5%		12		36.4%		12		34.3%	0.083	X^2
	(-)	n-%	47		82.5%		21		63.6%		23		65.7%		
Hyper Cholesterolemia	(+)	n-%	6		10.5%		6		18.2%		6		17.1%	0.525	X^2
	(-)	n-%	51		89.5%		27		81.8%		29		82.9%		

K Kruskal-wallis (Mann-whitney u test) / X^2 Chi-square test /
[1]Difference with BMI <25 group $p<0.05$
[2]Difference with BMI 25-29.9 group $p<0.05$; [3]Difference with BMI ≥ 30 group $p<0.05$

The proportion of married women was significantly ($p<0.05$) higher in the overweight and obese groups than in the normal weight group. The proportion of married individuals in the groups with BMI 25-29.9 and ≥ 30 did not differ significantly ($p>0.05$) (Table 4).

The educational status of the normal weight group was significantly ($p<0.05$) higher than the overweight and obese groups. The educational status did not differ significantly ($p>0.05$) between the groups of overweight and obese individuals (Table 4).

The proportion of non-workers was significantly ($p<0.05$) higher in the overweight and obese groups than in the normal weight group. The proportion of non-workers did not differ significantly ($p>0.05$) in the groups with BMI 25-29.9 and ≥ 30 (Table 4). Income status did not differ significantly ($p>0.05$) between the groups.

Table 4. Association between BMI and descriptive characteristics (continued)

			[1]BMI<25 (n=57)		[2]BMI 25-29.9 (n=33)		[3]BMI≥ 30 (n=35)	p	
Marital Status	Single	n-%	23	40.4%	6	18.2%	3	8.6%	***0.002***	X^2
	Married	n-%	34[23]	59.6%	27	81.8%	32	91.4%		
Education Status										
Illiterate		n-%	0	0.0%	1	3.0%	1	2.9%	***0.000***	X^2
Primary School		n-%	12	21.1%	21	63.6%	18	51.4%		
Middle School		n-%	4	7.0%	2	6.1%	3	8.6%		
High School		n-%	5	8.8%	4	12.1%	8	22.9%		
University		n-%	36	63.2%	5[1]	15.2%	5[1]	14.3%		
Profession										
Student		n-%	9	15.8%	2	6.1%	2	5.7%	***0.000***	X^2
Retired		n-%	2	3.5%	0	0.0%	3	8.6%		
Desk Work		n-%	12	21.1%	1	3.0%	1	2.9%		
Physical Work		n-%	8	14.0%	3	9.1%	0	0.0%		

Not working	n-%	26[23]		45.6%		27		81.8%		29		82.9%		
Income Status														
< Minimum Wage	n-%	18		31.6%		14		42.4%		12		34.3%	0.052	X^2
Minimum Wage	n-%	14		24.6%		6		18.2%		13		37.1%		
Minimum Wage x 2	n-%	12		21.1%		12		36.4%		7		20.0%		
≥ Minimum Wage x 3	n-%	13		22.8%		1		3.0%		3		8.6%		

X^2 Chi-square test; [1]Difference with BMI <25 p<0.05; [2]Difference with BMI 25-29.9 p<0.05
[3]Difference with BMI ≥ 30 p<0.05

The Beck depression scale was significantly (p<0.05) higher in the group with BMI ≥ 30 than in the group with BMI <25. The Beck depression scale did not differ significantly (p>0.05) between the group with BMI 25-29.9 and the groups with BMI ≥ 30 and <25. The rate of depressive symptoms did not differ significantly (p>0.05) between the groups with BMI <25, BMI 25-29.9 and BMI ≥30.

Table 5. Comparison of BMI with BDI score and depressive symptoms

			[1]BMI <25 (n=57)			[2]BMI 25-29.9 (n=33)			[3]BMI ≥ 30 (n=35)			p	
Beck Depression Scale	Mean±sd		11.7	±	8.4	13.8	±	7.3	16.3	±	7.2	***0.007***	K
	Median		11.0[3]			15.0			16.0				
Depressive those with a temperament	(-)	n-%	43		75.4 %	22		66.7 %	19		54.3 %	0.110	X^2
	(+)	n-%	14		24.6 %	11		33.3 %	16		45.7 %		

K Kruskal-wallis (Mann-whitney u test) / X^2 Chi-square test
[3]Difference with BMI ≥ 30 group p<0.05
It was observed that those with 17 points or more on the BDI had depressive symptoms and individuals with and without depressive symptoms were compared in terms of sociodemographic data. It was found that individuals with depressive symptoms had more diabetes, hypertension and hypercholesterolemia, which was statistically significant (p<0.05).

Table 6. Evaluation of individuals with and without depressive temperament in terms of chronic diseases

		Those without depressive temperament (n=84)			Those with depressive temperament (n=41)			p	
		n		%	n		%		
Diabetes	Yes	16		19.0%	16		39.0%	***0.016***	X^2
	No	68		81.0%	25		61.0%		
Hypertension	Yes	17		20.2%	17		41.5%	***0.012***	X^2
	No	67		79.8%	24		58.5%		
Hypercholesterolemia	Yes	7		8.3%	11		26.8%	***0.006***	X^2
	No	77		91.7%	30		73.2%		
Chi-square test was used.									

In addition, although it was not the aim of our study, the proportion of individuals with depressive symptoms who evaluated sleep quality as poor was found to be higher among individuals with depressive symptoms compared to individuals without depressive symptoms and this was found to be statistically significant ($p<0.05$). At the same time, the sleep duration of those with depressive symptoms was found to be significantly lower than those without depressive symptoms ($p<0.05$).

Table 7. Evaluation of individuals with and without depressive temperament in terms of sleep quality and sleep duration

		Those with depressive symptoms (n=84)			No depressive symptoms (n=41)			p	
		Ort.±ss/n-%			Ort.±ss/n-%				
Sleep Quality	Good	51		60.7%	11		26.8%	***0.000***	
	Bad	33		39.3%	30		73.2%		
How Many Hours You Sleep	≤6 Hour	29		34.5%	24		58.5%	***0.011***	
	6-9 Hour	50		59.5%	13		31.7%		
	≥9 Hour	5		6.0%	4		9.8%		

Discussion: In this study, we examined the relationship between body mass index and depression levels in female patients aged 18 years and older who applied to Erciyes University Faculty of Medicine Dietetic Outpatient Clinic for any reason. In addition, the relationship between sociodemographic variables and body mass index and depressive symptoms was investigated. We divided the individuals who participated in our study into three groups according to BMI: BMI<25 (normal), BMI 25-29.9 (overweight) and BMI>30 (obese). Beck Depression Scale was used to investigate the depression status of the individuals. A score of 17 and above was considered to have depressive temperament. In our study, Beck Depression Scale (BDS) was significantly higher in the obese group than in the normal weight group (p=0.007). When the groups were compared in terms of showing depressive temperament, no significant relationship was found. In addition, there was a significant relationship between some sociodemographic data and obesity and depressive temperament. These findings are discussed below in the light of the existing literature.

Today, obesity is associated with many chronic diseases and has been shown to increase both morbidity and mortality. Obesity affects the endocrine system, cardiovascular system, respiratory system, genitourinary system, gastrointestinal system, skin, musculoskeletal system and psychosocial status at different rates (11). Depression and psychological problems are less important in obese patients compared to other medical complications and are often ignored. Obese women experience more dissatisfaction with their bodies compared to obese men. The importance that societies attribute to thinness and beauty has a significant impact especially on women.

Our study included 125 female patients. In this study in which we investigated the relationship between obesity and depression level in women, the mean age of the participants was 44±14.1 years. When we analyzed the relationship between age and BMI, the age of the patients in the overweight and obese groups was significantly higher than the normal weight group (p<0.05). The increase in BMI with advancing age in individuals may be related to the decrease in basal metabolic rate with age and the decrease in physical activity with advancing age. In addition,

increased inactivity as a result of technological developments may have contributed to this situation. Our findings were consistent with the literature (12, 13). When we examined the relationship between age and depressive temperament, we found that there was no significant difference ($p>0.05$). This may be due to the fact that young people usually struggle with identity problems, educational concerns and social pressures, while the elderly have to cope with health problems, loneliness and loss.

When we analyzed the effect of marital status on BMI and depression, 32 of 125 participants were single and 93 were married. In our study, the proportion of married individuals in the obese and overweight groups was significantly ($p<0.05$) higher than in the normal weight group. The fact that BMI (Body Mass Index) values are generally higher in married individuals may be due to the weight gain of women during pregnancy and puerperium. The low BMI of single individuals may be due to factors such as irregular eating habits, not having someone who prepares meals, and having an irregular lifestyle. In addition, menopause may have caused this situation. Similar findings were found in previous studies and it was observed that BMI values of married women increased by being affected by these periods (14).

When we looked at the effect of educational status on BMI, the educational status was significantly ($p<0.05$) higher in the group with BMI <25 than in the groups with BMI 25-29.9 and ≥ 30. This may be due to the fact that as the level of education increases, characteristics such as knowledge level and self-esteem increase and body image becomes more important. It may also be due to the fact that individuals with higher education levels consume more vegetables and fruits daily than individuals with lower education levels. Similar to our study, a previous study reported that the prevalence of obesity decreased with increasing educational level and sociocultural level (15, 16).

When we analyzed the effect of occupation on BMI, the proportion of non-workers in the groups with BMI 25-29.9 and ≥ 30 was significantly ($p<0.05$) higher than the group with BMI <25. There is a two-way relationship between obesity and employment status. While obesity status affects their employment status, employment status (housewife, retired, unemployed)

also affects their BMI values. Employers may refrain from hiring obese individuals, considering that they generally have lower work productivity. In addition, individuals who are unable to participate in the labor force tend to consume lower quality foods because they do not earn a regular and sufficient income, and this increases the risk of obesity. In a study conducted in Turkey, it was determined that only 16% of obese women were employed (17).

When we analyzed the effect of income level on BMI, no significant relationship was found. There are studies showing that the risk of obesity increases with decreasing income level (18). This relationship may be explained by a decrease in vegetable consumption with low income, an increase in the consumption of foods containing fat and carbohydrate, and thus an increase in body mass index (18).

When we investigated the effect of the presence of chronic disease on BMI and depressive symptoms, the rate of chronic disease was statistically significantly higher in the overweight and obese groups than in the class with BMI <25 ($p<0.05$). In our study, we obtained results compatible with the literature. It has been shown in many studies that obesity is associated with many chronic diseases, especially type 2 diabetes mellitus, hypertension and cardiovascular disease (19).

We examined the relationship between physical activity and BMI and found that there was no significant relationship ($p>0.05$). The reason why we did not find a significant relationship between physical activity and BMI may be due to the low number of participants who exercise regularly, individual metabolism differences and genetic factors, as well as the frequency and intensity of physical activity. The majority of the individuals who participated in our study were not employed. The fact that women are busy with housework may have negatively affected their exercise by causing them not to spare enough time for themselves and to stay at home more. Kaner et al. found that 85% of obese women adopted a sedentary lifestyle (20).

When we investigated the relationship between smoking and BMI and depressive symptoms, we found that there was no significant relationship between smoking and both BMI and depressive symptoms. The reason why we did not find a significant relationship between

smoking and BMI may be due to the fact that the effects of smoking on metabolism are complex and show individual differences. In a study conducted in our country, no significant relationship was found in terms of BMI in morbidly obese women who were smokers and non-smokers, similar to our study (21). On the other hand, there are studies showing that smokers have lower BMI values and this relationship is statistically significant (22).

When we examined the relationship between sleep quality and obesity, we found that there was no significant relationship. In our study, we assessed sleep quality by self-report. This may be due to the fact that self-report questionnaires may not accurately reflect the sleep quality of individuals. On the other hand, a study conducted in our country showed that obese women had worse sleep quality compared to obese men (23). It has been stated that this may be due to the intense stress experienced by women with more responsibilities in the home-child-spouse triangle, more marital problems and having to make more lifestyle changes (23).

There are some limitations in our study. Since our cross-sectional study was applied to patients over the age of 18 years who applied to Erciyes University Faculty of Medicine Dietary outpatient clinic for any reason within a period of 4 months, it cannot be generalized to our entire region or our country. The use of a valid and reliable sleep scale instead of individual expression in the evaluation of sleep quality could have provided more accurate results. In addition, the cases could have been evaluated according to menopausal status and the relationship between menopause and both obesity and depression could have been investigated. The measurements made with the bioelectrical impedance method were made at the time the patient applied to the outpatient clinic and measurements in the morning on an empty stomach would have provided more accurate results.

In future studies, care should be taken to overcome these limitations.

Conclusion: In our study, the BDI was significantly higher in the group with BMI>30 than in the group with BMI<25 ($p<0.05$). There are studies showing positive and negative correlations between BMI and depression, as well as studies showing no relationship between BMI and depression.

In our study, age was significantly higher in the obese and overweight groups than in the normal weight group. Again, the rate of chronic diseases was significantly higher in the obese and overweight group than in the normal weight group. There was no significant relationship between age and depression. In our study, the rate of married women was significantly higher in the obese and overweight group than in the normal weight group. There was no significant relationship between marital status and depression. Educational status was significantly higher in the BMI<25 group than in the overweight and obese group. There was no significant difference between income status and BMI groups. The rate of unemployment was significantly higher in the overweight and obese group than in the normal weight group. There was no significant relationship between education level and depressive symptoms. Sleep quality was found to be significantly worse in the group with depressive symptoms than in the group without depressive symptoms. Sleep duration was significantly lower in the group with depressive symptoms than in the group without depressive symptoms. There was no significant relationship between sleep quality and sleep duration and BMI. Physical activity had no effect on either BMI or depressive symptoms. The rate of chronic diseases was significantly higher in the groups with BMI 25-29.9 and ≥ 30 than in the group with BMI <25. Although the rate of diabetes was higher in the overweight and obese group, the rate of hypertension and hypercholesterolemia did not differ significantly. Although there was no significant relationship between depressive symptom status and chronic disease, the rates of diabetes, hypertension and hypercholesterolemia were significantly higher in the group with depressive symptoms than in the group without depressive symptoms.

The prevalence of both obesity and depression continues to increase. Identifying the conditions that cause obesity and depression in primary health care services is of great importance for early diagnosis and treatment. Both obesity and depression should be combated with a biopsychosocial approach. Primary care physicians evaluate patients holistically with their sociocultural characteristics and diseases. Family physicians play a very important role in physical and mental illnesses because they see undifferentiated diseases more frequently and are easily accessible. Knowledge and use of existing scales for screening obesity and depression

by primary care physicians will contribute to increasing the frequency of diagnosis of obesity and depression. In addition, patients who are intervened early will be less exposed to the devastating effects of the disease.

A detailed examination of the effects of smoking addiction, spending too much time in front of the screen, income level, age, marital status, menopausal status, number of children and male gender factor on depression and obesity will benefit us in the fight against these diseases. It is recommended that future studies be conducted with a larger sample size, in a more heterogeneous group and in a larger population. It is also recommended to provide psychiatric support to individuals with obesity who are at risk for depression and to those with depression and to conduct educational programs to combat depression. In addition, individuals with chronic diseases such as diabetes, hypertension and hypercholesterolemia should be monitored for depression.

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Factors Affecting Their Likelihood to Have Oral Glucose Tolerance Test and Their Knowledge Levels about Oral Glucose Tolerance Test in Pregnant Women Applying to a University Hospital Pregnancy Clinic

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Abstract

Objective:

This study aimed to raise awareness about OGTT and GDM and guide new studies by determining the factors affecting OGTT during pregnancy and the knowledge levels of pregnant women about OGTT.

Materials and Methods: It was aimed to determine the factors affecting oral glucose tolerance test (OGTT) and the level of knowledge about OGTT in pregnant women who applied to the pregnancy clinic of Erciyes University Faculty of Medicine Hospital and to raise awareness about OGTT and GDM. Approval was received for this study from the Erciyes University Faculty of Medicine Hospital Clinical Research Ethics Committee (Decision no: 2024/173) (Annex-1) on 13.03.2024. The research is a cross-sectional descriptive study. In the research, data were collected through a questionnaire using the face-to-face interview method. The literature was reviewed in order to collect data suitable for the purpose. Previously conducted similar studies were examined. A questionnaire consisting of 37 questions was prepared. A sample questionnaire is presented in Annex-2.

Results: 362 pregnant women who applied to the pregnancy clinic of Erciyes University Faculty of Medicine Hospital and met the inclusion criteria participated in the study. Since we conducted the study on pregnant women, all participants were female. The age distribution of

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the participants was divided into 3 groups as 18-24, 25-34 and 34-45. The 25-34 age range constituted more than half (57.7%), while the 18-24 age range constituted a quarter (26%). When the educational status was examined, the highest rate was university graduates with 32.6%, followed by high school graduates with 30.9%. When the occupational distribution was examined, more than ¾ (78.2%) were housewives, followed by civil servants (15.7%).

Conclusion: In our study, the rates of OGTT and the rates of those who reported having knowledge about OGTT were low. A statistically significant correlation was found between OGTT and knowledge about OGTT in those who had OGTT between 24-28 weeks of gestation or in pregnancies older than 28 weeks. A statistically significant correlation was also found between knowing the time of OGTT and having OGTT. The rate of family physicians informing pregnant women about OGTT is low. Pregnant women are not sufficiently informed about the complications of GDM on mother and baby. When we look at the places where information about OGTT is provided, the first place is the doctor, followed by the internet and the environment. The first reason for not having an OGTT was that the doctor did not recommend it, the second reason was that the drink used for the test caused nausea and headache, followed by the fear that it would adversely affect their current and future pregnancies, and then the concern that it would harm their baby.

Introduction and Objective: Gestational Diabetes Mellitus (GDM) is defined as glucose intolerance of varying degrees, starting during pregnancy or first diagnosed during pregnancy(1). GDM is one of the most common complications of pregnancy(2). It is estimated that 21.1 million (16.7%) live births in 2021 were associated with maternal diabetes. Of these, 10.6% were due to pre-gestational type 1 diabetes mellitus (T1DM) and type 2 diabetes mellitus (T2DM), 9.1% were due to T1DM or T2DM first detected during pregnancy, and 80.3% were due to GDM(3).

GDM develops due to the weakening of the repair systems due to increasing insulin resistance and decreasing insulin sensitivity as the pregnancy progresses (4). GDM causes a number of

problems. In the mother; it causes problems such as birth trauma, increase in cesarean section, preeclampsia-gestational hypertension, type 2 diabetes, metabolic syndrome, while in the fetus; it can cause conditions such as hyperinsulinemia, stillbirth, macrosomia, birth trauma, cardiomyopathy. In the neonatal period, problems such as neonatal respiratory distress, hypoglycemia, hyperbilirubinemia, polycythemia, hypocalcemia and hypomagnesemia may occur (5).

Oral Glucose Tolerance Test (OGTT) is a method used in the diagnosis and screening of GDM in pregnant women. If high glucose levels in the mother are detected with OGTT, precautions can be taken before it has negative effects on the fetus (6).

In a study conducted by Ulaş and Durgun in 2018, it was stated that OGTT was performed in 22.7% of antenatal tests performed during pregnancy follow-up. The reason for this was determined to be that pregnant women did not have sufficient information about the test even if they heard about it. (7). In another study conducted by Koyucu in 2018, it was determined that pregnant women had a negative attitude towards OGTT. This negative attitude caused by television and the internet creates a major problem by increasing the number of undiagnosed patients and, as a result, causing problems during pregnancy, delivery and postpartum. As in every disease, early diagnosis and treatment are important here (8).

This study aimed to raise awareness about OGTT and GDM and guide new studies by determining the factors affecting OGTT during pregnancy and the knowledge levels of pregnant women about OGTT.

Materials and Methods: It was aimed to determine the factors affecting oral glucose tolerance test (OGTT) and the level of knowledge about OGTT in pregnant women who applied to the pregnancy clinic of Erciyes University Faculty of Medicine Hospital and to raise awareness about OGTT and GDM. Approval was received for this study from the Erciyes University Faculty of Medicine Hospital Clinical Research Ethics Committee (Decision no: 2024/173) (Annex-1) on 13.03.2024. The research is a cross-sectional descriptive study. In the research, data were collected through a questionnaire using the face-to-face interview method. The

literature was reviewed in order to collect data suitable for the purpose. Previously conducted similar studies were examined. A questionnaire consisting of 37 questions was prepared. A sample questionnaire is presented in Annex-2.

The survey consists of questions about sociodemographic characteristics, knowledge about GDM, risk factors for GDM, obstetric history, knowledge about OGTT, thoughts about OGTT and the source of these thoughts. Before the survey, the pregnant women were informed about the study and their verbal and written consents were obtained. The survey was conducted while observing the order of examination of the pregnant women in the waiting room. It took approximately 10-15 minutes to complete each survey. In the power analysis, when 95% confidence (1-α), 95% test power (1-β), OR=0.403 were taken, the number of samples to be included in the study was determined as 362. The study was applied to 362 pregnant women who applied to the pregnancy clinic of Erciyes University Faculty of Medicine Hospital between 21.03.2024 and 15.05.2024 and met the criteria for inclusion in the study.

Findings: 362 pregnant women who applied to the pregnancy clinic of Erciyes University Faculty of Medicine Hospital and met the inclusion criteria participated in the study. Since we conducted the study on pregnant women, all participants were female. The age distribution of the participants was divided into 3 groups as 18-24, 25-34 and 34-45. The 25-34 age range constituted more than half (57.7%), while the 18-24 age range constituted a quarter (26%). When the educational status was examined, the highest rate was university graduates with 32.6%, followed by high school graduates with 30.9%. When the occupational distribution was examined, more than ¾ (78.2%) were housewives, followed by civil servants (15.7%). When the place of residence was examined, the majority (80.4%) lived in the city, while those living in districts (14.4%) came second. Those who declared their economic status as medium constitute a large segment (88.1%), followed by those with low economic status (7.2%). Those with health insurance (89.2%) and those with nuclear family type (84.3%) constitute the vast majority. Sociodemographic data of pregnant women are presented in Table 1.

Table 1. Socdemographic Data of Pregnant Women

	Frequency/ Mean ± S.deviation	Percentage/Median(min-max.)
Age		
18-24	94	26
25-34	209	57,7
35 -45	59	16,3
Education Status		
Illiterate	2	0,6
Literate	2	0,6
Primary school graduate	34	9,4
Secondary school graduate	94	26
High school graduate	112	30,9
University graduate	118	32,6
Profession		
Housewife	283	78,2
Civil Servant	57	15,7
Worker	1	0,3
Self-employment	15	4,1
Student	3	0,8
Other	3	0,8
Place of residence		
City	291	80,4
District	52	14,4
Town or village	19	5,2
Economic situation		
Low	26	7,2
Medium	319	88,1
High	17	4,7
Health insurance		
Yes	323	89,2
No	39	10,8
Family type		
Core	305	84,3
Wide	57	15,7

While the rate of those with chronic diseases is 18%, the rate of those who use medication is 91.4%. When we look at the medications used, all of them use nausea and vomiting medication, while vitamin D and iron medication come in 2nd and 3rd place, respectively. Nearly one hundred percent (98.6%) of the respondents (98.6%) regularly went for pregnancy check-ups.

The average gestational week is 23.62. Regarding the number of pregnancies, the highest number (29.3%) was the first pregnancy, followed by the third pregnancy (24.9%). Table 2 presents the chronic disease status and pregnancy-related characteristics of pregnant women.

Table 2. Chronic Disease Status and Pregnancy-Related Characteristics of Pregnant Women

	Frequency/ Mean ± S.deviation	Percentage/Median(min-max.)
Chronic disease status Yes	65	18
No	296	82
Medication use		
No	31	8,6
Yes	331	91,4
Kullanılan ilaç		
Antibiotics	8	2,2
Painkillers	3	0,8
Asthma medicine	1	0,3
Vitamin D	233	64,4
Iron medicine	221	61
Folic acid	93	25,7
Blood pressure medicine	30	8,3
Thyroid medication	20	5,5
Nausea and vomiting medicine	362	100
Do you go regularly for pregnancy check-ups?		
Yes	357	98,6
No	5	1,4
Pregnancy Week	23,62 ± 9,97	25 (5 - 40)
How many pregnancies is this?		
1	106	29,3
2	82	22,7
3	90	24,9
4 and above	84	23,2

Table 3. Examination of Risk Factors Affecting OGTT Neglect by Binary Logistic Regression Analysis

	OGTT		Univariate		Multiple	
	Yes	No	OR (%95 CI)	p	OR (%95 CI)	p
Education Status						
Illiterate	0 (0)	2 (100)	---	---	---	---
Literate	0 (0)	2 (100)	---	---	---	---

Primary school graduate	13 (38,2)	21 (61,8)	---	---	---	---	
Secondary school graduate	35 (37,2)	59 (62,8)	---	---	---	---	
High school graduate	55 (49,1)	57 (50,9)	---	---	---	---	
University graduate	84 (71,2)	34 (28,8)	---	---	---	---	
Economic situation							
Low	8 (30,8)	18 (69,2)	Referans				
Middle	170 (53,3)	149 (46,7)	0,39 (0,165 - 0,922)	**0,032**	0,222 (0,053 - 0,922)	**0,038**	
High	9 (52,9)	8 (47,1)	0,395 (0,111 - 1,4)	0,150	0,205 (0,018 - 2,368)	0,204	
Do any of your first-degree relatives (mother, father, children) have diabetes?							
Yes	65 (55,1)	53 (44,9)	Referans				
No.	122 (50)	122 (50)	0,815 (0,525 - 1,267)	0,364	0,601 (0,277 - 1,305)	0,198	
Have you been diagnosed with gestational diabetes in previous pregnancies?							
Yes	12 (75)	4 (25)	0,325 (0,102 - 1,037)	0,058	0,219 (0,043 - 1,108)	0,066	
No.	111 (49,3)	114 (50,7)	Referans				
Have you gained excess weight (20 kg or more) in previous pregnancies?							
Yes	22 (53,7)	19 (46,3)	0,902 (0,458 - 1,776)	0,765	0,823 (0,327 - 2,071)	0,680	
No.	95 (51,1)	91 (48,9)	Referans				
Have you given birth to a large baby (over 4000 g) in your previous pregnancies?							
Yes	17 (65,4)	9 (34,6)	0,524 (0,223 - 1,232)	0,138	0,532 (0,178 - 1,583)	0,256	
No.	99 (49,7)	100 (50,3)	Referans				
Have you had babies with congenital anomalies?							
Yes	3 (27,3)	8 (72,7)	2,87 (0,742 - 11,106)	0,127	4,173 (0,684 - 25,467)	0,122	
No.	113 (51,8)	105 (48,2)	Referans				
Have you had recurrent miscarriages?							
Yes	15 (40,5)	22 (59,5)	1,689 (0,81 - 3,52)	0,162	4,002 (1,277 - 12,543)	**0,017**	
No.	76 (53,5)	66 (46,5)	Referans				
How many pregnancies is this?							
1	56 (52,8)	50 (47,2)	Referans				

2	44 (53,7)	38 (46,3)	0,967 (0,543 - 1,724)	0,910	19,822 (1,531 - 256,648)	**0,022**
3	42 (46,7)	48 (53,3)	1,28 (0,729 - 2,247)	0,390	9,014 (0,687 - 118,287)	0,094
4 and above	45 (53,6)	39 (46,4)	0,971 (0,547 - 1,723)	0,919		
BMI	27,97 ± 4,58	28,11 ± 4,77	1,006 (0,963 - 1,052)	0,777	1,04 (0,954 - 1,134)	0,372

Cox & Snell R2=0.176; Nagelkerke R2=0.235; Mean ± Standard Deviation; Frequency (Percentage)

During pregnancy (between 24-28 weeks and who have had the test or older than 28 weeks) A statistically significant correlation was found between having OGTT and being knowledgeable about OGTT (p=0.002). Among those who had knowledge about OGTT, the rate of having OGTT performed was 60%, while the rate of not having OGTT performed was 40%. A statistically significant correlation was found between knowing the time of OGTT during pregnancy and having OGTT (p=0.003). The difference here was seen in the rates of those who stated that OGTT was performed at 24-28 weeks and those who answered “don't know”. Among those who knew the correct time of OGTT at 24-28 weeks, the rate of performing OGTT in the current pregnancy was 59.1%, while the rate of not performing OGTT was 40.9%

Table 4. Examination of the Relationship between OGTT and Knowledge about OGTT by Gestational Week

	Have you had a sugar loading test (OGTT) in your current pregnancy? (Those who have done it between 24- 28 weeks or for pregnancies older than 28 weeks)		Test Statistic	p
	Yes	No		
Are you familiar with the sugar loading test (OGTT)?				
Yes	57 (60)	38 (40)	9,188	**0,002***
No	24 (35,8)	43 (64,2)		
At what weeks of pregnancy is a sugar loading test (OGTT) performed?				
4-13	0 (0)	3 (100)	14,069	**0,003****
14-23	7 (43,8)	9 (56,3)		
24-28	65 (59,1)[a]	45 (40,9)[b]		
29-40	1 (50)	1 (50)		
I don't know	8 (25,8)[a]	23 (74,2)[b]		

*Pearson Chi-Square Test; **Fisher Freeman Halton Testi; a-b: No difference between groups with the same letter in each row

Table 5. Examination of the Relationship Between the Status of OGTT Performed During Pregnancy and Knowledge About OGTT According to Gestational Week

	Do you plan to have a sugar loading test (OGTT) in your current pregnancy (pregnancies less than 24 weeks or For those who are between 24-28 weeks and have not yet done it)		Test Statistics	p
	Yes	No		
Do you know about the sugar loading test (OGTT)?				
Yes	37 (40,2)	55 (59,8)	0,537	0,464*
No	38 (35,2)	70 (64,8)		
At what weeks of pregnancy is a sugar loading test (OGTT) performed?				
4-13	1 (33,3)	2 (66,7)	2,297	0,707**
14-23	9 (47,4)	10 (52,6)		
24-28	40 (40)	60 (60)		
29-40	2 (33,3)	4 (66,7)		
I dont know	23 (31,9)	49 (68,1)		

*Perason Chi-Square Testi; **Fisher Freeman Halton Testi

The risk factors affecting the risk of not considering OGTT were analyzed by binary logistic regression analysis. When the model was analyzed univariately, the risk of not having an OGTT was 2.5 times higher in those with a 3rd pregnancy than in those with a 1st pregnancy (p=0.025). When the model was analyzed as multiple; the risk of not considering OGTT was 17.16 times higher in those with 2nd pregnancy compared to those with 1st pregnancy (p=0.027).

Table 6. Binary Logistic Regression Analysis of Risk Factors Affecting OGTT Status

	Have you had a sugar loading test (OGTT) in your urrent pregnancy (for pregnancies between 24- 28 weeks or for pregnancies older than 28 weeks)?		Univariate	
	Yes	No	OR (%95 CI)	p
Education Status				
Illiterate	0 (0)	1 (100)	---	---
Literate	0 (0)	1 (100)	---	---
Primary school graduate	8 (50)	8 (50)	---	---
Secondary school graduate	24 (46,2)	28 (53,8)	---	---
High school graduate	24 (46,2)	28 (53,8)	---	---
University graduate	25 (62,5)	15 (37,5)	---	---
Economic situation				

Low	7 (50)	7 (50)	Referans	
Middle	70 (50)	70 (50)	1 (0,333 - 3,001)	1,000
High	4 (50)	4 (50)	1 (0,176 - 5,682)	1,000
Do any of your first-degree relatives (mother, father, children) have diabetes?				
Yes	26 (51)	25 (49)	0,944 (0,487 - 1,833)	0,866
No	55 (49,5)	56 (50,5)	Referans	
Have you been diagnosed with gestational diabetes in previous pregnancies?				
Yes	10 (90,9)	1 (9,1)	0,078 (0,01 - 0,638)	**0,017**
No	40 (44)	51 (56)	Referans	
Have you gained excess weight (20 kg or more) in previous pregnancies?				
Yes	8 (50)	8 (50)	0,929 (0,318 - 2,714)	0,892
No	39 (48,1)	42 (51,9)	Referans	
Have you given birth to a large baby (over 4000 g) in your previous pregnancies?				
Yes	9 (69,2)	4 (30,8)	0,365 (0,104 - 1,283)	0,116
No	37 (45,1)	45 (54,9)	Referans	
Did you have a baby with excess water (amniotic fluid) in your previous pregnancies?				
Yes	7 (63,6)	4 (36,4)	0,483 (0,131 - 1,774)	0,273
No	38 (45,8)	45 (54,2)	Referans	
Have you had a baby whose heart stopped during pregnancy?				
Yes	13 (54,2)	11 (45,8)	0,805 (0,322 - 2,009)	0,642
No	39 (48,8)	41 (51,2)	Referans	
Have you had babies with congenital anomalies?				
Yes	3 (50)	3 (50)	0,915 (0,175 - 4,778)	0,916
No	43 (47,8)	47 (52,2)	Referans	

Cox & Snell R2=0.271; Nagelkerke R2=0.363; Mean ± Standard Deviation; Frequency (Percentage)

Discussion: In our study, we aimed to raise awareness about OGTT and GDM by determining the factors affecting OGTT and the level of knowledge about OGTT in pregnant women who

applied to Erciyes University Faculty of Medicine Hospital pregnancy outpatient clinic. More than half (57.7%) of the 362 pregnant women in our study were in the 25-34 age group. Pregnant women were overweight with an average BMI of 28.04. The mean gestational week was 23.62.

In 2020, in a study by Bakır and Şentürk, pregnant women stated that they obtained information about OGTT mostly from healthcare professionals and social media and least from TV news (9). In 2021, Acavut et al. reported that the sources they obtained the most information about OGTT were physicians and the internet, and the source they obtained the least information was TV (10). In our study, when looking at the places where information about OGTT was obtained, the highest rate was the doctor with 69.6%, followed by the internet with 33%, the environment with 31.6%, and the media with 19.7%.

In our study, 61.6% of the participants said that their gynecologist and obstetrician informed them about OGTT during pregnancy. The rate of those who said that their family physician gave information about OGTT during pregnancy was 25.4%. We think that family physicians inform pregnant women less about OGTT than obstetricians.

Family medicine is a specialty that provides both preventive and curative health services to all individuals. Since the family physician is close to the residence of individuals and easily accessible, this situation allows him/her to know the community he/she serves in all aspects. Family physicians evaluate individuals with a holistic approach and provide counseling and, when necessary, refer individuals to related specialties. Therefore, family physicians should provide effective and accurate information to pregnant women from the first prenatal visit. Awareness should be raised by communicating in a language that pregnant women can understand and explaining the importance of OGTT and GDM. Thus, we think that an increase in the rate of OGTT can be achieved.

In the study by Ergün et al. 64.4% of pregnant women stated that they had information about OGTT(11). In the study conducted by Türkyılmaz et al, it was determined that 39.9% of pregnant women knew the correct week of OGTT(12). Yaprak et al. found that 60.6% did not know the week of OGTT(13).

In our study, 51.7% stated that they had knowledge about OGTT, while 58% knew the correct time of the test. In our study, a statistically significant correlation was found between those who had OGTT between 24-28 weeks and had OGTT or who had OGTT in pregnancies older than 28 weeks and having knowledge about OGTT (p=0.002). Among those who were informed about OGTT, the rate of OGTT was 60%. A statistically significant correlation was found between knowing the correct time of OGTT during pregnancy and having OGTT (p=0.003). The difference here was seen in the rates of those who said that OGTT is performed at 24-28 weeks and those who answered that they did not know. The rate of those who said that OGTT is performed at 24-28 weeks is 59.1% in their current pregnancy. The rate of those who did not know at which week OGTT was performed was 25.8% in their current pregnancy.

In a study conducted by Desdicioğlu et al. in 2017, 14.1% stated that they did not have or did not want to have OGTT(14). In 2018, Yaprak et al. reported that 34.2% did not want to have an OGTT(13). In 2020, Dalgıç et al. found that 51.9% of pregnant women did not have OGTT(15). In the study by Bakır and Şentürk, 64.2% of pregnant women stated that they did not have or did not plan to have OGTT, and 79.3% stated that they did not have or did not want to have OGTT in the second or higher pregnancies(110). In our study, the rate of those who did not have OGTT in their current pregnancy was 50%, while the rate of those who did not plan to have OGTT was 62.5%. It is similar to the literature.

In our study, 31.4% of the pregnant women stated that they did not want to have the test because the beverage used for the test caused nausea or headache. There are data in the literature showing that Başbuğ et al. and Hocaoğlu et al. were uncomfortable with the way the test was administered(16,17). No side effects are observed in most people during OGTT. Non-serious side effects may be observed during the test. These may include nausea, vomiting, sweating, dizziness and headache. Because of these non-serious side effects, alternative methods have been investigated. In a study, random PG, APG, HbA1c and 50 g GCT were compared in terms of sensitivity in the first and second trimesters and it was found that 50 g GCT was the most sensitive test in the diagnosis of GDM in both trimesters(18). For this reason, mothers should

not overestimate these non-serious side effects that can be seen in OGTT and should help prevent the risks and complications that may occur for both themselves and their baby in the future.

In the study conducted by Çakır and Çalık in 2020, 54.1% of pregnant women stated that they did not undergo OGTT because they were affected by the negative news about OGTT in the media(19). Acavut et al. in 2021 found that 40.5% of pregnant women were confused by the news in the media(10). In our study, 12% of pregnant women stated that they did not think of having an OGTT because they learned that it was harmful from social media, internet and television programs. In line with these findings, we think that social media and TV programs affect pregnant women's decisions about having OGTT. Unfounded news and false information affect public health. Therefore, experts on the subject should share information within the framework of scientific resources and raise public awareness.

Conclusion: In our study, the rates of OGTT and the rates of those who reported having knowledge about OGTT were low. A statistically significant correlation was found between OGTT and knowledge about OGTT in those who had OGTT between 24-28 weeks of gestation or in pregnancies older than 28 weeks. A statistically significant correlation was also found between knowing the time of OGTT and having OGTT. The rate of family physicians informing pregnant women about OGTT is low. Pregnant women are not sufficiently informed about the complications of GDM on mother and baby. When we look at the places where information about OGTT is provided, the first place is the doctor, followed by the internet and the environment. The first reason for not having an OGTT was that the doctor did not recommend it, the second reason was that the drink used for the test caused nausea and headache, followed by the fear that it would adversely affect their current and future pregnancies, and then the concern that it would harm their baby. Those who did not have an OGTT because their doctor did not recommend it were at the highest rate. Doctors should be educated about OGTT and GDM to change their perspective.

The risk of OGTT ignorance was found to be higher in those with low economic status, recurrent miscarriage and first pregnancy. The risk of not performing OGTT was found to be higher as the number of pregnancies increased. The risk of not performing OGTT was found to be higher in those who had undergone OGTT between 24-28 weeks or in those who did not receive a diagnosis of GDM in previous pregnancies in pregnancies older than 28 weeks compared to those who received a diagnosis of GDM.

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Novel Inflammatory Markers in Children with Seasonal Allergic Rhinitis

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Oral Presentation – OP162

Background: Allergic Rhinitis (AR) is a type 1 IgE-mediated disease of the nasal mucosa caused by hypersensitivity of the nasal lining to allergens. Allergens such as pollen, dust and animal dander cause the immune system to overreact, leading to symptoms such as runny nose, itching, congestion and sneezing. AR can be a seasonal or year-round (perennial) condition. Allergic diseases are typically characterized by an inflammatory response to allergen exposure. Therefore, this study was designed to investigate the possible role of novel inflammatory markers in children with seasonal AR.

Objectives: Our aim in this study was to evaluate the simple, inexpensive and easily accessible tests used in the differential diagnosis of AR in children presenting to the clinic with AR more effectively and to help with rapid and reliable access to correct diagnosis and treatment.

Methods: In this retrospective study, children aged 3-15 years who are presented to the Pediatrics outpatient clinic of Atlas University Hospital, Atlas University Medical Faculty, Istanbul between January -April 2024 were included. Study groups consisted of seasonal AR group (n=450) and control group (n=450). Anamnesis was taken, physical examination was performed, and laboratory results were recorded. We used inflammatory biomarkers that can be assessed by a simple hemogram using ratios such as high-sensitivity C-reactive protein

(hCRP), neutrophil to lymphocyte ratio (NLR), eosinophil to lymphocyte ratio (ELR), systemic immune-inflammation index (SII), systemic inflammation response index (SIRI) and total index of systemic inflammation (AISI).

Results: Eosinophil, basophil, neutrophil, CRP and IgE levels were significantly higher in the AR group compared to the control group ($p<0.01$). NLR, ELR, SII, SIRI and AISI ratios were significantly increased in the AR group (both of them, $p < 0.001$) compared to the control group, while NER was found to decreased. There was a negative correlation between NLR and NER ratios ($r=0.621$; $p<0.01$) and a positive correlation between SII, SIRI and AISI ratios and IgE ($r=0.548$, $p<0.01$; $r=0.619$, $p<0.001$; $r=0.599$, $p<0.001$). A positive correlation was found between disease severity and LER, SII and IgE.

Conclusion: NLR, ELR, SII, SIRI and AISI values can be used as a predictive value in the diagnosis of seasonal AR. LER, SII and IgE may be useful parameters in determining disease severity. They are easy and readily available practical biochemical markers that can be used successfully in the treatment and follow-up of children with AR, without extra cost. Further studies are needed to fully elucidate the mechanism of seasonal AR using these markers. In addition, studies to determine the reference intervals of these indices are needed to facilitate clinicians in practice.

Keywords: Allergic Rhinitis, Seasonal Allergic Rhinitis, Children, Ige, Systemic İnflammation

Determination of Intern Doctors' Knowledge Levels on Medical Law and Regulations in a University Hospital

Muhammed Burak Çınar, Elif Deniz Şafak

Oral Presentation – OP163

Objective: This study aims to assess the knowledge levels of intern physicians in a university hospital regarding medical law and regulations, examine the relationship between their knowledge levels and sociodemographic variables, and raise awareness of these issues before they commence their professional careers.

Materials and Methods: This cross-sectional and descriptive study was conducted among intern physicians studying at Erciyes University Faculty of Medicine Hospital. In August 2023, approximately 296 intern physicians were identified at the Faculty of Medicine. The study aimed to reach the entire population, and data were collected from 274 participants. The data collection process took place between September 15, 2023, and March 15, 2024.

Intern physicians were first asked to sign a voluntary consent form and then requested to complete a sociodemographic questionnaire along with a survey assessing their knowledge of medical law and regulations. The surveys were developed by the researchers based on a review of the existing literature and relevant legal sources.

Results: Participants' ages ranged from 22 to 30 years, with a mean age of 24.2 years. Of the participants, 48.5% (133 individuals) were female, and 51.5% (141 individuals) were male. The average number of correct answers given to the 20 knowledge-based questions in the survey was 10.6 ± 3.1. No statistically significant relationship was found between the total number of correct answers and variables such as gender, marital status, duration of internship, years spent in medical school, experience with forensic cases, or involvement in disputes with patients, their relatives, or other healthcare professionals. However, a statistically significant relationship

was observed between the total number of correct answers and variables such as having completed a public health internship, undergoing an investigation, facing legal sanctions, receiving education on medical law, obtaining written informed consent, respecting patient confidentiality, and communication with patients.

Conclusion: Our study indicates that intern physicians have insufficient knowledge of medical law and regulations. Interns should have easier access to this education during their medical training and should actively seek to improve their knowledge in this field. Medical school curricula should include more medico-legal topics to better prepare future physicians for legal and ethical challenges in clinical practice.

Keywords: Medical Law, Intern Physician, Patient Rights, Knowledge Level

Assessment of the Relationship Between Sagittal Spinal Alignment and Clinical Parameters in Ankylosing Spondylitis

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Oral Presentation – OP164

Objective: Ankylosing spondylitis is a chronic inflammatory disease affecting the sacroiliac joint and spine**.** The aim of this study was to investigate the relationship between sagittal spinal alignment and clinical assessment parameters in patients with ankylosing spondylitis (AS).

Methods: This prospective study included 40 patients diagnosed with AS according to the Modified New York Criteria. The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Ankylosing Spondylitis Disease Activity Score (ASDAS) were used to assess disease activity, the Bath Ankylosing Spondylitis Functional Index (BASFI) to assess functional status and the Bath Ankylosing Spondylitis Metrology Index (BASMI) to measure spinal mobility. Sagittal alignment of the spine was assessed by T2-weighted magnetic resonance imaging (MRI), and lumbosacral and lumbar lordosis angles were measured (Figure 1).

Results: The disease duration of the patients was 5.37±4.91 years. There was no statistically significant correlation between spinal mobility parameters, spinal angle measurements, and disease duration ($p>0.05$) (Table 1). The relationship between disease activity scores and lumbosacral and lumbar lordosis angles was not statistically significant ($p>0.05$). Similarly, there was no statistically significant difference between BASMI and BASFI scores and angles ($p>0.05$) (Table 2).

Conclusion: No correlation was found between clinical assessment parameters and sagittal spinal alignment in patients with AS.

Keywords: Ankylosing Spondylitis, Spinal Alignment, Disease Activity

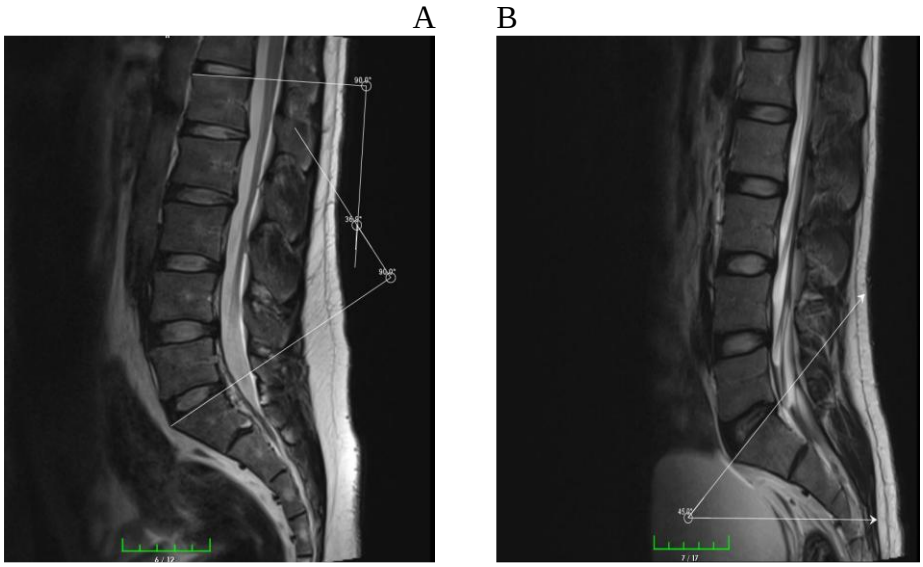

Figure 1: Lordosis angle (A) and lumbosacral angle (B) measurement

Table 1. Correlation between lumbosacral angle, lordosis angle, and spinal mobility parameters with disease duration

	Disease duration	
	Spearman *rho*	*p*-value
Spinal mobility		
BASMI	0.004	.982
Lumbar lateral flexion (cm)	0.095	.562
TWD (cm)	-0.015	.925
Modified Schober (cm)	0.021	.896
IMD (cm)	-0.162	.319
Cervical rotation (degree)	-0.076	.643
Angles		
Lumbosacral angle	0.121	.458
Lordosis angle	0.067	.681

Spearman's rho correlation coefficient was used, and $p<0.05$ was considered statistically significant.
BASMI: Bath Ankylosing spondylitis metrology index, TWD: Tragus-wall distance, IMD: Intermalleolar distance

Table 2. Correlations of lumbosacral angle and lordosis angle with clinical assesment scales in patients with ankylosing spondylitis

Angles	BASDAI1	BASFI1	ASDAS1
Lumbosacral angle	0.115	–0.160	0.235
Lordosis angle	0.018	–0.057	0.271

Data show correlation coefficients. Correlations were evaluated at $p<0.05$ significance level. [1] Pearson's r correlation coefficient, BASDAI: Bath Ankylosing Spondylitis Disease Activity Index, BASFI: Bath Ankylosing Spondylitis Functional Index, ASDAS: Ankylosing Spondylitis Disease Activity Score

Can Forced Expiratory Flow at 25-75% of Vital Capacity (FEF%25-75) Be Used for Asthma Diagnosis in a Pulmonary Clinic?

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Oral Presentation – OP166

Introduction and Objective:

Forced expiratory flow at 25-75% of vital capacity (FEF%25-75) is a pulmonary function test (PFT) parameter used to assess small airway disease (SAD). Small airways may play a crucial role in the clinical manifestations of asthma. FEF%25-75% is the most sensitive measure of airflow obstruction in peripheral airways, where primary airflow obstruction occurs, and it decreases in early bronchial impairment associated with small airway disease. However, we aim to highlight the further diagnostic and prognostic role of FEF%25-75 in patients with severe asthma.

Methods:

Between January 2024 and December 2024, we identified asthma patients who underwent pulmonary function testing (PFT) in Van. We recorded demographic data, laboratory results (eosinophil count, total IgE), and pulmonary function test results from hospital records.

Results:

The study included 100 asthma patients (70 females, 30 males) with acceptable PFTs who presented to the Allergy and Immunology outpatient clinic. The mean age of the participants was 40±14 years. The median asthma duration was 5 years (range: 1-10). The median eosinophil count was 260 (110-640) /µL, and the median total IgE level was 139 (62-287) IU/mL. The median FVC was 2290 (1735-3177) mL, median FEV1 was 2025 (1555-2980) mL,

median FEV1% was 82% (66-100), median FEV1/FVC was 93 (84-99), and median FEF%25-75 was 67 (49-90). Additionally, we found that FEF%25-75 had a weak but significant negative correlation with eosinophil count (r = -0.222, p=0.026) and a strong positive correlation with FEV1% (r = 0.878, p<0.001).

Table 1: Demographic, laboratory and pulmonary function test values of the patients

	n: 100
Age (year) mean±SD	40±14
Gender female n (%)	70 (70)
Disease duration (year)	5 (1-10)
Eosinophil count /µL	260 (110-640)
Total IgE (IU/mL)	139 (62-287)
FVC (mL)	2290 (1735-3177)
FEV1 (mL)	2025 (1555-2980)
FEV1 (%)	82 (66-100)
FEV1/FVC	93 (84-99)
FEF%2575	67 (49-90)

Median (IQR) was used for all parameters except age and gender
IQR: Interquartile range, SD: Standard deviation

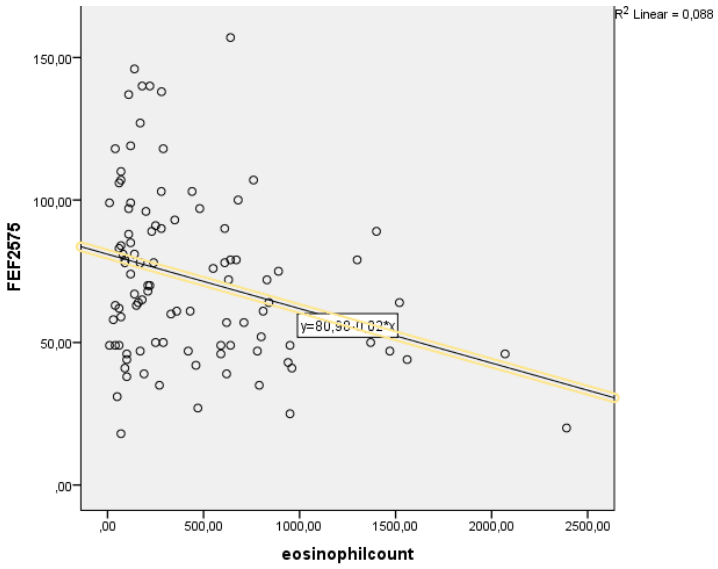

Figure 1: Correlation Between Eosinophil Count and FEF25–75%

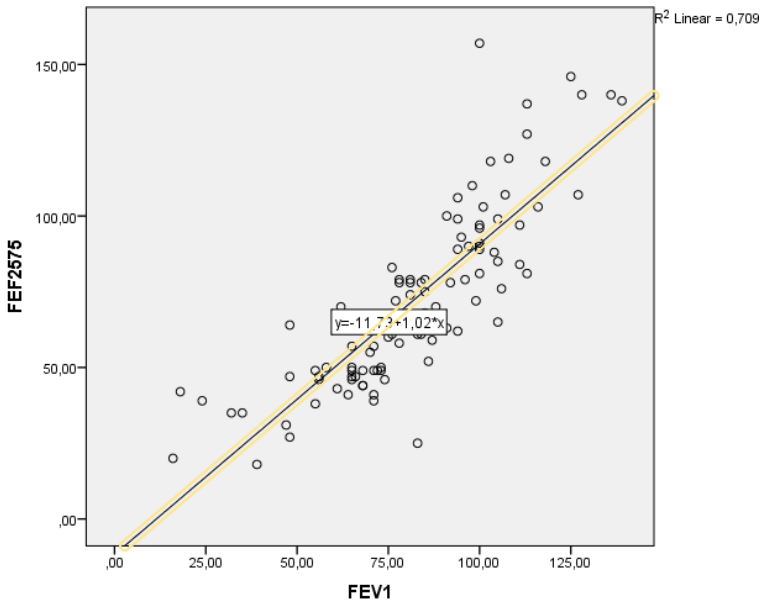

Figure 2: Correlation Between FEV1 and FEF25–75%

Conclusion:

Forced expiratory flow at 25-75% of vital capacity may serve as a marker of bronchial impairment in asthma. Considering this parameter in clinical practice may be essential for early detection of obstructive diseases in newly diagnosed patients and for monitoring disease progression and treatment response. Evaluating FEF%25-75 could help guide targeted therapeutic strategies.

Keywords: Asthma, Pulmonary Function Test, FEF%25-75.

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The Effect of Medical School Education on Medical Students' Knowledge Level and Awareness of Substance Addiction

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Oral Presentation – OP167

Objective: As addiction is increasing day by day, different problems are encountered. Healthcare professionals and medical students, who are directly responsible for determining the risk of addiction, prevention of addiction, treatment and care of addicts, are expected to have more knowledge and awareness than other individuals in the society. In our study, it is aimed to determine the level of knowledge and awareness about substance addiction in Erciyes University Faculty of Medicine 1st and 6th year medical students studying in 2023-2024.

Material and Method: The study was conducted with 399 first-year and 208 sixth-year medical students. A questionnaire form, Substance Abuse Awareness Scale and Substance Abuse Knowledge Test were administered by face-to-face interview technique. In our study, the relationships between the scores obtained from the Substance Abuse Awareness Scale, the scores obtained from the Substance Abuse Knowledge Test and independent variables such as sociodemographic characteristics were evaluated. The data obtained were evaluated with IBM SPSS Statistics Standard Concurrent User V 26 (IBM Corp., Armonk, New York, USA) statistical package programme. Descriptive statistics were given as number of units (n), percentage (%), mean ± standard deviation ($X \pm SS$) median (M), minimum (min), maximum (max) and inter-cartillary distance values. $p < 0.05$ was considered statistically significant.

Results: The mean age of the students in our study was 20.43 ± 2.61 years, 399 (65.7%) were in the 1st grade and 208 (34.3%) were in the 6th grade. 331 (54,5%) of the students were female and 269 (44,3%) were male. 190 (31.3%) had participated in an activity about substance abuse and 528 (87.0%) had taken a course on substance abuse during their medical education. The mean Substance Abuse Knowledge Test (SAKT) score of the participants was 23.06 (standard deviation: 6.61). The mean score obtained from the Substance Abuse Awareness Scale (SAAS) was 114.13 (standard deviation: 12.02). The consistency coefficient (Cronbach's alpha) for the whole scale was found to be 0.873. When the changes of the scale scores according to the descriptive characteristics were analysed, a statistically significant and positive correlation was found between age and SAKT ($p < 0.001$) "help and legal arrangements" ($p < 0.001$) and "factors causing addiction" ($p = 0.041$) subscales of the SAAS, and all scale scores of women were found to be significantly higher than men. Only the scores obtained from the "symptoms and effects of substance use" subscale of the SAAS did not differ significantly according to the grade levels.

Table 1. Distribution of scale scores according to class level

		1. class			6. class			
	$\bar{x}$	*ss*	*M*	$\bar{x}$	*ss*	*M*	*test value*	*p value*
SAKT–total*	22,07	7,20	25,0	24,97	4,77	26,0	-5,365	<0,001
SAAS–total*	112,70	13,02	115,0	116,88	9,25	118,0	-3,411	<0,001
Help and legal regulations*	37,52	5,05	38,0	39,54	4,22	40,0	-4,829	<0,001
Symptoms and effects of substance use **	34,25	4,73	35,0	34,58	3,68	35,0	1,983	0,414
Personal attitudes and views*	24,33	4,18	26,0	25,27	3,34	26,0	-2,625	0,009
Factors that cause addiction **	16,61	2,93	17,0	17,49	2,23	18,0	2,423	<0,001

*$\bar{x}$: Average, ss: Standard deviation, M: Medyan, SAKT: Substance Abuse Knowledge Test, SAAS: Substance Abuse Awareness Scale, * Mann Whitney-U test, ** Student's t-test*

There was no statistically significant correlation between the scale scores of the participants who had parents' education level, family status, smoking and alcohol use history, and a relative who used addictive substances. A statistical analysis could not be performed because the number of students with no history of substance use was considerably higher than the number

of students with a history of substance use. There was no significant difference in the level of awareness of students who had a history of encountering someone under the influence of substances, but their level of knowledge was high. There was no significant difference between the total and subscale scores of the SAAS of those who participated in an activity/education related to substance abuse. However, their SAKT scores were significantly higher. According to the status of taking a course on substance abuse during medical education, it was found that all scale scores of the SAAS were higher except for the subscales of "help and legal regulations" and "symptoms and effects of substance abuse". There was no statistical significance between the scale scores of those who knew ALO 191 Anti-Drug Counselling and Support Line and those who did not, but the proportion of participants who answered correctly was significantly higher among 6th grade students than 1st grade students. Strong correlations were found between both scale and subscale scores.

Table 2. Correlations between scale scores

Variables	*SAKT*	*SAAS-Total*	*Help and legal regulations*	*Symptoms and effects of substance use*	*Personal attitudes and views*	*Factors that cause addiction*
SAKT	–	0,350***	0,232***	0,263***	0,250***	0,239***
SAAS–total		–	0,766***	0,777***	0,540***	0,712***
Help and legal regulations			–	0,489***	0,283***	0,449***
Symptoms and effects of substance use				–	0,184***	0,576***
Personal attitudes and views					–	0,219***
Factors that cause addiction						–

*Spearman correlation analysis, ***p <0,001, SAKT: Substance Abuse Knowledge Test, SAAS: Substance Abuse Awareness Scale*

Conclusion: It was observed that approximately 1/3 of the students participated in an education-activity about substance abuse, and the majority of them took a course on substance abuse in Psychiatry and Public Health internships during their medical education. It was observed that the final year medical students had a higher level of knowledge and awareness

than the first year medical students, except for the symptoms and effects of substance abuse subscale, in other words, the medical education process had an effect on this awareness. Health professionals have more responsibility in ensuring the knowledge and awareness of the society about substance abuse. For this reason, it is important to provide adequate training to physician candidates in every period, especially to increase awareness in the field of symptoms and effects of substance abuse.

Keywords: Substance Addiction Awareness Level, Substance Addiction Knowledge Level, Medical School Students

Prevalence of Metabolic Syndrome in Women with Rheumatoid Arthritis and Effective Factors

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Oral Presentation – OP168

Abstract: Purpose: Metabolic syndrome (MS), which is framed by cardiovascular risk factors such as hypertension, obesity, glucose intolerance and dyslipidemia, is thought to be associated with the rheumatic diseases. The aim of this study is to examine the frequency of metabolic syndrome (MS) and insulin resistance in patients with rheumatoid arthritis (RA) and to examine the effect of the inflammation symptoms, disease activity and drugs used in treating RA on insulin resistance and presence MS. Method: One hundred women patients diagnosed with RA according to the American College of Rheumatology (ACR) diagnosis criteria and 100 healthy women were included in the study as controls. Insulin resistance were evaluated using the homeostasis model assessment for insulin resistance (HOMA-IR) method and MS was diagnosed according to two Metabolic Syndrome definitions (National Cholesterol Education Programme 2004, International Diabetes Federation). The disease activity of RA was evaluated by the disease activity score including 28 joints (DAS28).

Results: In total, 27% and 33% of the RA patients and 28% and 44% of the control group patients according to the diagnostic criteria used were also MS patients. There was no significant difference between the RA and control groups in MS frequency and insulin resistance according to two diagnostic criteria used. The DAS28, erythrocyte sedimentation

speed (ESS) and serum uric acid levels in the RA patients with MS were significantly higher than those of the RA patients without MS. The prevalence of MS in patients with RA using methotrexate (MTX) was significantly lower than without RA. Other drugs used in treatment of RA had no effect on the prevalence of MS in patients with RA. Conclusion: Controlling inflammation and disease activity can reduce the MS frequency of RA patients and MTX treatment also may be protective factor against MS.

Introduction

Metabolic syndrome (MS), which is also called insulin resistance syndrome, syndrome X, polymetabolic syndrome, mortal quartiles and civilisation syndrome, is a multi factorial endocrinopathy and it is framed by classical cardiovascular risk factors, including insulin resistance, hyperglycaemia, abdominal obesity, essential hypertension and dyslipidemia [1]. The frequency of MS continues to increase worldwide, and it has become the most important reason for the mortality and morbidity caused by cardiovascular diseases [2]. There are five different definitions for the diagnosis of MS, but the National Cholesterol Education Program (NCEPATPIII) and International Diabetes Federation (IDF) definitions is most often used two definitions [3]. Rheumatoid arthritis (RA) is a rheumatic diseases characterised by chronic inflammation of the synovial joints, progressive joint damage and deformities [4]. Its most apparent feature is the chronic inflammatory synovitis symmetrically covering the peripheral joints [5]. However, RA may also cause extra-articular involvements such as involvements of the cardiovascular system, haematological system, liver, respiratory system, eyes, muscles, kidneys and the neurological system [5]. RA assumed to be an independent risk factor for cardiovascular disease (CVD) and this increased risk of CVD in RA patients may be due to the presence of MS, because MS is also a syndrome generated by cardiovascular risk factors [3, 6, 7]. In the literature, previous studies suggest an association between the RA and MS. Most of this studies have claimed that MS frequency in patients with RA varies according to the different definitions and is significantly higher in patients with RA than in healthy controls. However, this relationship is still controversial [3, 8].

In this study we investigated the MS frequency and insulin resistance in RA patients and the relation between insulin resistance and presence MS with inflammation symptoms, disease activity and drugs used in treating RA.

Patients and Methods

Study design and subjects Consecutive one hundred women patients who have diagnosed as RA according to the 1987 American College of Rheumatology (ACR) [9] criteria for RA, after applying to the Policlinics of Department of Physical Medicine and Rehabilitation of Faculty of Medicine, were included in the study. A control group was formed consisting of 100 women of the same age, who had applied to the same policlinics, and who lacked any inflammatory rheumatic disease. Patients with liver and kidney diseases, thyroid functional disorders, chronic lung and cardiovascular system disorders, hernias that affected the waist contour, a history of chronic alcoholism and who were pregnant were excluded from the study. This study was approved by the Ethical Committee of the Medicine Faculty of University of Mediterranean, and all the patients were informed verbally and with a written form about the research. The approval of all patients was subsequently obtained.

Assessments

The age, height, weight, habits, accompanying diseases and medicines used by the patients within the study and control group were determined and recorded. The waist contours (in the standing position and at the end of expiration, middle of the line between the edge of last rib and the middle of the anterior superior iliac spine) were measured. The drugs used (systemic corticosteroids, DMARD, biological agents) and the disease activation according to The Disease Activity Score including 28 joints (DAS28) with RA patients were recorded. The presence of MS was evaluated using the National Cholesterol Education Program Adult Treatment Panel III (NCEP-ATPIII) [10] and the International Diabetes Federation 2005 diagnosis criteria (IDF) [11] and Insulin resistance (IR) was estimated by the homeostasis modelassessment for insulin resistance (HOMA-IR) in the RA and control groups.

Biochemical measurements

The fasting blood glucose (FBG), triglyceride (TG), high-density lipoprotein (HDL), uric acid, fibrinogen, C-reactive protein (CRP), high-sensitive CRP test (hs-CRP) and erythrocyte sedimentation rate levels of all the patients included in the study were determined at the Central Laboratory of Akdeniz University. For the analysis, 5 cc of venous blood was sampled from all the patients, and the blood samples were placed into tubes with gel separation and centrifuged at 4000 rpm for 5 minutes. The serum layer remained on the top of the tubes, which were stored until analysis day at -80°C for the analyses. The routine biochemical measurements were done by using original commercially kits in the Cobas 8000 auto analyser (Roche Diagnostics, Mannheim, Germany). The serum insulin levels were measured using by electrochemiluminescence immunoassay (ECLIA) method in Elecsys 2010 immunoassay analyser (Roche Diagnostics, Mannheim, Germany). The results were expressed as µU/mL. The serum high-sensitive CRP analysis was performed using the nephelometric method in a BN II Nephelometer (Siemens Healthcare Diagnostics Inc., USA). The results were expressed as mg/dL. The plasma fibrinogen levels were determined using a coagulometric method in BC-XP coagulation analyser (Siemens Healthcare Diagnostics Inc. USA). The insulin resistance are defined with HOMA IR using [fasting glucose (mg/dL) x fasting insulin (µU/mL)/405] [12].

Statistical analyses

The statistical analyses were performed using SPSS 16.0 (SPSS Inc., Chicago, USA). RA group and control group were compared in terms of demographic, clinical and laboratory parameters. The frequency of the patients with MS according to the IDF criteria and NCEPT criteria was calculated in RA group and control group. The patients with drug use and without in RA group were compared in terms of HOMAIR values and presence of MS according to the IDF criteria and NCEPT criteria. Nominal variables were compared by Chi-Square tests. Numeric values were compared using MannWhitney test or Student t test. The KolmogorovSmirnov test and Shapiro-Wilk test was used to test the normal distribution of the data. There was no significant differance between the RA patients and the control group patients for age, body mass index

(BMI), waist contour. Biological characteristics of subjects the inflammation symptoms (fibrinogen, C-reactive protein (CRP), High-sensitivity CRP(Hs CRP), Erythrocyte sedimentation speed (ESS) were determined to be significantly greater in the RA patients than in the control group.

There was no significant differance between the RA patients and the control group patients for fasting blood glucose (FBG), uric acid, high density lipoprotein (HDL), triglyceride (TG), serum insulin levels . The serum insulin levels and the insulin resistance as calculated by HOMA-IR of the RA patients were higher than for the control group values, however the difference was not significant (P=0.103, P=0.132). Fibrinogen, Hs CRP, CRP and ESS which are indicators of inflammation values were higher in the RA group than in the control group, as expected (P=0.000).

Prevalence of the metabolic syndrome according to definition used It was determined that MS was present at 27 (27%) and 33 (33%) of the group with RA and at 28 (28%) and 44 (44%) of control group according to NCEP-ATPIII and IDF 5 criteria (P =0.874, P=0.110). There was no significant differance between the RA group and the control group for the presence of MS, according to the both definitions.

Associations of the metabolic syndrome in women with RA. The patients with RA with MS and those without were compared among themselves. Disease activity as evaluated using DAS-28, ESS, HOMA-IR and serum uric acid levels were significantly higher than patients without MS. When the patients with and without MS in RA group were compared for the treatment agents used, it was determined that 11 patients using MTX and 35 patients not using the drug had MS. These differences were significant (P=0.046). A significant relation was not identified for the usage of other treatments. RA patients using and not using drugs were compared among themselves to examine the effect of the agents used in treating RA on MS incidence. There was no significant difference between drug users and nonusers for the presence of MS in terms of all therapeutic agents. When the patients with RA were compared according to drugs used in terms of the HOMAIR value, there was no significant difference between HOMA-IR values.

Discussion

In this study where we aim to examine the frequency of metabolic syndrome (MS) and the effect of the inflammation symptoms and used treatment medications on presence MS in patients with rheumatoid arthritis (RA), MS frequency and insulin resistance of patients with RA were similar to the control group. In the literature, there is different results on the prevalence of the MS in RA patients, which range between 18% and 44% [13, 14]. While some authors argue that the MS incidence in patients with RA is similar to the control group, the majority argue that it increases. Karvounaris et al [15] found that the MS frequency (40%) defined according to the NCEP ATP III criteria in RA patients was similar to that of the control group. In a study conducted in South Asia, Dodani at al [16] found that the frequency of metabolic syndrome was 13.3% according to WHO and 40% according to NCEP ATP III criteria. İn the study conducted by Dao et al [17], they found that prevalence of MS in women with RA varied from 16.2% to 40.9% according to the definitions used for the diagnosis of MS and was higher than in healthy controls. According to the result of meta-analysis carried out by Zhang J at al [8], the prevalence of MS in patients with RA is higher than subjects without RA and of the population. The authors claimed that this result is due to the different geographic regions and different criteria used for MS diagnosis.

In our study, the frequency of MS in RA 27% and 33% were found according to the definitions criteria used, In accordance with the literature. However, Incontrast to the literature, we found similar to the frequency of MS in RA group with the control group. Likewise, we found that the HOMA-IR values and the insulin levels of RA patients compared with the control group were higher but that the difference was not significant. We believe that this different results may be caused from the deficiency of accepted criteria for the definition of metabolic syndrome, geographical differences, eating habits and genetic structures of societies and we are of the opinion that more studies cases covering more cases should be performed to obtain a better understanding of the subject. In the last decade, most of the studies have investigated the relationship between MS with chronic inflammation and it has been proven that chronic

inflammation plays a role in insulin resistance and is connected with MS pathogenesis [18, 19]. In some studies, there is a relation between insulin levels and CRP and that the CRP is alone a predictive value in the occurrence of the insulin resistance as much as the other factors in MS have been reported [20-22]. Laaksonen et al [23] reported, in a study examining the relation between MS and CRP levels, that when CRP levels were above 3 mg/l, there was a risk of MS. In contrast, we did not find an association between CRP levels with MS. Rostom et al [24] also reported in their study that there was a positive relation between MS and ESS. We also determined that the ESS in RA group was higher than control group. This high ESR and CRP levels may be because MS an inflammatory disease. In the literature, it has been reported that that there is a positive relation between serum uric acid (UA) levels with insulin resistance and with MS due to insulin resistance and this relation is stronger in women than men [25-27]. In a study, the autors have suggested that serum UA levels may be a biomarker for the glucose metabolism because the serum uric acid levels increase as correlated with the increase of insulin levels [28]. In our study, we also determined that the uric acid levels in RA patients with MS were significantly higher than in patients without MS. Therefore, our evidence supports the view that there is a relation between serum uric acid levels and inflammatory circulation indicators. Few articles in the literature have reported that the DAS-28 value of RA patients with MS was significantly higher than that of patients without MS [17, 29]. In our study, also, DAS-28 values of the RA patients with MS were significantly higher with without MS. The high disease activity may be increase MS incidence in patients with RA. The discussions related to the effects of the drugs used by RA patients on the development of MS development maintain their validity. Some authors claim that there is a negative relation between MTX usage and MS and MTX usage could produce a decrease in the MS frequency in RA patients [30, 17]. We compared the treatment agents taken by RA patients according to the presence of MS. We determined that the frequency of MS was only significantly lower for the patients treated with MTX. In addition to the utilization rate of MTX in RA patients with ms found lower than without MS. Our results also support the view that MTX has an anti-MS protective effect, though the effect mechanism remains to be elucidated. However, there are also studies that do

not support the relation between MTX and a reduction in MS frequency [31]. The prospective studies with more number patients are neededin this regard. In the literature, It has been reported also that there is a relationship between the prevalence of MS with tumour necrosis factor-alpha (TNFα) and glucocorticoids use in RA [32-34]. In our study, no relation was found between the MS frequency or insulin resistance and the use of anti-TNF agents and corticosteroid. We believe that the differences between studies might result from patient selection and differences in the exclusion criteria, in addition to the doses and combinations of the drugs used. The results of this study indicate that the MS frequency could potentially be decreased in RA patients through the MTX treatment and the control of the inflammation and illness activity.

Keywords: Metabolic Syndrome, Rheumatoid Arthritis, Insulin Resistance, HOMA-IR, Metotreksate

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Knowledge, Attitude and Behavior of Patients Applying to a Family Medicine Outpatient Clinic of a University Hospital on Rational Use of Antibiotics

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ABSTRACT

Aim: The aim of this study was to determine the knowledge, attitudes and behaviors of patients who applied to the family medicine outpatient clinic of a university hospital about rational antibiotic use.

Materials and Methods: The population of this cross-sectional and analytical study consisted of patients aged 18 years and over who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic between August 2024 and October 2024. A total of 225 patients, 145 females and 80 males, were included in the study. After collecting the sociodemographic data of the participants, questionnaire questions and the Rational Antibiotic Knowledge and Attitude Scale were applied to the participants using face-to-face interview technique. Statistical analysis of the data was performed using SPSS (Statistical Packageforthe Social Sciences) 22.0 package program

Results: The mean age of the participants was 30.69 ± 13,59 years and the age distribution was between 18 and 79 years. Approximately 50% of the participants were in the 18-24 age group. 145 (64.4%) of the participants were female and 80 (35.6%) were male. While 145 (62.2%) of the participants were married, 88 (37.8%) were single. 179 (79.6%) of the participants were university/high school graduates, 29 (12.9%) were high school graduates, 7 (3.1%) were middle

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school graduates, 9 (4%) were primary school graduates and 1 (0.4%) was illiterate. Approximately 3/4 of the participants had an infection within the last year and approximately 2/3 of the participants used antibiotics. There was a statistically significant correlation ($p<0.05$) between having spare antibiotics and using antibiotics without a prescription, requesting a doctor to prescribe antibiotics and requesting to buy antibiotics from a pharmacy without a prescription in the last year. When we asked the participants about the source of their information about antibiotic use, 92.9% of the participants answered “doctor”. Among those whose source of information was a physician, 78.9% knew the purpose of antibiotic use correctly. The mean AAC attitude score (69.25) was higher than the mean AAC knowledge score (48.84). There was a moderate positive correlation between the AAC knowledge and attitude scale. It was found that as the knowledge level of the participants increased, their attitude scores also increased. As the age of the participants decreased, their AAC knowledge and attitude scores increased. A positive correlation was found between education level and AAC knowledge score.

Conclusion: It is recommended that the reasons affecting the concept of rational antibiotic use, which plays an important role in health promotion, should be determined through studies to be conducted on larger masses. Thus, more accurate clues will be obtained for effective and curative solutions to be made in order to raise public awareness. In order to create awareness of rational antibiotic use, education of individuals should be given importance and education programs should be prepared accordingly. In addition to community education, in-service training programs should be organized to increase the awareness and knowledge level of healthcare professionals about rational antibiotic use. It should be emphasized that physicians should inform the public more.

Keywords: Family Medicine, Principles Of Antibiotic Use, Rational Antibiotic Use

Introduction and Objective: Antibiotics are important chemotherapeutic agents that have long been used in the treatment of infectious diseases. Especially the discovery of penicillin raised hopes that infectious diseases would decrease. Subsequently, the discovery and clinical use of new and different antibiotics further strengthened this view. However, as a result of irregular and incorrect use of antibiotics, it has been observed that microorganisms have developed resistance to these drugs and drug side effects have increased. In order to prevent these adverse effects, it was realized that antibiotics should be used within the framework of certain principles and rules and "rational antibiotic use" (RUM) studies were initiated (1).

The World Health Organization (WHO) defined rational antibiotic use as "the use of antibiotics with the highest clinical treatment efficacy and the lowest risk of drug-induced side effects and antimicrobial resistance (AMD) formation for a sufficient period of time at the lowest cost" at the meeting held in Nairobi in 1985 (2).

The process of rational drug use involves careful identification of the patient's health problems, determination of treatment goals and selection of the most appropriate one among proven and reliable treatment options to achieve these goals. Following these steps, prescribing appropriate drugs, informing the patient and initiating the process with treatment recommendations, and regular monitoring and evaluation of treatment results are carried out with a systematic approach (3).

Sore throat is one of the most common reasons for admission to primary healthcare institutions. Various scoring systems have been developed to help in the evaluation of sore throat and in making treatment decisions. These systems, which are especially aimed at differentiating bacterial infections from viral infections, contribute to reducing unnecessary antibiotic use. Some of these scoring systems are the Centor score and the Mıstık score. The vast majority of infectious sore throats are caused by viruses. There is no specific treatment for viral sore throats beyond symptom relief. Therefore, rational use of medication is of great importance. Accurate evaluation of these patients and prevention of unnecessary drug use are very important in terms of effective use of health resources(4).

In rational drug use, not only the correct choice of antibiotic but also the appropriateness of the dose, dose interval and duration of treatment are critical for the success of the treatment (5). Due to the undesirable effects, additional financial burdens, resistance problems and super infections that may occur as a result of the use of antibiotics, it has become inevitable to establish policies and carry out various efforts at regional, national and global levels for the rational use of antibiotics (6).

The aim of this study was to measure the knowledge levels of patients who applied to a university hospital family medicine outpatient clinic about rational antibiotic use, to determine their attitudes and behaviors and to determine their relationship with sociodemographic characteristics, to contribute to preventive medicine by raising awareness about rational antibiotic use and to contribute to the prevention of problems and economic losses due to irrational antibiotic use.

Materials and Methods: This cross-sectional study was conducted on 225 patients aged 18 years and older who applied to Erciyes University Medical Faculty Hospital Family Medicine Outpatient Clinic. In the study, we aimed to measure the level of knowledge of the patients about the purpose of antibiotic use, side effects of antibiotics and to examine their attitudes and behaviors regarding antibiotic use. The sample size was calculated as a minimum of 210 people in power analysis with a 5% margin of error at 95% confidence interval. Statistical analysis was performed using SPSS (Statistical Package for the Social Sciences) 22.0 package program. Categorical variables were expressed as numbers and percentages. Kolmogorov Smirnov test, Shapiro-Wilk test, çarpıklık□basıklık values were used to evaluate the normal distribution. For the parameters showing normal distribution, t-test was used in paired group analyses and one-way ANOVA test was used in multiple group analyses. For non-normally distributed parameters, Mann Whitney U-test was used in pairwise group analyses and Kruskal-Wallis test was used in multiple group analyses. Chi-Square test was used to determine the relationship between categorical variables. Correlations between variables were evaluated by Spearman

correlation analysis. The results of the analysis are presented in tables and graphs. Statistical significance level was accepted as $p < 0.05$ in all tests.

Results: The study included 225 patients who applied to Erciyes University Faculty of Medicine Hospital Family Medicine outpatient clinic. The mean age of the participants was 30.69 years and the age distribution was between 18 and 79 years. Approximately 50% of the participants were in the 18-24 age group. Approximately two thirds of the participants were female and one third were male. One third of the participants were married and two thirds were single. 179 (79.6%) of the participants were university/high school graduates, 29 (12.9%) were high school graduates, 7 (3.1%) were middle school graduates, 9 (4%) were primary school graduates and 1 (0.4%) was illiterate. Forty (17.8%) of the participants had a chronic disease, while 185 (82.2%) did not have a chronic disease. The distribution of the descriptive characteristics of the participants is presented in Table 1

Table 1. Distribution of the descriptive characteristics of the participants

Variables		**n**	**%**
Age Group	18-24	114	50,7
	25-35	48	21,3
	36-45	31	13,8
	46-55	16	7,1
	56 and above	16	7,1
Gender	Woman	145	64,4
	Male	80	35,6
Marital Status	Single	151	67,1
	Married	74	32,9
Education status	University	179	79,6
	High School	29	12,9
	Middle School	7	3,1
	Primary School	9	4,0
	Illiterate	1	0,4
Income Status	1- 20000	133	59,1
	20000- 40000	26	11,6
	40000 and above	66	29,3
Profession	Officer	60	26,7
	Retired	12	5,3
	Worker	11	4,9
	Housewife	14	6,2
	Student	114	50,7
	Other	14	6,2

Place of residence	District/village	23	10,2
	City	202	89,8
Chronic disease	Yes	40	17,8
	No	185	82,2

n: Number of units, %: Percentage value

Approximately 3/4 of the participants had an infection within the last year and approximately 2/3 of the participants used antibiotics (Table 2).

Table 2. Participants' infections and antibiotic use in the last 1 year

		n	%
Have you had any illness or infection in the last 1 year?	Yes	171	76
	No	54	24
Have you used antibiotics for any illness in the last 1 year	Yes	143	63,6
	No	82	36,4

n: Number of units, %: Percentage value

Table 3. The relationship between the participants' infection status and antibiotic use in the last 1 year

		Have you used antibiotics for any illness you have had in the last 1 year?		Total	p
		Yes	No		
Have you had any illness or infection in the last 1 year?	Yes	142	29	171	0,000**
		83,0%	17,0%	100,0%	
		99,3%	35,4%	76,0%	
	No	1	53	54	
		1,9%	98,1%	100,0%	
		0,7%	64,6%	24,0%	
Total		143	82	225	
		63,6%	36,4%	100,0%	

*Chi-Square Test (116,793), **p<0,000

According to Table 3, there was a statistically significant correlation between having an illness or infection in the last year and antibiotic use in the last year ($p<0.05$). Accordingly, it can be said that 83% of those who had an illness or infection in the last year used antibiotics.

The multiple answers given by the participants to the question “What is the infection you have had in the last 1 year?” were as follows: 60.7% URTI, 39.3% common cold, 15.9% urinary tract infection, 10.3% dental and gingivitis, 5.5% lung infection, 3.4% ear infection, 1.4% skin infection and 4.1% other. As a percentage of the total number of responses (204 markings),

43.1% were URTIs, 27.9% were colds, and 11.3% were urinary tract infections (100% in total) (Table 4).

Table 4. Type of infection the participants had in the last 1 year

Type of infection in the last 1 year	Answers		Percentage of cases
	n	%	
Upper respiratory tract infection	88	43,1	60,7
The common cold	57	27,9	39,3
Lung infection	8	3,9	5,5
Inflammation of teeth and gums	15	7,4	10,3
Ear infection	5	2,5	3,4
Skin infection	2	1,0	1,4
Urinary tract infection	23	11,3	15,9
Other	6	2,9	4,1
Total	204	100	140,7

Sociodemographic data were compared with the use of any antibiotic without a doctor's prescription in the last 1 year. A statistically significant relationship was found between age, marital status, income status, and occupation ($p<0.05$). According to these results, 66.7% of those who said yes were between the ages of 25-35; 69.1% of those who said no were single; 61.4% of those who said no had an income of 20000 TL or less (Table 5).

Table 5. The relationship between participants' use of over-the-counter antibiotics and sociodemographic data

		Have you used any antibiotics without a doctor's prescription in the last 1 year?		p değeri
		Yes	No	
		N (%)	N (%)	
Age Group	18-24	3(16,7)	111(53,6)	0,000**
	25-35	12(66,7)	36(17,4)	
	36-45	1(5,6)	30(14,5)	
	46-55	1(5,6)	15(7,2)	
	56 and above	1(5,6)	15(7,2)	
	Total	18(8)	207(92)	
Gender	Woman	14(77,8)	131(63,3)	0,218
	Male	4(22,2)	76(36,7)	

Marital Status	Single	8(44,4)	143(69,1)	0,033**
	Married	10(5,6)	64(30,9)	
Education status	University	15(83,3)	164(79,2)	0,839
	High School	1(5,6)	28(13,5)	
	Middle School	1(5,6)	6(2,9)	
	Primary School	1(5,6)	8(3,9)	
	Illiterate	0	1(0,5)	
Income Status	1- 20000	6(33,3)	127(61,4)	0,034**
	20000- 40000	2(11,1)	24(11,6)	
	40000 and above	10(55,6)	56(27,1)	
Profession	Officer	9(50,0)	51(24,6)	0,021**
	Retired	0	12(5,8)	
	Worker	0	11(5,3)	
	Housewife	2(11,1)	12(5,8)	
	Student	4(22,2)	110(53,1)	
	Other	3(16,7)	11(5,3)	

*Chi-Square Test, **p<0,05

Sociodemographic data were compared with the participants' request to receive antibiotics from the pharmacy without a prescription. While no significant relationship was found between age, gender, marital status, educational status, occupation and chronic disease status (p>0.05), a statistically significant relationship was found between income status (p<0.05). It was found that 61.3% of those who said no had an income between 1-20000 TL (Table 6).

Table 6. The relationship between sociodemographic data and the participants' request to receive antibiotics without a prescription from a pharmacy

		Have you ever asked for over-the-counter antibiotics from a pharmacy when you were ill?		p
		Yes	No	
		N (%)	N (%)	
Age Group	18-24	2(15,4)	112(52,8)	0,093
	25-35	5(38,5)	43(20,3)	
	36-45	2(15,4)	29(13,7)	
	46-55	2(15,4)	14(6,6)	
	56 and above	2(15,4)	14(6,6)	
	Total	13(5,8)	212(94,2)	
Gender	Woman	8(61,5)	137(64,6)	0,776
	Male	5(38,5)	75(35,4)	
Marital Status	Single	9(69,2)	142(67,0)	0,867

	Married	4(30,8)	70(33,0)	
Education status	University	10(76,9)	169(79,7)	0,779
	High School	1(7,7)	28(13,2)	
	Middle School	1(7,7)	6(2,8)	
	Primary School	1(7,7)	8(3,8)	
	Illiterate	0	1(0,5)	
Income Status	1- 20000	3(23,1)	130(61,3)	0,018**
	20000- 40000	2(15,4)	24(11,3)	
	40000 and above	8(61,5)	58(27,4)	
Profession	Officer	6(46,2)	54(25,5)	0,061
	Retired	2(15,4)	10(4,7)	
	Worker	0	11(5,2)	
	Housewife	2(15,4)	12(5,7)	
	Student	2(15,4)	112(52,8)	
	Other	1(7,7)	13(6,1)	

*Chi-Square Test, **p<0,05

When the participants were asked whether they had spare antibiotics at home, 38.2% stated that they had spare antibiotics. When asked about the source of the spare antibiotic, 60.2% stated that it was an unused antibiotic prescribed by the doctor (Table 7).

Table 7. Participants' availability of spare antibiotics and source of spare antibiotics

Do you keep spare antibiotics at home?	n		%
Yes	86		38,2
No.	139		61,8
Source of replacement antibiotic	Answers		Percentage of cases
	n	%	
Previously unused antibiotics prescribed by the doctor	62	60,2	71,3
Remnants of previously used antibiotics	36	35,0	41,4
Antibiotics from relatives and/or neighbors	2	1,9	2,3
Medicine sample	3	2,9	3,4
Total	103	100	118,4

The answers given to some of the questions asked to evaluate the participants' level of knowledge about antibiotic use are as follows. To the question “What is the purpose of antibiotic use?” 93.3% answered “to kill the microbe and dry the inflammation”, to the question

"How long is the duration of antibiotic use?" 70.2% answered "as long as the doctor's recommendation", to the question "What are the side effects of antibiotics that you know?" 80.4% answered "it can damage the kidneys" and 74.1% answered "it can damage the liver". To the question "Which is appropriate when you have a fever?" 61.3% answered "I go to the doctor". To the question "Is antibiotics given by injection more effective than oral antibiotics?" 55.6% answered "Yes". To the question "Do you know that microorganisms develop resistance to antibiotics in cases that do not require antibiotics and when antibiotics are used too frequently?" 88.4% answered "Yes" (Table 8).

Table 8. Distribution of participants' answers to the questions about antibiotic use

		n	**%**
Purpose of antibiotic use	Reducing fever	27	12,0
	Killing the germ and drying up the inflammation	210	93,3
	Preventing disease	17	7,6
	Pain relief	12	5,3
	I don't know	3	1,3
Duration of antibiotic use	Doctor's recommendation up to	158	70,2
	Until the box runs out	59	26,2
	Until the complaints go away	8	3,6
	Until the fever subsides	0	0,0
	Other	0	0,0
Side effect of antibiotics	May damage the kidneys	180	80,4
	May damage the liver	166	74,1
	May cause diarrhea	125	55,8
	May cause allergic rash	141	62,9
	May touch the stomach	149	66,5
	Other	1	0,4
Which is appropriate when you have a fever?	I use antibiotics myself	1	0,4
	I go to the doctor	138	61,3
	I apply cold	84	37,3
	I go to the pharmacy	2	0,9
Are antibiotics given by injection (intramuscularly or intravenously) more effective than oral antibiotics?	Yes	125	55,6
	No.	38	16,9
	I am not sure	62	27,6
Do you know that using antibiotics too often and in situations that do not require antibiotics causes	Yes	199	88,4

microorganisms to develop resistance to antibiotics?	No	26	11,6

When we looked at the relationship between the answers given by the participants to the questions measuring their level of knowledge about antibiotics and sociodemographic data, we found that the 18-24 age group had a higher rate of correct knowledge compared to other groups. Women had a higher rate of correct knowledge compared to men. Those who were single had a higher rate of correct answers than those who were married. It was observed that the rate of correct answers increased as the level of education increased. Those with an income of 1-20000 had a higher percentage of correct answers than the others, and those whose occupation was student had a higher percentage of correct answers than the other groups (Table 9).

Table 9. The relationship between the participants' answers to the questions measuring their level of knowledge about antibiotics and sociodemographic data

		Those who know the correct purpose of antibiotic use	**Those who say that the duration of antibiotic use is up to the doctor's recommendation**	**Those who say that antibiotics given by injection are not more effective than oral antibiotics**
		N (%)	**N (%)**	**N (%)**
Age Group	18-24	109(52,9)	83(52,5)	21(55,3)
	25-35	42(20,4)	34(21,5)	10(26,3)
	36-45	29(14,1)	20(12,7)	3(7,9)
	46-55	13(6,3)	9(5,7)	1(2,6)
	56 and above	13(6,3)	12(7,6)	3(7,9)
Gender	Woman	135(65,5)	98(62,0)	23(60,5)
	Male	71(34,5)	60(38,0)	15(39,5)
Marital Status	Single	141(68,4)	116(73,4)	28(73,7)
	Married	65(31,6)	42(26,6)	10(26,3)
Education status	University	170(82,5)	122(77,2)	32(84,2)
	High School	23(11,2)	25(15,8)	5(13,2)
	Middle School	6(2,9)	5(3,2)	0(0,0)
	Primary School	6(2,9)	6(3,8)	1(2,6)
	I am not literate	1(0,5)	0(0,0)	0(0,0)
Income Status	1- 20000	124(60,2)	97(61,4)	23(60,5)
	20000- 40000	22(10,7)	17(10,8)	3(7,9)
	40000 and above	60(29,1)	44(27,8)	12(31,6)
Profession	Officer	54(26,2)	42(26,6)	13(34,2)

	Retired	9(4,4)	8(5,1)	1(2,6)
	Worker	10(4,9)	8(5,1)	0(0,0)
	Housewife	12(5,8)	8(5,1)	1(2,6)
	Student	109(52,9)	83(52,5)	21(55,3)
	Other	12(5,8)	9(5,7)	2(5,3)

Sociodemographic data were compared with the participants' knowledge that the use of antibiotics too frequently and in situations that do not require antibiotic use causes microorganisms to develop resistance to antibiotics. A statistically significant relationship was found between age group, educational status and occupation ($p<0.05$). According to these results, 54.8% of those who said yes were between the ages of 18-24, 84.4% had university education and 54.8% were students (Table 10).

Table 10. The relationship between sociodemographic data and the knowledge that using antibiotics too frequently and in situations that do not require antibiotic use causes microorganisms to develop resistance to antibiotics

		Do you know that using antibiotics too often and in situations that do not require antibiotics causes microorganisms to develop resistance to antibiotics?		p değeri
		Yes	No	
		N (%)	N (%)	
Age Group	18-24	109(54,8)	5(19,2)	0,003**
	25-35	40(20,1)	8(30,8)	
	36-45	27(13,6)	4(15,4)	
	46-55	12(6,0)	4(15,4)	
	56 and above	11(5,5)	5(19,2)	
Gender	Woman	132(66,3)	13(50,0)	0,156
	Male	67(33,7)	13(50,0)	
Marital Status	Single	137(68,8)	14(53,8)	0,191
	Married	62(31,2)	12(46,2)	
Education status	University	168(84,4)	11(42,3)	0,000**
	High School	21(10,6)	8(30,8)	
	Middle School	4(2,0)	3(11,5)	
	Primary School	6(3,0)	3(11,5)	
	I am not literate	0(0,0)	1(3,8)	
Income Status	1- 20000	121(60,8)	12(46,2)	0,120
	20000- 40000	20(10,1)	6(23,1)	
	40000 and above	58(29,1)	8(30,8)	
Profession	Officer	52(26,1)	8(30,8)	0,003**
	Retired	9(4,5)	3(11,5)	

	Worker	9(4,5)	2(7,7)	
	Housewife	9(4,5)	5(19,2)	
	Student	109(54,8)	5(19,2)	
	Other	11(5,5)	3(11,5)	

*Chi-Square Test, **p<0,05

When participants were asked about the source of their information on antibiotic use, 92.9% responded “doctor” (Table 11).

Table 11. Source of information about antibiotic use provided to participants

Source of Knowledge	**n**	**%**
Doctor	209	92,9
Pharmacist	28	12,4
TV/Internet	37	16,4
Family members/Neighbor	10	4,4

Table 12. Distribution of the responses of those whose source of information is a doctor to the questions measuring the level of knowledge

		Information source doctor		p değeri
		Yes	No	
		N (%)	N (%)	
Purpose of antibiotic use	Reducing fever	24(9,9)	3(13,1)	0,313
	Killing the germ and drying up the inflammation	191(78,9)	15(65,2)	
	Preventing disease	14(5,8)	3(13,0)	
	Pain relief	10(4,1)	2(8,7)	
	I don't know	3(1,3)	0(0,0)	
Duration of antibiotic use	Doctor's recommendation up to	148(70,8)	10(62,5)	0,451
	Until the box runs out	53(25,4)	6(37,5)	
	Until the complaints go away	8(3,8)	0(0,0)	
	Until the fever subsides	0(0,0)	0(0,0)	
	Other	0(0,0)	0(0,0)	
Are antibiotics given by injection (intramuscular or intravenous) more effective than oral antibiotics?	Yes	117(56,0)	8(50,0)	0,046**
	No.	38(18,2)	0(0,0)	
	I am not sure	54(25,8)	8(50,0)	
Attitude in case of fever	I use antibiotics myself	1(0,5)	0(0,0)	

	I go to the doctor	124(59,3)	14(87,5)	0,007**
	I apply cold	83(39,7)	1(6,3)	
	I go to the pharmacy	1(0,5)	1(6,3)	
	Other	0(0,0)	0(0,0)	
Do you know that using antibiotics too often and in situations that do not require antibiotics causes microorganisms to develop resistance to antibiotics?	Yes	191(91,4)	8(50,0)	0,000**
	No	18(8,6)	8(50,0)	

*Chi-Square Test, **p<0,000

In Table 12, the answers of those whose source of information about antibiotic use was a doctor to some questions measuring their level of knowledge about antibiotic use were compared. Accordingly, the relationship between those whose source of information was a doctor and those who said that they would go to a doctor in case of fever was statistically significant (p<0.05). At the same time, a significant relationship was also found between knowing that using antibiotics too often and unnecessarily would cause microorganisms to develop resistance (p<0.05).

The mean AAC knowledge score was 48.84 and the mean AAC attitude score was 69.25. Cronbach's Alpha value, which shows the internal consistency between the items of the scale, was 0.834 in the AAC knowledge scale and 0.869 in the AAC attitude scale and is at a reliable level. The analysis values of the Rational Antibiotic Use Knowledge and Attitude Scale scores are shown in Table 13.

Table 13. Statistics for the scores of the Knowledge and Attitude Scale on Rational Antibiotic Use

	$\bar{x}$	ss	Minimum	Maksimum	Cronbach's Alpha(α)
Knowledge scale for rational antibiotic use	48,84	8,02	22,00	60,00	0,834
Attitude scale towards rational antibiotic use	69,25	9,32	26,00	80,00	0,869
	$\bar{x}$: Average, ss: Standard deviation				

There is a statistically significant ($p<0.05$) and positive moderate ($r=0.594$) relationship between knowledge and attitude scale.

When the relationship between the rational antibiotic knowledge and attitude scale scores of the participants and their sociodemographic data was analyzed, statistically significant differences were found between age and rational antibiotic knowledge and attitude scores; between marital status and rational antibiotic knowledge score; between educational status and rational antibiotic knowledge score; between occupation and rational antibiotic knowledge score ($p<0.05$) (Table 14).

Table 14. The relationship between Rational Antibiotic Knowledge and Attitude Scale and Sociodemographic Data

		Knowledge scale for rational antibiotic use		**Attitude scale towards rational antibiotic use**	
		Ort	SS	Ort	SS
Age Group	18-24	50,82	6,17	70,64	7,79
	25-35	48,31	9,30	66,65	9,97
	36-45	46,55	8,10	71,00	10,66
	46-55	42,63	10,51	64,88	14,02
	56 and above	42,81	6,38	68,19	6,34
p value		0,000**		0,034**	
Gender	Woman	48,98	7,66	69,72	8,64
	Male	47,75	8,63	68,40	10,44
p value		0,319		0,690	
Marital Status	Single	49,68	7,55	69,24	9,26
	Married	46,23	8,49	69,28	9,49
p value		0,003**		0,690	
Education status	University	49,84	7,11	70,11	8,43
	High School	45,59	8,74	67,28	10,17
	Middle School	42,43	7,59	64,29	13,90
	Primary School	38,44	11,14	64,00	15,45
	I am not literate	35,00		56,00	
p value		0,000**		0,139	
Income Status	1- 20000	48,54	8,08	68,84	9,97
	20000- 40000	46,12	7,79	67,96	10,34
	40000 and above	49,50	7,89	70,59	7,31
p value		0,133		0,630	
Profession	Officer	49,12	8,64	70,55	7,76
	Retired	40,08	8,06	64,42	12,22
	Worker	42,45	8,08	68,64	6,52
	Housewife	42,50	9,98	64,07	16,12
	Student	50,75	6,07	70,41	8,02

	Other	46,14	7,52	64,07	12,10
p value		0,000**		0,140	

*Mann Whitney U testi, Kruskal Wallis test, **p<0,05

Discussion: When the participants were asked whether they had any infectious disease in the last year and whether they used antibiotics for this reason, 143 (83%) of 171 (76%) who had an infectious disease in the last year stated that they used antibiotics due to the disease. When the infections that the participants had were analyzed, it was determined that 43.1% (n=88) had upper respiratory tract infections (URTI) and 27.9% (n=57) had the common cold. Of the 88 participants who had URTI, 58 (40.6%) stated that they used antibiotics and 30 (37%) stated that they did not use antibiotics. In our study, we accepted the URTI diagnoses of the participants as viral URTI and performed our analysis accordingly. In studies conducted in our country, it has been found that the most common cause of widespread antibiotic use in primary healthcare services is respiratory tract infections (7). In a study conducted by McNulty et al. in England in 2014, those who had an infection in the last 1 year constituted 65% of the participants and 52% of them had used antibiotics due to their infection. Of those who used antibiotics, 54% had flu symptoms and 42% had cold symptoms (8). In our study, the rate of antibiotic use was slightly higher. This may be due to the fact that the participants had diagnoses requiring antibiotic use. In our study, antibiotic use due to upper respiratory tract infection diagnosis was found to be consistent with similar studies in the literature.

Despite legal restrictions, the use of antibiotics without a prescription constitutes a serious public health problem both in our country and in many other countries. In our study, when we asked the participants about their use of antibiotics without a prescription in the past 12 months to evaluate their attitudes, 8% (n=18) stated that they had used antibiotics without a prescription. When compared with sociodemographic data, it was found that individuals in the 25-35 age group used antibiotics more than other groups, those with an income of 40000 and above used antibiotics more than other groups, and 61.4% of non-users had an income between 1-20000 TL. It is observed that antibiotic use increases as the educational status increases. It was found

that 27.3% of the participants in Şantaş et al. study and 23.7% of the participants in Uğrak et al. study used antibiotics without prescription. The reason why the rate in our study was lower compared to other studies may be due to restrictions on the purchase of antibiotics from pharmacies without a prescription (9, 10).

In our study, 5.8% (n=13) of the participants stated that they demanded over-the-counter antibiotics from pharmacies. A statistically significant correlation was found between income status and the demand for over-the-counter antibiotics from pharmacies ($p<0.05$). In a study conducted by Uçar et al. in 2022, 71% of the pharmacists and journeymen who participated in the study reported that more than 20 people applied to their workplaces every week to buy antibiotics without prescription (11). Although a decrease in the use of over-the-counter antibiotics has been observed in recent years thanks to the restrictions and awareness-raising policies regarding the purchase of over-the-counter antibiotics in our country, it is observed that the tendency of patients to demand over-the-counter antibiotics from pharmacies continues.

In our study, when participants were asked about having spare antibiotics at home, 38.2% (n=86) stated that they had spare antibiotics. When asked about the source of the spare antibiotic, 60.2% (n=62) stated antibiotics that were previously prescribed but not used, and 35% (n=36) stated leftover antibiotics that were previously used.

In our study, we asked some questions to measure the knowledge level of the participants about antibiotic use. One of these questions was “What is the purpose of antibiotic use?”. 93.3% (n=210) of the participants gave the correct answer “to kill the microbe and dry the inflammation”. The second most common answer was “to reduce fever” with 12% (n=27). In a 2006 study conducted by Larson et al. in New York, it was found that there was a significant lack of knowledge about the intended use of antibiotics. It was found that they thought that antibiotics should be used to relieve pain and to improve other findings of infection (12). Again, in a study conducted by Chan et al. in Malaysia in 2006, it was found that antibiotics were used to reduce fever (76%) and to stop cough (69%) (13). In our study, the rate of correct knowledge

of the purpose of antibiotic use was found to be very high compared to similar studies. This is thought to be due to the high level of education of the participants in our study.

In our study, we asked the question “What are the side effects of antibiotics that you know?” in order to measure the participants' knowledge about the side effects of antibiotics. It was found that 80.4% of the participants answered “may damage the kidneys”, 74.1% “may damage the liver”, 66.5% “may touch the stomach”, 62.9% “may cause allergic rash” and 55.8% “may cause diarrhea”. In the study by Kurugöl et al. it was found that the possibility of developing resistance to antibiotics and the possibility of developing allergic reactions made the participants uneasy (14).

Another question we asked to evaluate the attitudes of the participants in our study was “Which is appropriate when you have a fever?”. 61.3% (n=138) of the participants answered “I would go to the doctor” and 37.3% (n=84) answered “I would apply cold”.

In our study, when we asked the participants whether antibiotics administered by injection were more effective than those taken orally, 55.6% (n=125) stated that they were more effective, 16.9% (n=38) stated that they were not more effective and 27.6% (n=62) were not sure. In the study by Türkoğlu et al. 69% of the participants stated that antibiotics administered by injection were more effective than oral antibiotics (15). The findings in our study support the literature.

In our study, when we asked the participants whether they knew that microorganisms develop resistance to antibiotics in cases that do not require antibiotics and in very frequent antibiotic use, 88.4% (n=199) of the participants stated that they knew that they develop resistance. It was determined that 54.8% of the participants who were aware of the development of resistance were in the 18-24 age group, 84.4% had a university education level and 54.8% were students. These findings were statistically significant ($p<0.05$). In a 2003 study conducted by Collett et al. in the USA, it was found that 60% of the participants had no information about antibiotic resistance (16). It is thought that the reason for the high rate of knowledge of resistance development in our study is due to the high level of education of the participants.

In our study, when we asked the participants about the source of their information on antibiotic use, 92.9% of the participants answered “doctor”. TV/Internet ranked second with 16.4%. Of those whose source of information was a doctor, 78.9% knew the purpose of antibiotic use correctly, 70.8% said that the duration of antibiotic use was as long as the doctor's recommendation, 56% stated that there was a difference between antibiotics administered by injection and those taken orally, 59.3% stated that they went to the doctor when they had a fever, and 91.4% knew that using antibiotics too frequently and in situations where antibiotics were not needed caused the development of resistance. These findings were statistically significant ($p<0.05$).

In our study, when we looked at the scores of the participants from the AAC knowledge and attitude scales, the mean AAC attitude score (69.25) was found to be higher than the mean AAC knowledge score (48.84). In a study conducted by Buke et al. in Ege University, differences were found between AAC knowledge and attitude scores (17). Our study supports the literature. In 2014, the ban on the sale of antibiotics without a prescription, the high level of education of the participants and their compliance with the recommendations of their physicians may have led to an increase in their knowledge and attitude scores.

In our study, a moderate positive correlation was found between AAC knowledge and attitude scale. It was found that attitude scores increased as the knowledge level of the participants increased.

When we examined the antibiotic knowledge scores of various studies; in a study conducted in Tanzania, it was found that only 25% of the participants had sufficient AAC knowledge (18), and in a study conducted in Ethiopia, the AAC knowledge scores of the participants were calculated as 3 out of 6 points (19). This shows that the knowledge level of the participants is insufficient. In a study conducted in Pakistan, the rate of irrational antibiotic use was found to be 74% (20). These results show us that AAC is a global problem.

In a study conducted by Waaseth et al. in Norway in 2019, it was found that 57% of the participants had a high level of AAC knowledge (21). Again, in a study conducted in Shanghai

in 2019, it was found that 36% of the participants had a high level of AAC knowledge (22). We think that these differences are due to the development levels of the countries.

In our study, when we examined the relationship between AAC knowledge and attitude scores of the participants and sociodemographic data, a statistically significant relationship was found between age and AAC knowledge and attitude scores ($p<0.05$). It was determined that as the age of the participants decreased, their AAC knowledge and attitude scores increased. In the study conducted by Kuzujanakis in 2003, it was determined that the level of knowledge increased with increasing age. In the study conducted by Ada in 2022, no statistically significant difference was found between the age of the participants and their knowledge levels (23).The fact that a significant portion of the participants in our study were medical faculty students may have led us to reach this conclusion.

A significant relationship was found between the level of education of the participants and the level of AAC knowledge. It was determined that as the level of education increased, the AAC knowledge scores also increased. Although not statistically significant, it was observed that attitude scores also increased as the level of education increased. In the study conducted by Vallin et al. a statistically significant positive correlation was found between the level of education and AAC knowledge level (24).

There was no statistically significant relationship between the gender of the participants and their AAC knowledge and attitude scores. A statistically significant difference was found between marital status and AAC knowledge score ($p<0.05$)c, but no significant difference was found between AAC attitude score. The mean knowledge score of single participants was higher than married participants. This may be due to the fact that a significant portion of the participants were students.

Conclusion: It was observed that the rate of antibiotic use due to the illness of the participants was high. It can be said that the most common reason for antibiotic use is viral diseases.

Although the rate of over-the-counter antibiotic use was quite low, the rate of participants who kept spare antibiotics at home was found to be high. The source of the spare antibiotics was mostly antibiotics prescribed by the doctor but not used.

Although the sale of over-the-counter antibiotics in pharmacies is prohibited, it was observed that 5.8% of the participants demanded over-the-counter antibiotics from pharmacies and the participants with higher income levels demanded this at a higher rate.

It is seen that the most influential factors on the participants' level of knowledge and attitudes are level of education and utilization of information sources. It is seen that as the education level of the participants increases, their average knowledge and attitude scores also increase. It was observed that the participants whose information source was a doctor gave more correct answers to the questions asked to measure their level of knowledge and gave more positive answers to the questions asked to determine their attitudes and behaviors.

Keywords: Family Medicine, Principles of Antibiotic Use, Rational Antibiotic Use

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Prevalence of COVID-19 During 2021 in Kosovo: a Population-Based Cross-Sectional Study

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Oral Presentation – OP171

Background: The global crisis of COVID-19 (Coronavirus disease 2019) has prompted comprehensive research into its impact, with studies uncovering varied occurrence and mortality rates. This study seeks to determine the prevalence of COVID-19 amongst the overall population based on self-reported symptoms and testing while also examining the association of prevalence with demographic, health, and epidemiological factors.

Methods: A cross-sectional survey was carried out with citizens of Prishtina, the capital city of Kosovo from May to June 2021. We calculated the prevalence of self-reported COVID-19 symptoms and positive tests among the citizens, as well as crude and adjusted ORs examining the association of COVID-19 infection with explanatory factors, including the protection and exposure coefficient.

Results: A total of 654 (52.1%) out of 1255 respondents reported having experienced COVID-19 symptoms. Six hundred (47.8%) households reported having an infected family member and 44 (7.3%) households reported having a dead family member due to COVID-19. In addition, 47.2% of 3,068 household members were infected with COVID-19, and 1.5% died due to COVID-19. A total of 689 respondents underwent testing for COVID-19 and 184 (26.7%) reported positive results. For individuals who reported COVID-19 symptoms, higher odds for infection were found among urban residents (adjusted OR, 1.53; 95%CI, 1.13-2.07; p=0.006), individuals with infected household members (adjusted OR, 2.53; 95%CI, 2.00-3.20; p<0.001), higher exposure coefficient (adjusted OR, 2.20; 95%CI, 1.42-3.41; p<0.001), and existing

health conditions (adjusted OR, 2.22; 95%CI, 1.50-3.27; p<0.001). For individuals who underwent COVID-19 testing, higher odds for infection were found among individuals with infected household members (adjusted OR, 3.51; 95% CI, 2.29-5.39; p<0.001). **Conclusion**: This study highlights the prevalence of COVID-19 in Prishtina and the significance of factors like existing health conditions, household size, epidemiologic behaviour, and the number of infected members as important determinants of COVID-19 incidence.

Keywords: COVID-19, Pandemic, Prevalence, Symptoms, Testing

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Comparison of Outcomes Between Direct Lateral and Posterior Approaches in Hemiarthroplasty

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Objective

This study aims to compare the outcomes of posterior and direct lateral approaches in bipolar hemiarthroplasty for patients with acute displaced intracapsular hip fractures. Hip fractures pose a significant health concern, particularly in the elderly population, leading to high morbidity and mortality rates. The choice of surgical approach directly influences the success of the procedure and patient outcomes.

Materials and Methods

This retrospective cohort study included 100 patients who underwent bipolar hemiarthroplasty at Osmaniye Private Ibni Sina Hospital between January 2022 and January 2025. Patients were divided into two groups: the direct lateral approach (n=50) and the posterior approach (n=50). Inclusion criteria were: age over 60 years, diagnosis of acute displaced intracapsular hip fracture, ability to walk independently before surgery, and completion of at least a 2-year follow-up. Exclusion criteria included pathological fractures, polytrauma patients, prior surgery on the same hip, and patients with neurological deficits. All surgeries were performed by the same surgical team following a standardized protocol. Demographic data, operative duration, blood loss, length of hospital stay, early postoperative complications, and walking ability at the 6th week were evaluated.

Additionally, Patient-Reported Outcome Measures (PROMs) were collected at the 2-year follow-up.

Results

The mean age of patients was 74.3±7.8 years in the direct lateral group and 73.8±8.1 years in the posterior group, with no significant difference in demographic or clinical characteristics between groups ($p>0.05$). The mean operative time was longer in the direct lateral group (68.5±15.3 min) than in the posterior group (62.4±14.8 min) ($p=0.04$). The dislocation rate was significantly lower in the direct lateral group compared to the posterior group (4.0% vs. 14.0%, $p=0.02$). However, hemoglobin reduction and transfusion requirements were higher in the direct lateral group ($p<0.05$). No significant difference was found in the length of hospital stay between the groups (direct lateral: 5.8±2.1 days, posterior: 5.5±1.9 days, $p=0.42$). Walking ability at the 6th week and PROMs at the 2-year follow-up were comparable between the two approaches. No significant differences were observed regarding periprosthetic fracture rates, wound infections, or the need for revision surgery (Table 1).

Table 1. Clinical Outcomes and Complications by Surgical Approach

Parameter	Direct Lateral (n=50)	Posterior (n=50)	p-value
Dislocation, n (%)	2 (4.0)	7 (14.0)	0.02
Wound infection, n (%)	3 (6.0)	4 (8.0)	0.48
Periprosthetic fracture, n (%)	1 (2.0)	2 (4.0)	0.56
Hemoglobin reduction (g/dL)*	3.2±1.1	2.4±0.9	0.03
Transfusion requirement, n (%)	15 (30.0)	8 (16.0)	0.04
Independent walking at 6 weeks, n (%)	35 (70.0)	33 (66.0)	0.42
Hospital stay (days)*	5.8±2.1	5.5±1.9	0.42
Operative time (minutes)*	68.5±15.3	62.4±14.8	0.04

*Mean ± Standard deviation

Conclusion

In the treatment of acute displaced intracapsular hip fractures, bipolar hemiarthroplasty performed using the direct lateral approach significantly reduces dislocation rates. However,

this approach is associated with a longer operative duration, increased blood loss, and higher transfusion requirements. No significant differences were found between the two approaches in terms of functional outcomes and patient satisfaction. Therefore, the choice of surgical approach should consider the surgeon's experience, patient characteristics, and comorbidities. The limitations of this study include its retrospective design and relatively small sample size. Further prospective randomized studies with larger patient populations are warranted.

Keywords: Bipolar Hemiarthroplasty, Direct Lateral Approach, Intracapsular Hip Fracture, Elderly Population

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Statin Adherence in Patients with High Cardiovascular Risk: A Cross-Sectional Study

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Abstract

Objectives: Statin adherence is an essential problem, although lifetime medication is recommended, especially in patients with high cardiovascular risk. The importance of perceived risk as a predictor of adherence among cardiology patients has not been fully explored. This study aimed to test the importance of perceived risk as a predictor of statin adherence amongst hypercholesterolemic patients to identify predictors associated with poor adherence.

Methods: This cross-sectional study was conducted at the cardiology outpatient clinics of the university hospital in Ankara, Turkey. A total of 327 consecutive patients with high CV risk were recruited. The self-reported Morisky Green Levine Medication Adherence Scale was used to assess statin adherence.

Results: Of the patients studied, 34.5% had concerns about side effects. The mean age was 63.85±11.29 years, 66.1% were men, 32.4% applied non-drug alternative therapies, 53.2% had a Mediterranean-style diet, and 20.8% checked their lipid values irregularly. Participants reported 50.2% high, 30% moderate, and 19.9% low statin medication adherence. Low-density

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lipoprotein cholesterol (LDL-C), Total Cholesterol (TC), Triglyceride (TG), and high-density lipoprotein (HDL) control rates were 44.6%, 74.3%, 61.5%, and 41.6%. In multiple logistic regression, concern about side effects was associated with a statistically significant quadrupling of odds of non-adherence. Also, being male, former smokers, not having complementary interventions, having regular visits, being educated for more than 5 years, having low depressive symptom scores, living in a rural area, being never or former smokers, employee were significant predictors of high medication adherence scores.

Conclusion: Approximately half of the patients reported high medication adherence. Proper strategies to improve adherence would include patient education efforts focused on patients with concerns about side effects and those who are female, less educated, current smokers, interested in complementary interventions, have irregular follow-up visits, and have depressive symptoms. Brief medication adherence scales may facilitate the assessment of patients' adherence.

Key words: Statin, Medication Adherence, Cardiovascular Prevention, Risk Factors

Introduction

Hypercholesterolemia is defined as the essential treatable predictor of CVD prevention [1]. The prevalence of dyslipidemia has been reported to be between 35% and 40 % in Turkey [2,3]. Large randomized controlled trials have demonstrated the benefit of lowering low-density lipoprotein cholesterol (LDL-C) in CVD's primary and secondary prevention [4,5]. Although statins used to lower LDL-C provide similar relative risk reduction in all patients, the most significant absolute risk reduction occurs in patients with high CV risk [6].

Despite effective and well-tolerated pharmacological agents, most patients receiving lipid-lowering treatment for LDL-C values are not under control [7,8]. The most important reasons for not achieving LDL-C goals include poor adherence to treatment, the ineffectiveness of current treatments, and variability in the treatment response of patients [9]. Previous research

has demonstrated a link between patient beliefs and adherence to statins [10]. Another possible factor is concern about the potential side effects of statin therapy.

Although many studies are assessing the initiation of statin therapy and whether lipid parameters are within target values in patients with high CVD risks, the number of studies examining the effects of concerns about statin side effects is limited. Therefore, we sought to investigate the importance of perceived risk on compliance with statin therapy and other risk factors.

Methods

This current non-interventional observational cross-sectional study was conducted between January 2019 and June 2020 at the Cardiology outpatient clinics of the University of Health Sciences, Gulhane Training and Research Hospital. The study population consists of patients who applied to the cardiology outpatient clinics of the tertiary health center in Ankara and used statins. The study's sample size was determined as an estimated 270 individuals with high CV risk for 80% power, 95% confidence level, and 5% effect size. However, 327 patients were included in the study.

Three questionnaires were used to collect the relevant data during the admission to the outpatient clinics based on hospital medical records, medical histories, and patients' statements. The first one was about sociodemographic and clinical factors, including age, gender, work status, smoking status, current or past use of all medications, duration, type of statin intake, and accompanying chronic diseases (diabetes mellitus/hypertension, etc.). The second one consisted of the PHQ-9 to assess depressive symptoms. The third one was the 4-item self-report Morisky Green Levine Scale (MGLS) used to measure adherence levels to statin therapy.

Results

Of the patients (327) in the study, 50.2% (164) demonstrated high, 30% (98) moderate, and 19.9% (65) low statin medication adherence. The mean age of the participants in the study was

63.85±11.29 (32-94), and 66.1% (216) were male. 85.9% (281) were married, 17.4% (57) had a university education (≥13 years). The baseline characteristics are summarized in Table 1.

Of the participants, 32.4% (106) tried non-drug alternative therapies, 53.2% (174) stated that they had a Mediterranean-type healthy diet habit, 20.8% (68) had their lipid values checked irregularly, 72.8% (238) were using three or more drugs, 34.5% (112) had concerns about the side effects of statin treatment, 8.3% (27) had moderate-severe/severe depressive symptoms (Table 1).

In comparison between 3 groups, patients with high adherence were, more educated (20.7%, 9.2%,17.3% , p=0.006), living in urban (82.3%, 80.0%, 69.4%, p=0.046), higher monthly income (39.6%, 35.4%,30.6%, p=0.007), former smoker (22.6%, 6.2%, 21.4%, p=0.016), employee (28.0%, 18.5%,22.4%, p=0.029), lower proportion of complementary interventions (26.2%, 50.8%, 30.6%, p=0.001). Patients with low adherence had a significantly higher proportion of irregular lipid follow-up visits (41.5%, 16.3%,15.2%, p<0.001), and had a higher proportion of moderately severe/severe depressive symptoms (18.5%, 4.1%, 6.7%, p=0.002) (Table 1).

Multinomial logistic regression revealed that patients without concerns about adverse effects of statins (OR=4.152,p=0.003), male (OR=14.466,p<0.001), former smokers (OR=7.233,p=0.012), not having complementary interventions (OR=5.343, p=0.001), regular lipid follow-up visits <6 months (OR=3.424,p=0.027) and 6-12 months (OR=5.290, p=0.010) were more likely and higher depressive symptom scores (OR=0.906,p=0.009) were less likely being in the high adherence group (Table 2).

Discussion

Nearly half of the participants in our study showed high statin adherence, while one-fifth were in the low statin adherence group. Treatment adherence studies conducted in different countries vary in terms of adherence rates. Al-Foraih et al. stated that 58.5% of the sample reported low adherence, 41.5% reported medium adherence, and no patients scored high adherence in their research on hypercholesterolemic Kuwaiti patients [11]. The difference in treatment adherence

levels in the studies may arise from differences in the number of patients with CVD in the sample selection and the definition of treatment adherence.

Our study showed that almost one-third of participants had negative thoughts about the side effects while using lipid-lowering therapy. Patients who were not concerned about adverse effects related to statin usage had 4-fold increased odds of being in the medium- or high-adherence group compared to the low-adherence group. In a study that aimed to measure adherence based on self-report and pharmacy refill data, 20%-35% of the patients were worried about joint and muscle side effects during the statin treatment [12]. A similar result, consistent with our study, pointed out that many patients still lacked information about possible side effects and the necessity of statins.

The current study determined that male patients had more robust adherence levels than female patients. In a study conducted amongst Kuwaiti hypercholesterolemic patients, high adherence was more common in males than in females. Of their patients, although men had a higher ratio of high adherence than women, it was not statistically significant based on bivariate analysis [11]. The difference in adherence in terms of gender might have arisen from the high medication and cardiovascular risk awareness levels of men who participated in the current study.

Another important finding of our study is that patients with lower depression symptom scores are more likely to belong to the high-adherence medication group. Similar to our results, Katzmann et al. stated that patients with low adherence had a higher proportion of depression history than patients with moderate or high adherence [13]. Suggesting lower adherence, a study by Weilburg et al. depicted that hyperlipidemic diabetic patients with depression filled up their statin prescriptions less often than those without depression [14]. These results suggested that patients with severe depression symptoms may benefit from depression treatment by providing better medication adherence.

The current study revealed that living in rural areas increases the likelihood of being in the medium adherence group compared to the low adherence. However, this difference was not valid for highly adherent patients. Inconsistently, Warren et al. stated that the adherence level

in their study was not associated with the remoteness of living location [15]. Living in a rural area is a predictor causing increased medication adherence in our study and may be associated with the people living in this region adopting a healthy lifestyle and paying more attention to medication adherence.

Conclusion

Compared with the low adherence, our study revealed predictors including perceived risk of adverse effects from statins, being male, former smokers, not having complementary interventions, regular visits, being educated for more than 5 years, having low depressive symptom scores, living in the rural, never or former smokers, not retired were associated with higher adherence. Self-reported medication adherence to cardiovascular prevention can be easily obtained in daily practice.

Table 1. Relationship between demographic parameters and medication adherence level for the participants

Variables		**Treatment adherence**			
	Total (327)	**Low (65)**	**Medium (98)**	**High (164)**	**p**
	(Mean±SD)				
Age (years)	63.85±11.29	66.65±10.70	64.50±10.20	62.24±11.92	**0.026****
	% (n)				
Gender					**<0.001***
Male	66.1 (216)	43.1 (28)	69.4 (68)	73.2 (120)	
Female	33.9 (111)	56.9 (37)	30.6 (30)	26.8 (44)	
Marital status					**0.026***
Married	85.9 (281)	83.1 (54)	93.9 (92)	82.3 (135)	
Single (Unmarried/Divorced)	14.1 (46)	16.9 (11)	6.1 (6)	17.7 (29)	
Education					**0.006***
5 years	39.1 (128)	56.9 (37)	40.8 (40)	31.1 (51)	
6-8 years	17.4 (57)	15.4 (10)	21.4 (21)	15.9 (26)	
9-12 years	26.0 (85)	18.5 (12)	20.4 (20)	32.3 (53)	
≥13 years	17,4 (57)	9.2 (6)	17.3 (17)	20.7 (34)	
Location					**0.046***
Rural	22.0 (72)	20.0 (13)	30.6 (30)	17.7 (29)	

Urban	78.0 (255)	80.0 (52)	69.4 (68	82.3 (135)	
Income					**0.007***
<3000 TL	11.6 (38)	23.1 (15)	12.2 (12)	6.7 (11)	
3000-5000 TL	52.3 (171)	41.5 (27)	57.1 (56)	53.7 (88)	
>5000 TL	36.1 (118)	35.4 (23)	30.6 (30)	39.6 (65)	
Smoking status					**0.016***
Never	58.7 (192)	61.5 (40)	62.2 (61)	55.5 (91)	
Former	19.0 (62)	6.2 (4)	21.4 (21)	22.6 (37)	
Current	22.3 (73)	32.3 (21)	16.3 (16)	22.0 (36)	
Working Status					**0.029***
Housewife	25.7 (84)	40.0 (26)	26.5 (26)	19.5 (32)	
Retired	49.8 (163)	41.5 (27)	51.0 (50)	52.4 (86)	
Employee	24.5 (80)	18.5 (12)	22.4 (22)	28.0 (46)	
Non-drug alternative therapies	32.4 (106)	50.8 (33)	30.6 (30)	26.2 (43)	**0.001***
Mediterranean-style diet	53.2 (174)	36.9 (24)	54.1 (53)	59.1 (97)	**0.010***
Heart Diseases	73.7 (241)	64.6 (42)	76.5 (75)	75.6 (124)	0.175*
Diabetes Mellitus	38.5 (126)	49.2 (32)	36.7 (36)	35.4 (58)	0.137*
Hypertension	53.5 (175)	63.1 (41)	55.1 (54)	48.8 (80)	0.138*
Cholesterol treatment duration (months)		148.53	149.13	141.46	0.750**
Cholesterol control intervals					**<0.001***
<6 months	41.9 (137)	36.9 (24)	46.9 (46)	40.9 (67)	
6-12 months	37.3 (122)	21.5 (14)	36.7 (36	43.9 (72)	
Irregular	20.8 (68)	41.5 (27)	16.3 (16)	15.2 (25)	
Family History of CVD	57.8 (189)	50.8 (33)	52.0 (51)	64.0 (105)	0.072*
Variables		**Treatment adherence**			
	Total (327)	**Low (65)**	**Medium (98)**	**High (164)**	**p**
	% (n)				
Number of drugs					**0.043***
1	9.5 (31)	10.8 (7)	14.3 (14)	6.1 (10)	
2	17.7 (58)	26.2 (17)	12.2 (12)	17.7 (29)	
≥3	72.8 (238)	63.1 (41)	73.5 (72)	76.2 (125)	
Family History of Hypercholesterolemia	47.4 (155)	41.5 (27)	42.9 (42)	52.4 (86)	0.185*
Concerns about side effects	34.5 (112)	49.2 (31)	30.6 (30)	31.1 (51)	**0.023***
Depressive symptoms (PHQ-9)					**0.002***
Minimal/Mild	69.1 (226)	56.9 (37)	66.3 (65)	75.6 (124)	
Moderate	22.6 (74)	24.6 (16)	29.6 (29)	17.7 (29)	

Moderately severe/Severe	8.3 (27)	18.5 (12)	4.1 (4)	6.7 (11)	

*Chi-Square test **One-way ANOVA

Table 2. Multinomial logistic regression analysis of associations between statin adherence and various demographic factors

	High Adherence		**Medium Adherence**	
	OR (95% CI)	**p**	**OR (95% CI)**	**p**
Gender				
Male (Ref. Female)	14.466(3.600-58.125)	**<0.001**	19.863 (4.019-98.176)	**<0.001**
Age	0.960 (0.917-1.005)	0.081	0.993 (0.945-1.042)	0.764
Marital status				
Married (Ref. Single; Unmarried/Divorced)	0.344(0.100-1.188)	0.092	2.778 (0.615-12.542)	0.184
Education				
5 years	0.076 (0.016-0.353)	**0.001**	0.202 (0.038-1.085)	0.062
6-8 years	0.295 (0.060-1.449)	0.133	0.589 (0.109-3.190)	0.539
9-12 years	0.258 (0.062-1.082)	0.064	0.209 (0.043-1.018)	0.053
≥13 years	Reference		Reference	
Location				
Rural (Ref. Urban)	2.423 (0.805-7.293)	0.115	3.250 (1.052-10.038)	**0.041**
Income				
<3000 TL	0.350 (0.079-1.552)	0.167	1.132 (0.222-5.772)	0.882
3000-5000 TL	2.131 (0.805-5.642)	0.128	2.811 (0.931-8.493)	0.067
>5000 TL	Reference		Reference	
Smoking status				
Never	2.512 (0.857-7.368)	0.093	9.132 (2.475-33.697)	**0.001**
Former	7.233 (1.534-34.113)	**0.012**	26.704 (4.583-155.594)	**<0.001**
Current	Reference		Reference	
Working Status				
Housewife	2.374 (0.439-12.838)	0.315	1.397 (0.207-9.428)	0.732

Retired	0.289 (0.075-1.113)	0.071	0.163 (0.038-0.694)	**0.014**
Employee	Reference		Reference	
Non-drug alternative therapies (Ref.Yes)	5.343 (2.076-13.753)	**0.001**	1.450 (0.543-3.871)	0.458
Mediterranean-style diet (Ref.Yes)	0.717 (0.297-1.731)	0.460	0.716 (0.277-1.853)	0.491
Cholesterol control intervals				
<6 months	3.424 (1.148-10.215)	**0.027**	6.090 (1.830-20.268)	**0.003**
6-12 months	5.290 (1.492-18.753)	**0.010**	6.827 (1.703-27.369)	**0.007**
Irregular follow-up visits	Reference		Reference	
Concerns about adverse effects (Ref.Yes)	4.152 (1.637-10.527)	**0.003**	4.413 (1.614-12.062)	**0.004**
Number of drugs (any type)				
1 drug	1.274 (0.293-5.543)	0.747	2.288 (0.510-10.274)	0.280
2 drugs	1.528 (0.528-4.420)	0.434	0.345 (0.085-1.401)	0.137
≥3 drugs	Reference		Reference	
PHQ-9 scores	0.906 (0.842-0.975)	**0.009**	0.960 (0.888-1.037)	0.300

Reference category: Low Adherence

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Reasons for Admission to the Family Medicine Outpatient Clinic in a University Hospital

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Objective:

This study aimed to evaluate the profile, reasons for admission, diagnoses, and management plans of patients presenting to a university hospital family medicine outpatient clinic.

Materials and Methods:

A total of 354 patients who visited the Family Medicine Outpatient Clinic of Selçuk University Faculty of Medicine were included in the study. Patient data were retrospectively analyzed using the hospital database.

Results:

Of the patients, 66.9% were female, and 33.1% were male. The mean age of the patients was 30.02 ± 13.24 years. It was determined that 35.6% of the patients presented for routine follow-up without active complaints, 18.6% due to sore throat, 12.4% for prescription renewal, and 10.5% due to fatigue and tiredness. Diagnoses included general symptoms and examination findings in 41.8% of the patients, upper respiratory tract infections (URTIs) in 19.8%, iron deficiency anemia in 10.7%, and vitamin deficiencies in 10.5%. Laboratory tests were performed in 54.2% of the patients, while no procedures were conducted in 39.8%. Additionally, 6% of the patients underwent bioimpedance analysis, carbon monoxide (CO) measurement, imaging studies, vaccination, or consultations. Prescription medications were issued to 58.2% of the patients, while 41.8% did not receive a prescription. The most

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frequently prescribed medications were symptomatic treatments for upper respiratory tract infections. Medical reports were issued for 6.2% of the patients, with driver's license reports being the most common. When comparing prescription issuance based on gender, no statistically significant difference was found (p=0.175). However, laboratory testing was performed significantly more frequently in female patients (p=0.003), with laboratory tests requested for 59.07% of women and 44.44% of men.

Conclusion:

To ensure the effective and high-quality delivery of primary healthcare services, specialized training in frequently encountered conditions such as chronic disease management, vaccinations, child and prenatal follow-ups, depression, and acute infections should be emphasized during residency education. The high number of patients visiting family medicine outpatient clinics solely for prescription requests in our country suggests inefficient utilization of these healthcare services. Family medicine, as a cornerstone of primary healthcare services, holds a significant responsibility in enhancing preventive healthcare services and improving overall quality of life.

Keywords: Family Medicine, Diagnoses, Prescription

Evaluation of the Relationship between Anemia and Sleep Quality in Individuals Admitted to Family Medicine Outpatient Clinic

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Oral Presentation – OP179

Aim: Anemia, which is commonly observed in the world and in Turkey, is the hemoglobin (Hb) level being below the values determined according to age and gender. The frequency of anemia makes it a public health problem. Sleep, which is one of the basic life requirements, is a very important for the maintenance of the individual's physiological and psychological well-being. There are many individual, physical and environmental factors that affect sleep quality (SQ). Our study aimed to determine the frequency of anemia in individuals admitted to our clinics and to investigate its relationship with SQ.

Materials and Methods: 326 individuals, 244 of whom were women, aged 18 years and over, who admitted to the Family Medicine units of the Health Sciences University Antalya Training and Research Hospital between 01.03.2024 and 31.05.2024 were included in the study. Those who had other diseases known to affect SQ and those who did not have a hemogram test result in the last three months were excluded. The participants were applied a survey prepared within the framework of the relevant literature and the Pittsburgh Sleep Quality Index (PSQI) using the face-to-face interview method, and the hemogram examination results were evaluated. Hemoglobin values below 12 g/dL in women and 13 g/dL in men were considered anemia; SQ was considered good for those with a PSQI score of 5 and below, and poor for those with a score of 6 and above.

Findings: Anemia was detected in 61 (18.7%) of the participants. The rate of anemia was higher in women than in men (p=0.002). No significant relationship was found between anemia and

sociodemographic characteristics such as age, age group, marital status, education level, occupation, income status, smoking and alcohol use ($p>0.05$ for each). No relationship was found between anemia and whether the participants had a chronic disease ($p>0.05$). It was determined that women had worse SQ than men ($p=0.035$); and that SQ was better in non-smokers than in smokers ($p=0.05$). It was observed that high school graduates had better SQ than college and university graduates, students had better SQ than civil servants, and those with lower income relative to their expenses had better SQ than those with higher income relative to their expenses ($p=0.024$; $p=0.02$; $p=0.029$, respectively). The SQ of those with anemia was found to be significantly worse than those without anemia ($p=0.008$). No significant relationship was found between continuous medication use, use of medications that affect sleep, and the number of medications used and SQ ($p>0.05$ for each). Sleep quality was significantly worse in those diagnosed with cardiovascular disease, endocrine and neurological diseases ($p=0.031$; $p=0.018$; $p=0.016$, respectively). The group with poor PSQI results had lower Hb and hematocrit (Hct) values ($p=0.001$), and increased erythrocyte distribution width (RDW) values ($p=0.009$). A significant relationship was found between the PSQI score and gender, marital status, occupation, income status and smoking ($p<0.05$ for each). No significant relationship was found between body mass index groups and anemia status, PSQI score and PSQI result ($p>0.05$ for each).

Conclusion: In our study, it was found that anemia is an important factor affecting SQ and is more common in women. Other sociodemographic and health-related factors affecting SQ were also determined. These findings indicate that awareness of anemia and SQ should be increased and preventive health practices should be supported in terms of public health, and further studies may yield comprehensive results to better understand the relationship between anemia and SQ.

Keywords: Family medicine, Anemia, Hemoglobin level, Pittsburgh Sleep Quality Index, Sleep quality

Medical Faculty Students' Knowledge Levels and Attitudes About Breast Cancer: A Cross-Sectional Study in One of the Largest Provinces of Türkiye

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Objectives: This study, conducted in a university hospital in a large province of Türkiye, aims to evaluate the knowledge levels and attitudes of medical students towards breast cancer.

Methods: This descriptive cross-sectional study was conducted between December 2023 and April 2024 at Selçuk University Faculty of Medicine, Turkey.

A survey consisting of 38 questions including questions on sociodemographic information and breast cancer awareness was applied via face-to-face interviews. Analyses were performed by creating preclinical and clinical groups according to grade levels.

Results: 1243 students (female 56.5%, male 43.5%) participated in the study, and their mean age was 21.41 ± 2.16 years. Only 3.2% had a family history of breast cancer. 87.2% did not think they were at risk of breast cancer. 86% did not think they were sufficiently informed. In this study, it was found that the rate of 5th and 6th grade students giving the answer "BSE should be done regularly every month" was significantly higher than other grades. The rate of female students (19.7%) considering themselves in the breast cancer risk group was significantly higher than male students (3.9%) ($p<0.001$).



Conclusion: Clinical students showed higher awareness than preclinical students, which emphasized the positive effect of advanced medical education in understanding breast cancer risk factors and the importance of BSE. This study revealed that medical school students' awareness and knowledge about breast cancer varied depending on the grade level. Increasing social awareness about breast cancer is possible by implementing more comprehensive and innovative approaches in medical education programs. In this context, more comprehensive research is needed on risk factors for breast cancer, early diagnosis methods and self-examination.

Keywords: Breast Cancer, Medical Students, Breast Self-Examination, Cancer Awareness, Medical Education, Preventive Health Service**.**

Evaluation of Obesity and Vitamin B12 Research on Web of Science

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Oral Presentation – OP181

Introduction: Obesity and vitamin B12 deficiency are increasingly recognized as coexisting public health challenges.

Materials and Methods: This study was conducted to provide a bibliometric and meta-analytic evaluation of the scientific literature addressing the relationship between obesity and vitamin B12, based on data extracted from the Web of Science (WOS) database.

Results: A total of 883 publications were analyzed. The analysis revealed a marked increase in research output since 2015, with prominent contributions from the fields of nutrition, surgery, and endocrinology. Meta-analytic findings from key studies suggest a consistent inverse association between serum vitamin B12 levels and obesity indices across age groups and regions.

Conclusion: The association between obesity and vitamin B12 status has been extensively explored in the scientific literature. However, the direction of causality remains to be elucidated. The relatively low number of studies from Türkiye underscores the need for more local investigations, particularly within the discipline of family medicine.

Keywords: Family Medicine, Obesity, Web of Science, Vitamin B12

Introduction

Obesity is a major health concern, affecting nearly one-third of the global population, and is linked with increased risk for cardiovascular diseases, type 2 diabetes, and certain cancers. Simultaneously, vitamin B12 (cobalamin), a water-soluble vitamin essential for hematopoiesis and neurocognitive health, has been observed to be deficient in obese populations. Multiple studies indicate that vitamin B12 deficiency may be both a consequence of and a contributor to metabolic dysregulation in obesity (1-3). This study combines bibliometric mapping with clinical insights to evaluate trends in obesity and vitamin B12 research, identify knowledge gaps, and discuss implications for clinical practice.

Materials and Methods

A WOS database search was conducted on March 4, 2025—World Obesity Day—using the keywords "obesity and vitamin B12" under the “all fields” option. Data extracted included annual publication counts, research disciplines, most productive authors and institutions, and country distribution. Additionally, three recent studies were reviewed to extract meta-analytic data on the relationship between vitamin B12 status and obesity in adults and adolescents.

Results

A total of 883 publications were identified between 1980 and 2025. Research output surged after 2015, peaking in 2024 (n=94) (Table 1).

Table 1: Number of WOS publications by year

Year of publications	Number of publications (n)
2025	14
2024	94
2023	84
2022	75
2021	68
2020	76

2019	61
2018	55
2017	56
2016	46

English was the predominant language of publication. The most common research areas were:

- **Nutrition and Dietetics** (n=231)
- **Surgery** (n=193)
- **Endocrinology and Metabolism** (n=113)

Additional publishing departments are also presented in Table 2.

Table 2: Number of WOS publications by department

Department of publications	**Number of publications (n)**
Nutrition Dietetics	231
Surgery	193
Endocrinology metabolism	113
Internal Medicine	86
Public Environmental Occupational Health	39
Biochemistry Molecular Biology	31
Obstetrics Gynecology	31
Medicine Research Experimental	30
Gastroenterology Hepatology	28
Pediatrics	27

The most productive country was the United States (n=187), followed by the United Kingdom (n=71) and India (n=65). The most prolific author was Ponnusamy Saravanan from University of Warwick, with 12 publications.

Discussion

The findings of this study highlight a consistent inverse association between serum vitamin B12 concentrations and obesity, corroborated by several meta-analytic evaluations. The observed

trend across different populations and age groups suggests that vitamin B12 deficiency may represent a modifiable factor in the context of obesity-related metabolic disturbances.

In a nationally representative cohort of U.S. adults, Sun et al. demonstrated a significant inverse relationship between serum vitamin B12 levels and obesity. Individuals in the highest quartile of vitamin B12 concentration had 29% lower odds of being obese compared to those in the lowest quartile (adjusted OR = 0.71; 95% CI: 0.60–0.84; p for trend < 0.001), even after controlling for sociodemographic, dietary, and pharmacologic factors (1). This robust association underscores the potential utility of vitamin B12 as a clinical biomarker in obesity screening and prevention strategies.

Similar findings were observed among Indian adolescents. In a large-scale study by Chakraborty et al., more than half (51.2%) of obese adolescents were vitamin B12 deficient, compared to 28.1% of their normal-weight peers ($p < 0.001$). Moreover, body mass index was inversely associated with serum vitamin B12 levels ($\beta = -0.08$, $p = 0.022$) in the urban cohort (2). These data emphasize that the link between B12 deficiency and adiposity may begin early in life, potentially influencing long-term metabolic health.

Additionally, a recent genomic study conducted in India suggests that genetic polymorphisms in vitamin B12 transport and metabolism pathways may increase susceptibility to obesity. The authors propose that genotype–phenotype correlations should be considered when designing targeted dietary interventions (3). While mechanistic clarity remains limited, these findings advocate for a precision nutrition approach, integrating genetic profiling with micronutrient assessment.

Cumulatively, these studies support the hypothesis that vitamin B12 deficiency is not solely a secondary consequence of obesity but may also play a contributing role through impaired mitochondrial function, disrupted methylation, and low-grade systemic inflammation. Obesity, in turn, may exacerbate B12 deficiency due to altered gut microbiota, reduced intake of animal-based foods, and common pharmacotherapies such as metformin or proton pump inhibitors.

Despite the growing body of international literature, contributions from Türkiye remain limited. Given the accessibility of vitamin B12 measurement and its relevance to metabolic health, this gap presents an opportunity for family medicine and public health researchers to initiate population-based studies. Routine screening of B12 levels, especially in obese adolescents and individuals with metabolic risk, may enhance early diagnosis and allow for timely, multifaceted interventions.

Conclusion

The association between obesity and vitamin B12 deficiency has garnered increasing academic interest, as reflected by rising publication trends. The inverse relationship observed across diverse populations reinforces the importance of monitoring B12 status in obesity management. However, limited contributions from countries such as Türkiye highlight the need for localized research. Family medicine practitioners can play a pivotal role in identifying and mitigating micronutrient deficiencies through routine screening and dietary counseling.

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Relationship Between Newborn Cord Blood and Maternal Blood Serum Vitamin B12 and Folate Levels

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Oral Presentation – OP182

Objective: The aim of this study is to investigate the relationship between cord blood of newborn babies and serum vitamin B12 and folate levels of their mothers, gestational age, and anthropometric measurements.

Methods: 202 premature and mature newborns and 197 pregnant women born between August 2024 and March 2025 at the Department of Obstetrics and Gynecology, Selçuk University, Faculty of Medicine were included in the study. Immediately after birth, arterial cord blood samples were taken from the newborns and peripheral blood samples were taken from the mothers for serum folate, vitamin B12, ferritin, and iron levels. The birth weight, length, and head circumference of the newborns were recorded and percentile calculations were performed.

Results: The mean gestational age was 37.7 ± 1.7 (27.8-41.2) weeks. Mean birth weight was 3159 ± 590 (695-4400) g, mean height was 49.2 ± 2.3 (33-52) cm and mean head circumference was 34.7 ± 1.9 (25-38.5) cm. Vitamin B12 deficiency was present in 60.4% of mothers (n = 122) and 30.7% of newborns (n = 62). Folate deficiency was present in 5% of mothers (n = 10) and 0.5% of infants (n = 1). Ferritin deficiency was present in 18.3% of mothers (n = 37) and 3% of infants (n = 6). Iron deficiency was present in 26.2% of mothers (n = 53) and 19.3% of newborns (n = 39). No correlation was found between anthropometric measurements of newborns and cord blood vitamin B12 and maternal vitamin B12.

Conclusions: Anthropometric measurements were not affected by material levels. Vitamin B12 deficiency is very common in pregnant women and newborns. Mothers and babies can benefit from early diagnosis and treatment. Awareness of vitamin B12 deficiency in pregnant women and newborns in Türkiye should be increased.

Keywords: Vitamin B12, Folate, Iron, Ferritin, Newborn, Anthropometric Measurements, Gestational Age

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Investigation of the Prevalence of Anemia in Patients 80 Years and Older Followed in a Healthy Aging Center

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Oral Presentation – OP183

Introduction: The World Health Organization defines anemia as a hemoglobin level below 13 g/dl in men and 12 g/dl in women. The aim of this study was to evaluate the incidence of anemia and the morphologic distribution of anemia in patients aged 80 years and older who were followed up in a Healthy Aging Center (HAC), which has recently become operational with a new regulation.

Materials and Methods: This is a retrospective descriptive study. Between October 2024 and January 2025, patients aged 80 years and older who were followed up at the Healthy Aging Center of Giresun Training and Research Hospital were included in the study. Data were collected from the patients' routine laboratory results. Approval for the research was obtained from Giresun Training and Research Hospital Scientific Research Ethics Committee dated 19.02.2025 with decision number 19.02.2025\10. Institutional permission was obtained from Giresun Provincial Health Directorate.

Results: This study was conducted with a total of 109 patients, 61.5% (n=67) of whom were female. The mean age of the patients in the study was 84.93±3.53 years. 46.8% (n=51) of the patients were in advanced old age. When the chronic disease history of the patients was analyzed, cardiovascular diseases were the most common diseases with a rate of 30.2%, and diabetes, musculoskeletal system diseases and neurological diseases were the other common diseases. In this study, the prevalence of anemia in elderly individuals was found to be 65.1%

(n=71) . In these individuals, anemia was frequently observed as normocytic anemia and the rate of microcytic anemia was very low. There was no significant difference in anemia due to age and gender. When the glomerular filtration rate (GFR) of the patients was analyzed; 61.5% (n=67) had mild GFR reduction.

Conclusion: In conclusion, this study examined the prevalence of anemia and chronic kidney disease in patients followed in HAC. The quality of life of individuals will be positively affected by investigating and treating the causes of anemia. With increasing life expectancy, more studies are needed in the literature, especially in patients aged 80 years and older.

Keywords Anemia; Geriatrics; Healthy Aging; Glomerular Filtration Rate

Introduction

Anemia is a hematologic disorder that is frequently encountered in the elderly and negatively affects quality of life.1 Chronic kidney disease (CKD) is an important risk factor for the development of anemia in geriatric patients. CKD is characterized by progressive decline in renal function with age, leading to a decrease in erythropoietin production and suppression of hematopoiesis, resulting in anemia.2 The Healthy Aging Centers (HACs), which were implemented with the circular published in March 2023, aim to support and provide counseling by determining the medical care needs of people aged 80 years and older.3 The aim of this study was to examine the prevalence, etiology, and relationship with chronic kidney disease in patients aged 80 years and older followed up in HACs.

Methods

This study is descriptive and was conducted retrospectively. Between January 2024 and October 2025, 109 patients aged 80 years and older with complete file records evaluated at the Healthy Aging Center of Giresun Training and Research Hospital and whose data could be accessed from the hospital automation system were included in the study. Age, gender, chronic disease status, hemoglobin (Hb), mean corpuscular volume (MCV), creatinine, glomerular

filtration rate (GFR), and vitamin B12 levels were among the variables of the study. In this study, since the sample was aged 80 years and over, patients aged 80-84 years will be evaluated as middle-aged and patients aged 85 years and over will be evaluated as advanced aged. A hemoglobin level of less than 13 g/dl for male patients and less than 12 g/dl for female patients was considered as anemia. Anemia was divided into 3 groups according to mean corpuscular volume (MCV): microcytic (<80 fl), normocytic (80-100 fl) and macrocytic (>100 fl). In our study, chronic renal insufficiency was evaluated retrospectively based on serum creatinine and GFR levels. GFR<30 ml\min was considered as severely decreased GFR, GFR 30-59 ml\min was considered as moderately decreased GFR, 60-89 ml\min was considered as mildly decreased GFR. Baseline serum creatinine levels of the patients were determined and those with creatinine levels of 1.3 mg/dl and above were evaluated for chronic renal failure.

The study was approved by Giresun Education and Research Hospital Scientific Research Ethics Committee with decision number 19.02.2025\10. NCSS (Number Cruncher Statistical System) 2020 Statistical Software (NCSS LLC, Kaysville, Utah, USA) program was used for statistical analysis. Shapiro Wilks test and Box Plot graphs were used to evaluate the conformity of the data to normal distribution. Pearson's Chi-Square test and Fisher's Exact test were used to compare qualitative data. The results were evaluated at 95% confidence interval and significance was evaluated at $p<0.05$ level.

Results

This study was conducted with a total of 109 patients, 61.5% (n=67) of whom were women. The mean age of the patients was 84.93±3.53 years. 46.8% (n=51) of the patients were elderly. Anemia was detected in 65.1% (n=71) of the patients. There was no significant difference in anemia due to age and gender. When glomerular filtration rate (GFR) was analyzed; 2.8% (n=3) had severe GFR reduction, 33% (n=36) had moderate GFR reduction and 61.5% (n=67) had mild GFR reduction (Table 1). Anemia status did not show a statistically significant difference between patients with and without chronic kidney disease ($p>0.05$). When the chronic disease history of the patients was analyzed, cardiovascular diseases were the most common diseases

with a rate of 30.2% and type 2 diabetes, musculoskeletal system diseases and neurologic diseases were the other common diseases.

Table 1: Distribution of Descriptive Characteristics

		n (%)
Gender	Female	67 (61,5)
	Male	42 (38,5)
Age	*Ort±Ss*	84,93±3,53
	Median (Min-Max)	84 (80-95)
	Middle Aged	58 (53,2)
	Old Aged	51 (46,8)
Anemia	No	38 (34,9)
	Yes	71 (65,1)
MCV	Microcytic anemia	15 (13,8)
	Normocytic anemia	93 (85,3)
	Macrocytic anemia	1 (0,9)
Creatinine	Normal	98 (89,9)
	Chronıc Renal Faılure	11 (10,1)
GFR	Severe GFR Decrease	3 (2,8)
	Moderate GFR Decrease	36 (33)
	Mild GFR Decrease	67 (61,5)
	Normal or High	3 (2,8)

Discussion

In this study, the prevalence of anemia in elderly individuals was found to be 65.1%. In these individuals, anemia was frequently observed as normocytic anemia and the rate of microcytic anemia was very low. This finding is in parallel with other studies in the literature. In a study by Iwase et al. it was reported that the prevalence of anemia in elderly patients ranged between 50-60% and that anemia was mostly normocytic.[4] Furthermore, in this study, the rate of anemia did not show significant differences in terms of age groups, gender and chronic kidney disease status. Again, Jones et al. reported that age, gender and renal function did not have significant effects on anemia prevalence in their study on anemia in elderly individuals.[5] In another study, the prevalence of anemia in patients aged 65 years and older was found to be 24.4% and normocytic anemia was observed in 72%. When the frequency of anemia was examined

according to gender, anemia was found to be significantly higher in women.[6] In a large-scale study conducted with adult patients, anemia was observed in 39.6% of individuals aged 65 years and over.[7] In our study, the frequency of anemia was found to be high in contrast to these studies. Again, the relationship between gender and anemia was not found in our study. This may be attributed to the fact that the mean age was higher in our study, unlike similar studies in the literature.

Regarding renal function, no significant association was observed with the prevalence of anemia in individuals with decreased GFR in our study. However, there are studies in the literature emphasizing the increased prevalence of anemia in individuals with chronic kidney disease and the relationship between decreased renal function and anemia. In this context, anemia may be considered as a complication of kidney diseases and the effect of kidneys on erythropoietin production may trigger the development of anemia.8 In our study, the patient population is a lucky group in terms of access to health services in the city center. This may be attributed to the fact that the group with chronic kidney disease was not questioned about whether they received treatment for anemia. In one study, the rate of anemia due to CKD was found to be 19.4% in 405 geriatric patients. [9] Similarly, in a study conducted by Taşar et al. on hospitalized geriatric patients, the rate of anemia associated with CKD was found to be 20.8%.[10] In our study, this rate was found to be 9.9%, which is lower than the literature. This may indicate that the awareness of healthcare professionals in terms of anemia in the geriatric period is high. It may also be explained by the low number of patients with chronic renal failure in the sample. The incidence of chronic diseases in the geriatric population is quite high. Chronic conditions such as cardiovascular diseases, hypertension, type 2 diabetes and osteoarthritis are commonly observed in elderly individuals. [11] These diseases significantly affect the quality of life of individuals, leading to loss of functional independence and increased morbidity and mortality. In this context, chronic management requires a multidisciplinary approach. When the chronic disease history of the subjects in our study was analyzed, cardiovascular diseases were the most common with a rate of 30.2%, and diabetes, musculoskeletal system diseases and neurological diseases were the other common diseases. Similarly, in a study conducted in Turkey, it was

found that hypertension was seen in 60% and type 2 diabetes in 30% of individuals aged 65 years and older.[12] Within the scope of HAC, the elderly population with low dependency level and chronic disease framework reflecting the society is followed up, and in this respect, the frequent occurrence of diabetes and hypertension, which are considered as chronic pandemics in the society in our study, can be explained in this way. In our study, the relationship between age and anemia was examined and no significant difference was found in both middle-aged and elderly groups. Similar studies have shown that the prevalence of anemia increases in older individuals, but this increase is not significant. In particular, anemia in elderly individuals usually has a multifactorial etiology and natural changes in body functions with age may facilitate the development of anemia.[1] This study has several limitations. These limitations include the fact that the study was single centered, the sample had a narrow profile, and parameters such as diet and medications used by the patients were not examined.

In conclusion, this study shows that the prevalence of anemia is high in elderly individuals and that it is not directly related to factors such as age, gender and renal function. However, this study will contribute to the literature on anemia status and related factors in middle-aged and elderly patients.

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Role of Mean Platelet Volume, Platelet Count and C-reactive Protein as Inflammatory Markers in Adults with Chronic Urticaria

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Oral Presentation – OP185

Background: Chronic urticaria is an inflammatory disease characterized by recurrent, transient, pruritic wheals lasting at least 6 weeks. Recently, platelets have been shown to participate in inflammatory processes in various cutaneous inflammatory diseases such as psoriasis, atopic dermatitis, allergic dermatitis, urticaria and rheumatologic diseases. Mean platelet volume is a useful laboratory index to estimate platelet function and activation and is also frequently used as an inflammatory marker.

Objective: To compare mean platelet volume, platelet count, mean platelet volume/platelet count ratio, and C-reactive protein levels in patients with and without an inflammatory disease such as chronic urticaria.

Methods: 60 people (30: healthy group, 30: chronic urticaria group) who applied to the Allergy-Immunology clinic of Isparta City Hospital participated in the study. 5 cc peripheral venous blood samples were taken from the participants and complete blood count, mean platelet volume and C-reactive protein levels were studied. Chronic urticaria patients who had taken any medication other than antihistamines for the last 3 months before being included in the study were excluded from the study.

Results: Age and gender were similar in the chronic urticaria group and the healthy group, respectively, 37.06±12.84 and 34.03±11.86; p=0.346, F/M=16/14 and F/M=17/13; p=0.795.

Hemoglobin level was similar in the chronic urticaria group and healthy group, 14.02±1.24 and 14.24±1.66, respectively; p=0.739. Leukocyte count (WBC) was similar in the chronic urticaria group and healthy group, 7133±1674 and 6880±1263, respectively; p=0.871. Mean platelet volume (MPV) was significantly lower in the chronic urticaria group compared to the healthy group (8.28±0.677 and 8.69±0.96 in the chronic urticaria group and the healthy group, respectively; p=0.029). The platelet count was significantly higher in the chronic urticaria group than in the healthy group (315900±76202 and 250733±68899 in the chronic urticaria group and the healthy group, respectively; p=0.000). C-reactive protein (CRP) was significantly higher in the chronic urticaria group than in the healthy group (4.72±2.55 and 3.21±0.74 in the chronic urticaria group and the healthy group, respectively; p=0.000).

Conclusion: MPV was significantly lower in the chronic urticaria group compared to the healthy group. Conversely, CRP and platelet count were significantly higher in the chronic urticaria group compared to the healthy group.

Keywords: Chronic Urticaria; Mean Platelet Volume; C-reactive Protein

Assessment of Knowledge and Attitudes Regarding Vitamin D Prophylaxis Among Mothers with Children Aged 0-36 Months Attending a Primary Care Center

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Oral Presentation – OP187

Introduction and Objective

Vitamin D is a fat-soluble vitamin with hormonal properties that plays a crucial role in bone and mineral metabolism. The two primary sources of vitamin D are cholecalciferol, synthesized in the skin, and ergocalciferol, obtained from dietary sources. Approximately 90–95% of the body's vitamin D is synthesized in the skin through the action of ultraviolet B (UVB) rays. Factors such as the angle of sunlight and melanin density in the skin significantly influence vitamin D synthesis. The primary function of vitamin D is to regulate calcium (Ca) and phosphorus (P) balance and to contribute to bone mineralization alongside parathyroid hormone (PTH).

Vitamin D receptors are present not only in bone tissue but also in organs such as muscles, the pancreas, the brain, and the prostate. Approximately 57% of bone mass is acquired by puberty, and adverse events during this period can negatively impact bone health later in life. Studies indicate that adequate vitamin D intake during early life and adolescence helps prevent autoimmune diseases and reduces the incidence of chronic conditions. Additionally, vitamin D is known for its antiproliferative, proapoptotic, and immunomodulatory effects.

Vitamin D deficiency can result from insufficient dietary intake, inadequate sun exposure, and increased physiological needs during periods of rapid growth. Among pregnant and

reproductive-age women, the prevalence of vitamin D deficiency can reach up to 80%. In infancy, maternal vitamin D deficiency is one of the most significant causes of vitamin D deficiency in newborns. Therefore, considering maternal deficiency, providing vitamin D supplementation to infants is essential.

Rickets is the most significant clinical consequence of vitamin D deficiency in children. Symptoms include delayed closure of fontanelles, leg deformities (bowed legs or knock-knees), difficulty walking, short stature, and developmental delays. However, vitamin D deficiency can occur without overt rickets. Despite advancements in healthcare, vitamin D deficiency remains a major public health concern in both developing and developed countries.

Studies conducted in Turkey have reported rickets and vitamin D deficiency rates ranging between 1.67% and 19%. However, these studies were conducted before vitamin D prophylaxis became a national health policy in the country. To maintain optimal bone health in children, serum 25(OH)D3 levels should be above 20 ng/mL. Generally, a daily intake of 400–600 IU of vitamin D is recommended. In Turkey, vitamin D prophylaxis is initiated at birth for all infants, with a daily dosage of 400 IU, and is continued for the first three years of life.

This study aims to evaluate the knowledge and behaviors of mothers with children aged 0–36 months who visit outpatient clinics regarding vitamin D prophylaxis. Additionally, it seeks to assess the factors influencing adherence to vitamin D prophylaxis, the frequency of vitamin D supplementation in infants, and the reasons for discontinuation through a survey administered to mothers.

Materials and Methods

This cross-sectional survey study was conducted over a four-month period starting in September 2020 at the Sanayi Family Health Center in the Güngören district of Istanbul. The study population consisted of mothers aged 18 and above with children aged 0–36 months who

visited the outpatient clinic. Mothers willing to participate provided informed consent before enrollment in the study.

Based on data from existing literature on "Factors Influencing the Administration and Discontinuation of Vitamin D Supplementation in Infants," a power analysis was conducted, setting a Type I error at 0.05 and a Type II error at 0.20, with an effect size of 0.16. As a result, the required sample size was determined to be 200 participants. The final study sample consisted of 204 mothers who met the inclusion criteria and voluntarily participated. A simple random sampling method was used to select participants from the clinic's patient population. Mothers provided informed consent, and the surveys were completed individually.

Descriptive statistics, including mean, standard deviation, median, minimum, maximum, frequency, and percentage values, were used for data analysis. The Kolmogorov-Smirnov test was applied to assess the distribution of variables. The Mann-Whitney U test was used for the analysis of independent quantitative variables. The chi-square test was applied for independent qualitative variables, and Fisher’s exact test was used when chi-square test conditions were not met. All statistical analyses were conducted using SPSS version 28.0.

Findings

A total of 204 mothers aged 18 years and older with children aged 0–36 months participated in the study. The mean age of the participants was calculated as 29.8±5.6 years (minimum 18.0 – maximum 46.0 years). Among the participants, 43.1% (n=88) had completed high school or higher education, and 72.5% (n=148) were unemployed. A majority of the participants (80.9%, n=165) reported that they regularly took their children to family health centers for check-ups. Of the mothers surveyed, 97.5% (n=199) stated that they administered vitamin D drops to their children. Among the 199 participants who reported using vitamin D supplementation, 28.1% (n=56) initiated supplementation immediately after birth, while 46.7% (n=93) started within the first week. When asked about the duration of vitamin D supplementation, 40.2% (n=82)

believed it should be given until the child reached one year of age, whereas 36.8% (n=75) stated that they were unsure about the appropriate duration of supplementation.

Among the 199 mothers who administered vitamin D, 69.3% (n=138) provided 3 drops per day, while 23.6% (n=47) used a dosage of 4 drops per day. It was observed that vitamin D supplementation was lower among illiterate mothers, whereas adherence to vitamin D prophylaxis increased with higher levels of education. Additionally, first-time mothers exhibited more positive attitudes toward vitamin D supplementation compared to mothers with multiple children.

Our study revealed that mothers who did not regularly take their children for medical check-ups demonstrated negative attitudes and behaviors toward vitamin D supplementation. Moreover, mothers who received information about vitamin D usage directly from their family physicians or pediatricians were more likely to adhere to a regular supplementation regimen, whereas those who obtained information from nurses, midwives, neighbors, or relatives displayed inconsistent supplementation practices. Furthermore, mothers who used vitamin D during pregnancy and breastfeeding were more likely to continue providing it to their children consistently.

Conclusion and Recommendations

The findings of our study indicate that the proportion of mothers providing vitamin D supplementation to their children is high, consistent with previous research. However, the proportion of mothers administering the recommended daily dose of 400 IU (3 drops per day) remains lower compared to other studies in the literature. Regular vitamin D supplementation appears to be directly associated with adherence to the recommended dosage. This finding highlights gaps in healthcare education and underscores the necessity of reinforcing correct dosing instructions for mothers. Enhancing maternal education on proper dosing may improve adherence rates.

The educational levels of the mothers in our study were found to be higher than the national average, which emerged as a significant factor in the diagnosis, treatment, and routine follow-up of childhood illnesses. It was observed that illiterate mothers exhibited irregular vitamin D supplementation, whereas adherence to prophylaxis increased with higher levels of education. This finding underscores the importance of public health education policies.

Our study also identified that some mothers discontinued vitamin D supplementation based on the misconception that it was no longer necessary once the infant's fontanelle closed. This suggests that certain healthcare providers may mistakenly believe that the closure of the fontanelle marks the end of a child's need for vitamin D. Addressing this issue requires strengthening maternal education initiatives and updating physician training programs.

Although the Ministry of Health's "Prevention of Vitamin D Deficiency and Maintenance of Bone Health" program states that no specific tracking system is required for vitamin D supplementation, our findings suggest otherwise. The observed deficiencies in adherence highlight the necessity of a more comprehensive monitoring approach in family medicine practice, particularly concerning child health follow-ups.

Finally, our study demonstrated that mothers who received vitamin D-related information directly from their physicians exhibited greater adherence to supplementation. Conversely, mothers who did not take their children for regular check-ups demonstrated more negative attitudes toward vitamin D supplementation. These findings suggest that consultations with family physicians present a valuable opportunity to emphasize the importance of vitamin D supplementation. Physicians should provide information on vitamin D supplementation at every child health visit. Family medicine practices play a crucial role in preventive healthcare by offering accessible professional guidance and responding to mothers' concerns, ultimately strengthening public health services.

Keywords: Vitamin D, Prophylaxis, Mother, Infant, Child

Evaluation of Lacosamide as an Adjunctive Therapy in Drug-Resistant Epilepsy: A Single Center Study

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Oral Presentation – OP188

Objective:

Lacosamide is a third-generation antiseizure drug that exerts its effect by enhancing the slow inactivation of sodium channels, thereby reducing neuronal excitability. Due to this distinct mechanism of action, it is hypothesized to be effective in cases of drug-resistant epilepsy. This study aims to share our clinical experience with adjunctive lacosamide therapy in patients diagnosed with drug-resistant epilepsy and to evaluate its efficacy and safety profile.

Materials and Methods:

The data of patients diagnosed with drug-resistant epilepsy who were initiated on adjunctive lacosamide therapy and followed for at least six months in a tertiary university hospital's epilepsy outpatient clinic between March 2023 and March 2025 were retrospectively analyzed. Treatment response was defined as a≥50% reduction in seizure frequency.

Results:

A total of 23 cases were analyzed. At the end of the sixth month, 17.4% of patients achieved complete seizure freedom, while the overall response rate was found to be 43.4%. The incidence of adverse effects was 17.4%, with the most commonly reported side effects being dizziness,

drowsiness, and weight loss. No cases of treatment discontinuation due to adverse effects were observed.

Conclusion:

Our findings suggest that lacosamide is an effective and well-tolerated option for the treatment of drug-resistant epilepsy. Therefore, it may be safely considered for patients who do not respond to other antiseizure medications.

Keywords: Refractory Epilepsy, Lacosamide, Focal Epilepsy

Can Artificial Intelligence Recognize Skin Lesions? A Comparative Analysis of the Performance of ChatGPT-4, Grok-3, and Gemini-2.0

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Oral Presentation – OP191

Objective

This study aimed to evaluate the performance of artificial intelligence (AI) models in diagnosing and determining the prognosis of dermatological skin lesions based on clinical case images.

Materials And Methods

In this study, images from the book *"Approach to Dermatological Diseases in Family Medicine,"* published by Türkiye Klinikleri, were used with the publisher's permission. Between March 6 and March 14, 2025, images of 34 different dermatological cases from the book were uploaded to ChatGPT-4, Grok-3, and Gemini-2.0, and the models were asked to provide diagnoses and management recommendations. The accuracy rates of the AI models and instances where they failed to provide an answer were recorded and analyzed comparatively.

Results

ChatGPT-4 responded to all 34 cases, achieving a correct diagnosis rate of 41.2% (14/34). Grok-3 responded to 28 cases (leaving 6 unanswered) with an accuracy rate of 38.2% (13/34). Gemini-2.0 provided answers for 22 cases (leaving 12 unanswered) and had a correct diagnosis

rate of 29.4% (10/34). When comparing only the 21 cases for which all three AI models provided responses, ChatGPT-4 correctly diagnosed 43% (9/21), Grok-3 achieved 52.4% (11/21), and Gemini-2.0 reached 47.6% (10/21). No statistically significant difference was found in the accuracy rates among the three AI models (p=0.829).

All three AI models correctly identified eight cases, which included verruca vulgaris (n=2), melanoma (n=2), urticaria (n=1), onychomycosis (n=1), acne vulgaris (n=1), and vitiligo (n=1). However, for nine cases, all AI models provided incorrect diagnoses. These cases included molluscum contagiosum, herpes simplex virus infection, lichen planus, herpangina, orf, monkeypox, Behçet's disease, pityriasis alba, and felon. If an AI model correctly identified the diagnosis, its ability to classify the lesion as benign or malignant was found to be accurate in all instances.

Conclusion

Our study highlights the limitations of ChatGPT-4, Grok-3, and Gemini-2.0 as independent diagnostic tools for dermatological case evaluation in clinical practice. However, these models may have potential as supplementary decision-support tools for certain skin lesions. Further improvements, including training on larger datasets and better alignment with clinical guidelines, could enhance their future applications.

Keywords: Artificial Intelligence, Skin Lesions, Diagnostic Accuracy, Model Comparison

To Investigate the Effect of the Education Received by Family Practice Resident Physicians During Their Specialty Training on Their Knowledge and Awareness Levels About Inhaler Drug Therapy in Asthma or COPD

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Oral Presentation – OP192

Aim: Asthma and Chronic Obstructive Pulmonary Disease (COPD) are common chronic airway diseases with high morbidity and mortality. Many patients diagnosed with asthma and COPD apply to primary health care centers. In this context, it is important to organize the treatment of these patients correctly and to ensure the complete and correct use of inhaled medications. In our study, we aimed to investigate the effect of the education received by family practice resident physicians during their residency training on their knowledge and awareness levels about inhaler drug therapy in asthma or COPD.

Materials and Methods: The data of the study were obtained by using the questionnaire method from 207 family practice resident physicians who received specialty training in training and research hospitals in Ankara between 15.10.2023-31.12.2023 and volunteered to participate in our study. Data were analyzed in IBM SPSS 22 program.

Results: 50.7% (n=105) of the participants stated that they received training on the treatment of asthma/COPD and 28% (n=58) on the use of inhaler devices during their specialty training. There was a positive correlation (ρ=0.251) between the number of correct answers given by the participants in the true-false section and the year of specialty training. When the number of

correct answers in the true-false section was compared according to the training received by family practice resident physicians, those who received training on asthma/COPD treatment answered more questions correctly than those who had not yet received training on this subject and those who received training on inhaler device use answered more questions correctly than those who had not yet received training on this subject ($p<0.001$).

Conclusion: In our study, a significant difference was found between the knowledge and awareness levels of resident physicians who had received training on asthma/COPD treatment during specialty training and those who had not yet received training. The level of knowledge and awareness of the participants who received training was higher than those who did not receive training. Since the participants who stated that they had not received training were the ones who had not yet done the pulmonology rotation, the importance of the pulmonology rotation in terms of the knowledge and awareness levels of the resident physicians on this subject was determined. The fact that family physicians are well educated in this field and improve themselves by closely following the developments in this field ensures that patients receive the correct diagnosis and treatment. Early diagnosis, appropriate treatment and regular follow-up can help manage asthma and COPD and prevent complications.

Keywords: Asthma, COPD, Inhaler Therapy, Education

Evaluation of Parents' Knowledge Sources and Levels Regarding Autism Spectrum Disorders

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Oral Presentation – OP195

Aim: Autism Spectrum Disorders (ASD) refers to a group of neurodevelopmental disorders with symptoms that appear in early childhood. As parents' knowledge level about ASD increases, it will contribute to children with ASD receiving diagnosis and treatment at an earlier stage. Our study aims to evaluate parents' knowledge sources and levels regarding Autism Spectrum Disorders (ASD). **Materials and Methods:** The study was conducted with 370 parents who voluntarily participated and had children receiving care at the outpatient clinics of the Departments of Pediatrics, Child and Adolescent Mental Health, and Family Medicine at SBÜ Gülhane Training and Research Hospital between December 5, 2023, and February 15, 2024. A data collection form, including questions on participants' sociodemographic characteristics, sources of information about autism, and their knowledge levels, was administered through face-to-face interviews. The data were analyzed using IBM SPSS Statistics 22 software. **Results:** In our study, 68.6% (n=254) of the participants were mothers. The average age was 44.3±9.4 years for mothers and 41.8±8.5 years for fathers. Among the parents participating in the study, 52.2% (n=193) of mothers and 59.2% (n=219) of fathers were university graduates. In our study, 96.2% (n=356) of the parents stated that they had heard of autism, with the most common source being television/social media, mentioned by 50.8% (n=181) of them. 83.8% (n=310) of the parents stated that they know what autism means, 24.1% (n=89) mentioned that

they know someone diagnosed with autism, and 87.3% (n=323) expressed that they have not participated in any training related to autism.

The number of correct answers given by parents who had previously heard of autism to questions measuring their knowledge level about autism was statistically significantly higher than those who had not heard of the condition ($p<0.001$). The number of correct answers given by those who had heard of autism from television/social media was found to be lower in the questions measuring their knowledge level about autism ($p<0.001$). The number of correct answers given by those who had participated in any autism-related training was significantly higher than those who had not participated, and the number of correct answers given by those who knew someone with an autism diagnosis was significantly higher than those who did not know anyone with the diagnosis ($p<0.001$).

Conclusion: In our study, it was found that parents had heard of ASD at a high rate, but the use of television and social media as sources of information was prominent. This situation highlights the use of technology as a source of health-related information and emphasize its importance in raising awareness. In ensuring that parents obtain accurate information, family medicine specialist, who are in close communication with families in primary healthcare services, have a significant responsibility. It is considered that family medicine specialist can make a significant contribution to parents' knowledge acquisition through activities such as organizing training sessions to inform their populations about ASD.

Keywords: Autism Spectrum Disorders, Parent, Knowledge, Awareness

The Effects of Cognitive and Emotional Status on Smoking Cessation

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Objective

Smoking cessation is affected by multiple factors including cognitive status of the patients. In this study, we aimed to investigate the effects of demographic, emotional and cognitive functions of 39 male and 42 female patients who applied to the smoking cessation outpatient clinic on smoking cessation.

Material and Methods

This study recruited 81 healthy volunteers of equal age, gender, and educational level. Total Montreal Cognitive Assessment (MoCA) scores were compared according to age, gender, cessation methods, and Beck Depression Inventory and Beck Anxiety Inventory (BAI) scores in smoking cessation settings.

Results

In our study, there were 39 (48.1%) male patients and 42 (51.9%) female patients. While 36 patients were able to quit smoking, the remaining 38 were unable to do so. During follow-up, 7 patients had yet to be reached. Age, years of smoking, number of cigarettes smoked per day, education level, first reason for starting smoking, reasons for quitting smoking, quitting method, and medical drugs used were found to have no effect on smoking cessation; however, the MoCA total score, Beck depression scale, Beck anxiety scale, and smoking cessation scale score were found to have significant effects on smoking cessation.

Conclusions

Various cognitive processes, particularly visuospatial and attention skills, have been found to be useful in quitting smoking. Furthermore, emotional states, such as depression and anxiety have a negative impact on quitting smoking. We believe that if it is provided to the patients in the smoking cessation outpatient clinic to boost cognitive capabilities and treat mood problems, the success of smoking cessation will increase.

Table 1: Evaluation of cognition, emotional status, smoking cessation scales and smoking amount in smoking cessation

	Quitters (n:36)	**Nonquitters(n:38)**	***p***
MMSE score	28.4±1.55	27.8±1.6	0.123
MOCA score	26.25±3.4	23.5±3.6	**0.01**
Smoking cessation rating scale	12.9±7.02	16.3±7.02	**0.043**
BAI	12.7±9.6	18.9±9.7	**0.017**
BDI	13.3±7.2	18.1±9.7	**0.019**
Age	40.4±11.8	43.7±10.6	0.208
Smoking duration (years)	21.8±11.1	25.3±9.8	0.165
Cigarette quantity	25.6±12.2	29.2±13.8	0.251
Visuospacial	4.4±0.7	3.7±1.1	**0.004**
Naming	2.6±0.4	2.5±0.5	0.91
Memory	3.3±1.06	2.8±0.9	0.081
Attention	4.8±1.1	3.2±1.1	**0.001**
Language	2.2±0.7	2.2±0.7	1
Abstraction	1.7±0.48	1.7±0.41	0.911
Orientation	5.8±0.6	4.7±1.6	**0.001**

Keywords: Anxiety, Cognitive functions, Depression, Smoking

The Use of Nutritional Supplement and Related Factors Among Adults During the COVID-19 Pandemic

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ABSTRACT

Objective: The COVID-19 pandemic has led to significant changes in people's health habits. The aim of this study is to examine the use of dietary supplements among adults during the pandemic and the factors associated with this use.

Method: The cross-sectional analytical study was conducted between December 1 and December 16, 2021, using an online data collection form. The data collection form was created via Google Forms and applied to individuals aged 18 and over through WhatsApp groups, Facebook groups, and email communities using a random and snowball sampling method.

Results: A total of 391 participants were included in the study. While 20.9% of participants used nutritional supplements before the pandemic, this rate increased to 45.7% after the pandemic. A more significant increase in the use of nutritional supplements was observed especially among individuals who had COVID-19, healthcare workers, and those who received university education. The most commonly used dietary supplements were vitamin D, multivitamins and mineral supplements. The majority of participants obtained these supplements from pharmacies. In addition, social media and TV advertisements were also identified as factors affecting the use of dietary

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supplements. The rate of participants who stated that healthy eating habits increased after the pandemic was 28.1%, while the rate of regular exercise was determined as 13%.

Conclusıon: In conclusion, the COVID-19 pandemic has significantly impacted individuals' health behaviors and increased the use of multivitamins/dietary supplements. This increase is associated with factors such as health knowledge, education level, social media use, and personal health concerns.

Keywords: COVID-19, Pandemic, Multivitamin, Dietary Supplement.

Introduction

Coronavirus disease 2019 (COVID-19) is the third major coronavirus pandemic of the century, following outbreaks of severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). COVID-19 has caused more deaths than either combined due to the large number of cases (1). Identifying reliable predictors and risk factors for disease severity, mortality, and hospitalization is crucial to saving patients' lives. It is also necessary to understand and examine population-level changes in health-related behaviors and beliefs during this pandemic, especially with regard to self-medication, eating habits, and use of dietary or herbal supplements (2). Since the beginning of the COVID-19 pandemic, the use and sale of dietary supplements have increased globally. In particular, the consumption of vegetables and fruits rich in antioxidants, vitamins and minerals, and foods that are rich sources of protein have increased (3). Turkish people still use herbal medicines to treat various health conditions or support general health in both urban and rural areas (4). However, few studies have examined patient use of dietary or herbal supplements during the COVID-19 pandemic. This study aimed to examine the use of herbal or dietary supplements and associated factors during the pandemic period.

Method

The population of the study consists of individuals aged 18 and over living in Turkey. According to the 2020 Turkish Statistical Institute data, with a target population of 62 million individuals aged 18 and over, the minimum required sample size was calculated as 384 people using the OpenEpi program, with a 50% prevalence, 5% margin of error, and 95% confidence level. The cross-sectional analytical study was conducted between December 1 and December 16, 2021, using an online data collection form. The data collection form was created via Google Forms and applied to individuals aged 18 and over through WhatsApp groups, Facebook groups, and email communities using a random and snowball sampling method. The survey form, developed by reviewing the literature, included questions about sociodemographic data, dietary supplement use, changes in health behaviors other than dietary supplements during the COVID-19 period, and the COVID-19 fear scale. Data were analyzed using IBM Statistics Package for Social Sciences (SPSS ver. 24.0). Ondokuzmayıs University Clinical Research Ethics Committee approved the study. (Date: 23/11/2021, Decision Number: 2021/514)

Results

A total of 391 people participated in our study. 54.9% of the participants who were healthcare workers, 39.9% of the participants who were not healthcare workers (p=0.004), 58.4% of those who had COVID-19, and 37.6% of those who did not (p<0.001) used multivitamin/nutritional supplements during the pandemic (Table 1).

While the number of participants using nutritional supplements/multivitamins before the COVID-19 pandemic was 82 (20.9%), it was observed that it was 179 (45.7%) after the pandemic. 33.7% of those who did not use nutritional supplements/multivitamins before the pandemic started using nutritional supplements after the pandemic. 91.5% of those who used nutritional supplements/multivitamins before the pandemic continued to use them after the pandemic. The differences are statistically significant (p<0,001).

Table 1. Characteristics affecting participants' use of multivitamin/nutritional supplements during the COVID-19 pandemic

Characteristic	Yes n(%)	No n(%)	*p value*
Education			**0,006[1]**
Literate/Primary School	5 (35,7)	9 (64,3)	
Middle School	4 (30,8)	9 (69,2)	
High School	17 (27,9)	44 (72,1)	
University and above	153 (50,5)	150 (49,5)	
Smoking			0,655[1]
Yes	38 (50,0)	49 (50,0)	
No	141 (44,7)	163 (55,3)	
Being healthcare-worker			**0,004[1]**
Yes	84 (54,9)	69 (45,1)	
No	95 (39,9)	143 (60,1)	
Infected by COVİD-19			**<0,001[1]**
Yes	90 (58,4)	64 (41,6)	
No	89 (37,6)	148 (62,4)	
If someone in the family has COVID-19			**0,001[1]**
Yes	121 (52,8)	108 (47,2)	
No	58 (35,8)	104 (64,2)	
Loss of a family member due to COVID-19			0,454[1]
Yes	49 (49,0)	51 (51,0)	
No	130 (44,7)	161 (55,3)	
COVID-19 vaccination status			0,482[1]
Yes	161 (45,2)	195 (54,8)	
No	18 (51,4)	17 (48,6)	
COVID-19 Fear Scale Score			0,677[2]
Average±SD	17,1±6,6	16,9±6,7	
Median	16,0	16,0	
Min-Max	7-35	7-35	

[1]Pearson chi-square test was performed.
[2]Mann-Whitney U test was performed.

It was determined that the most commonly used nutritional support/multivitamin supplements by the participants were vitamin D (74.8%), multivitamin and mineral (59.2%), and vitamin C (58.6%) supplements. Most users (83.2%) obtained these supplements from pharmacies. While most of the participants (41.3%) were found to use nutritional supplements/multivitamins due to vitamin/mineral deficiencies, some of the participants used them after seeing them on TV/social media/internet advertisements (7.3%).

After the COVID-19 pandemic, it was observed that 28.1% (n=110) of the participants' healthy eating status increased, the rate of doing regular exercise increased in 13% (n=51). After the pandemic, it was observed that the use of tobacco and its products increased in 3.1% (n=12), decreased in 3.8% (n=15), and similarly, alcohol use increased in 3.3% (n=13), and decreased in 2% (n=8). It was observed that the time spent on social media increased by 37.1% (n=145) after the pandemic. It was observed that 35.8% (n=140) of the participants gained weight after the pandemic. After the pandemic, 52.7% (n=206) of the participants stated that their encounters with content about nutritional supplements on social media increased.

Conclusion

The COVID-19 pandemic has led to significant changes in health habits and individual behaviors in our country as well as around the world. The findings of the study revealed that the pandemic increased the use of nutritional supplements and that this increase was particularly significant in some groups.

Before the pandemic, the rate of participants using multivitamin/nutritional supplements was 20.9%, while it increased to 45.7% after the pandemic. According to Statista data, the use of nutritional supplements due to the COVID-19 pandemic in the United States was 43% in August 2020, which is similar to our study (9). This finding indicates that COVID-19 has caused individuals to focus more on their health and turn to supplements. The uncertainty and health concerns brought about by the pandemic may have increased people's search for ways to strengthen their immune systems. In addition, the increased ease of access to health-related information during the pandemic and the contribution of social media to the spread of content about nutritional supplements have also been effective in increasing this use.

After the pandemic, 31% of our participants reported an increase in smoking, 28.1% reported an increase in healthy eating habits, while 35.8% reported an increase in body weight. A study conducted in Saudi Arabia among 2,706 adults also found that healthy food consumption increased during the pandemic (10). A cohort conducted in Germany among 2,000 young people found that alcohol, cigarette consumption and food intake increased after the pandemic,

and participants with a higher body mass index showed a greater increase in food intake and lack of exercise (11). Previous studies have also evaluated the impact of natural disasters on food and nutrition management (12). A cohort study evaluated the impact of the devastating earthquake and tsunami in Japan in 2011 on preschool children. They found a significant increase in BMIs 1 month after the earthquake (13). Furthermore, results of physical examinations and laboratory tests performed after the Great East Japan Earthquake in 200 adults revealed higher values of body weight, body mass index, waist circumference, and HbA1c compared to pre-earthquake levels (14)

Individuals with a university or higher education level have been found to prefer multivitamin use at a higher rate than other groups, it was remarkable. Many studies have shown that those with higher education levels and higher household income use nutritional supplements at a higher rate (15-17). A higher level of education increases the likelihood that individuals will acquire more information about their health and apply this information. In addition, the higher rate of multivitamin use by healthcare professionals may be an indicator of healthcare professionals' sensitivity to their own health and suggests that the level of health knowledge has an effect on supplement use.

In our study, it was observed that the use of nutritional supplements/multivitamins was more common in those who had COVID-19. Another study conducted in our country did not find a significant relation(18). Our study may indicate that COVID-19 may have increased the search for ways to strengthen the immune system and that people tend to use supplements to support their immunity.

In conclusion, the COVID-19 pandemic has significantly affected the health behaviors of individuals and increased the use of multivitamins/nutritional supplements. This increase is associated with factors such as health knowledge, education level, social media use, and personal health concerns. These findings provide an important contribution to understanding the long-term effects of the pandemic on health behaviors. In addition, when developing health

policies, the reliability of individuals' sources of information and the impact of this information on health behaviors should be taken into consideration.

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The Association Between Acute Gastroenteritis and Systemic Immune-Inflammation Index in Children

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Objective: Acute gastroenteritis (AGE) is a clinical syndrome characterized by acute episodes of vomiting and diarrhea, accompanied by inflammation of the stomach and intestines, with viruses being the most common etiological agents. The systemic immune-inflammation index (SII) is a biomarker that reflects the balance between inflammation and immune response. This study aimed to investigate the association between AGE and SII in pediatric patients.

Materials and Methods: This study included pediatric patients diagnosed with AGE who presented to the pediatric clinic of Konya Beyhekim Training and Research Hospital between August and December 2023. Patients with chronic diseases, immunodeficiency, malnutrition, chronic gastroenteritis, or incomplete data were excluded. The control group consisted of children who attended routine check-ups during the same period without active disease and underwent hemogram testing for screening purposes. SII was calculated using the formula: platelet count × neutrophil count / lymphocyte count. The data were compared between the patient and control groups, as well as between inpatient and outpatient treatment groups. Statistical analyses were performed using SPSS 21.0. Ethical approval was obtained from the Ethics Committee of Konya Karatay Chamber of Commerce University Faculty of Medicine (Approval Date: 18.02.2024, Approval Number: 2024/013).

Oral Presentation – OP199

Results: A total of 3,039 children were included in the study, comprising 1,371 (45.1%) healthy controls and 1,668 (54.9%) patients diagnosed with AGE. The mean age of participants was 4.5±4.58 years. Among them, 1,335 (43.9%) were female, and 1,704 (56.1%) were male. Among the AGE patients, 116 (7.0%) required inpatient treatment, while 1,552 (93.0%) were managed as outpatients. The median length of hospital stay for inpatients was 2.0 (1.0) days. Compared to healthy controls, patients diagnosed with AGE exhibited significantly higher levels of leukocytes, neutrophils, platelets, and SII, whereas their lymphocyte and eosinophil levels were significantly lower ($p<0.001$ for all). Additionally, when comparing inpatient and outpatient AGE patients, the outpatient group had significantly higher leukocyte, neutrophil, and SII levels and significantly lower lymphocyte levels ($p<0.001$ for all). ROC analysis demonstrated that SII had predictive value for inpatient treatment. A cut-off SII value of $\leq$ 802.11 predicted inpatient treatment with a sensitivity of 65.3% and specificity of 71.6%, whereas an SII cut-off $\geq$ 628.70 predicted AGE diagnosis with 71.0% sensitivity and 81.8% specificity.

Conclusion: SII values were significantly elevated in AGE patients and in those managed on an outpatient basis. This may be attributed to the fact that most patients received hydration therapy in the emergency day-care unit, and multiple factors influence hospitalization decisions in pediatric patients. We propose that SII may serve as a useful biomarker for the diagnosis and prognosis of AGE. However, further standardized studies with larger sample sizes are required to validate these findings.

Keywords: Children, Acute Gastroenteritis, Systemic Immune-Inflammation Index

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The Impact of Comorbidities, Symptoms, and Laboratory Parameters on the Prognosis of Covid-19 Patients

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Introduction

Oral Presentation – OP200

Since the first SARS-CoV-2 infection was reported at the end of 2019, the COVID-19 pandemic has been a problem that has led to severe mortality, morbidity and socioeconomic consequences all over the world and overwhelming efforts have been made to overcome it.[1] Therefore, it is important to examine and understand the symptoms of COVID-19, diagnostic methods and all factors that may affect prognosis.[2] Some COVID-19 patients do not require hospitalisation, some require ward treatment or intensive care hospitalisation, and some patients are lost despite all efforts.[3] It is essential to thoroughly analyze the factors that affect the prognosis, such as the mutation of the COVID-19 virus or potential future pandemics. In predicting prognosis, various parameters such as age, comorbidity, symptom type, and laboratory values are analysed and used in practical patient follow-up.[4,5] The parameters we researched are intended to guide physicians in predicting prognosis and coping with the disease.

Methods

This study was conducted retrospectively using patient records. 954 patients who were admitted to the COVID-19 Service or COVID-19 Intensive Care Unit with a diagnosis of COVID-19 at Health Center for Medical Research and Practice of Trakya University between 15 March 2020 and 15 March 2021 were included. The files of 277 (%29.0) individuals were excluded due to incomplete information. The study sample consisted of 677 patients. Ethics committee approval of the study was obtained from the Trakya University Faculty of Medicine Ethics Committee (Ethics approval date: 01.01.2021. Ethics approval no: TÜTF-BAEK 2021/50, 03/12) The study was conducted in accordance with the Declaration of Helsinki.

Statistical analysis

Normal distribution was analyzed by Shapiro-Wilk and Kolmogorov Smirnov Tests. Descriptive statistics, Pearson's chi-square, and Mann-Whitney U tests were used to assess the data. For the regression analysis, four models were developed. Model 1 was used to evaluate the relationship between diseases and COVID-19 prognosis, Model 2 was used to evaluate the relationship between symptoms and COVID-19 prognosis, and Model 3 was used to evaluate the relationship between changes in laboratory parameters and COVID-19 prognosis. Model 4 was a multinomial logistic regression model created with significant variables from Models 1, 2 and 3. $p<0.05$ was considered statistically significant. TURCOSA (Turcosa Analytics Ltd Co, Türkiye) statistical software was used for data analysis.

Results

Of a total of 677 patients hospitalised with a diagnosis of COVID-19, 267 (39.5%) were female and 410 (60.5%) were male. While 467 patients (68.9%) had comorbidities, 210 patients (31.1%) did not have comorbidities in their files. The most common comorbidity was hypertension, which was seen in 291 patients (42.9%). When the symptoms were analysed, 571 (84.4%) of the patients had symptoms, while 106 (15.6%) had no symptoms. The most common

symptoms were cough in 250 (36.8%) patients, fever in 243 (35.8%) patients, and dyspnea in 234 (34.5%) patients.

While 153 (22.5%) of the patients needed intensive care unit, 524 (77.5%) did not need intensive care unit. While 533 (78.7%) of the patients were discharged, unfortunately 144 (21.3%) patients died due to the disease. All parameters were evaluated separately in terms of need for intensive care and death.

Regression analysis of comorbidity and need for intensive care/death are given in model 1, regression analysis of symptoms and need for intensive care/death in model 2, and regression analysis of laboratory values and need for intensive care/death are given in model 3 as it is shown at Table 1. In the logistic regression analysis of model 4, in which the parameters thought to increase the need for intensive care/death in models 1, 2 and 3 were evaluated together, cough, fever, dyspnoea, myalgia/arthralgia, platelet, urea, CRP, aPTT and fibrinogen were found to be associated with the need for intensive care and increased mortality, whereas leucocyte was found to be associated only with the need for intensive care as it is shown at Table 1.

Table 1. Analyzing all regression models in terms of deaths caused by COVID-19 and the need for intensive care unit hospitalization

Model 1 (ICU)	OR	%95 CI	p	Model 1 (Death)	OR	%95 CI	p
Hypertension	1.38	0.944 – 2.018	0.095	Hypertension	1.42	0.96 – 2.1	0.070
Diabetes Mellitus	1.11	0.720 – 1.708	0.614	Diabetes Mellitus	0.99	0.63 – 1.55	0.990
Malignancy	1.51	0.924 – 2.429	0.092	Malignancy	1.64	0.99 – 2.65	0.040
Asthma	0.81	0.232 – 2.242	0.718	Asthma	0.61	0.14 – 1.85	0.440
COPD	1.43	0.654 – 2.957	0.345	COPD	1.34	0.59 – 2.8	0.450
Model 2 (ICU)				Model 2 (Death)			
Cough	0.32	0.19 – 0.525	<0.001	Cough	0.35	0.2 – 0.57	<0.001
Fever	2.27	1.445 – 3.581	<0.001	Fever	2.25	1.43 – 3.58	<0.001
Dyspnea	5.82	3.772 – 9.144	<0.001	Dyspnea	5.32	3.42 – 8.4	<0.001
Myalgia/Arthralgia	1.74	1.117 – 2.702	0.013	Myalgia/Arthralgia	1.65	1.05 – 2.58	0.020
Runny Nose	1.2	0 – 7.205	0.990	Runny Nose	1.26	0 – 5.703	0.990
Headache	3.15	1.644 – 6.07	<0.001	Headache	3.16	1.62 – 5.97	<0.001
GI Symptoms	2.45	1.521 – 3.978	<0.001	GI Symptoms	2.67	1.64 – 4.33	6.560
Throat Pain	1.41	0.628 – 3.094	0.380	Throat Pain	1.59	0.71 – 3.46	0.240
Model 3 (ICU)				Model 3 (Death)			
Leukocyte	1.36	1.23 – 1.55	<0.001	Leukocyte	1.38	1.24 – 1.57	2.380
Hemoglobin	0.63	0.3 – 1.18	0.220	Hemoglobin	0.67	0.32 – 1.24	0.280

Hemotocrit	1.13	0.3 – 1.44	0.288	Hemotocrit	1.11	0.91 – 1.42	0.360
Platelet	1	1 – 1.006	0.036	Platelet	1	1 – 1.006	0.040
Neutrophil	0.96	0.85 – 1	0.617	Neutrophil	0.94	0.82 – 1	0.390
Lymphocyte	0.79	0.45 – 1.34	0.416	Lymphocyte	0.99	0.57 – 1.65	0.990
Monocyte	0.45	0.15 – 0.6	0.138	Monocyte	0.41	0.13 – 0.81	0.110
Eosinophil	1.24	0.14 – 8.8	0.837	Eosinophil	1.51	0.17 – 11.1	0.690
Basophil	1.92	0.18 – 17.2	0.570	Basophil	2.58	0.24 – 23.4	0.410
Na	1.07	0.97 – 1.19	0.200	Na	1.06	0.96 – 1.19	0.220
K	1.12	0.63 – 1.97	0.681	K	1.25	0.7 – 2.24	0.430
Cl	0.99	0.95 – 1.04	0.865	Cl	0.99	0.95 – 1.05	0.860
Urea	1.028	1 - 1.04	0.004	Urea	1.03	1.01 – 1.05	<0.001
Creatinine	0.81	0.35 – 1.52	0.550	Creatinine	0.81	0.36 – 1.53	0.550
Albumin	0.54	0.32 – 0.92	0.025	Albumin	0.49	0.28 – 0.84	0.010
ALT	1	0.98 – 1.02	0.630	ALT	1	0.99 – 1.02	0.350
AST	1	0.98 – 1.01	0.878	AST	0.99	0.97 – 1	0.500
CRP	1.05	1 – 1.1	0.024	CRP	1.05	1 – 1.1	0.030
Prothrombin Time	0.9	0.7 – 0.96	0.243	Prothrombin Time	0.9	0.7 – 0.97	0.290
INR	0.22	0.03 – 1.44	0.113	INR	0.17	0.02 – 1.21	0.080
aPTT	1.17	1.07 – 1.28	<0.001	aPTT	1.16	1.06 – 1.27	0.001
Fibrinogen	0.99	0.994 – 0.998	<0.001	Fibrinogen	0.99	0.994 – 0.998	0.001
Model 4 (ICU)				Model 4 (Death)			
Hypertension	0.58	0.26 – 1.24	0.170	Hypertension	0.51	0.23 – 1.1	0.090
Malignancy	0.49	0.14 – 1.56	0.240	Malignancy	0.43	0.12 – 1.37	0.170
Cough	0.24	0.09 – 0.58	0.002	Cough	0.28	0.11 – 0.6	0.006
Fever	3.77	1.62 – 9.19	0.002	Fever	3.33	1.44 – 8.03	0.005
Dyspnea	4.66	2.15 – 10.5	<0.001	Dyspnea	3.62	1.65 – 8.2	0.001
Myalgia/Arthralgia	2.02	0.98 – 4.26	0.050	Myalgia/Arthralgia	2.27	1.09 – 4.81	0.020
Headache	1.6	0.58 – 4.3	0.350	Headache	1.81	0.67 – 4.88	0.230
GI Symptoms	1.19	0.5 – 2.76	0.670	GI Symptoms	1.47	0.63 – 3.39	0.360
Leukocyte	1.26	1.15 – 1.38	<0.001	Leukocyte	1.27	1.17 – 1.39	6.300
Platelet	1	1 – 1.008	0.002	Platelet	1	1 – 1.007	0.003
Monocyte	0.4	0.13 – 0.92	0.080	Monocyte	0.44	0.15 – 0.91	0.120
Urea	1.01	1 – 1.02	0.030	Urea	1.01	1 – 1.02	0.030
Albumin	0.58	0.33 – 1.01	0.060	Albumin	0.53	0.3 – 0.91	0.020
CRP	1.05	1 – 1.1	0.020	CRP	1.04	0.99 – 1.09	0.060
INR	0.42	0.07 – 2	0.280	INR	0.31	0.05 – 1.57	0.170
aPTT	1.14	1.05 – 1.24	0.001	aPTT	1.12	1.04 – 1.22	0.004
Fibrinogen	0.99	0.995 – 0.999	0.020	Fibrinogen	0.99	0.995 – 0.999	0.020

ICU: Intensive Care Unit, COPD : Chronic obstructive pulmonary disease, ALT : Alanin Aminotransferaz , AST : Aspartat Aminotransferaz , CRP : C-Reactive Protein , Aptt : activated partial thromboplastin time, INR : International normalized ratio, OR : Odds Ratio, CI : Confidence Interval, GI : Gastrointestinal

Discussion

The devastating effects of COVID-19 all over the world have necessitated many studies for early diagnosis, influencing factors and solutions. In our study, it was observed and examined

that comorbidity, symptoms and laboratory may have an impact on mortality and the need for intensive care unit admission.

Among the comorbidities in our study, the highest percentages were hypertension and diabetes mellitus, similar to the literature.[2, 5, 9, 10] It has also been claimed that some diseases increase the severity and lethality of COVID-19 infection. It has been shown in many studies that hypertension, diabetes mellitus, malignancy, chronic obstructive pulmonary disease (COPD) and cardiovascular diseases have a poor prognosis.[2, 9,10,11,12] However, there are also different studies showing that none of the comorbidities examined did not affect the prognosis in any way.[6,8,13,14,15] In our study, we found that only having hypertension and malignancy among the comorbidities could increase ICU hospitalisation and mortality in univariate analysis, whereas we found that none of the comorbidities we investigated had any effect on prognosis in multivariate logistic regression analysis. It can be said that there is no consensus in the literature on the effect of comorbidities on prognosis.

Although the frequency of presenting symptoms varies between studies, the first 3 most common symptoms are cough, fever and dyspnoea.[5, 16,17,18] Although the frequency of symptoms may vary in different COVID-19 variants, it is observed that the most common symptoms remain similar to those in our study. Tuna et al. found that shortness of breath and inability to smell significantly increased the development of pneumonia, Huang et al. found that only shortness of breath increased the need for intensive care, and Yamanoğlu et al. found that shortness of breath, myalgia and cough increased both the development of acute respiratory distress syndrome and mortality.[8, 9, 19] Zhou et al. concluded that none of the symptoms affected the prognosis in their study.[2] In our study, we found that fever, dyspnoea, myalgia and headache increased both the need for intensive care unit hospitalisation and mortality in univariate analysis, whereas headache had no effect in multivariate logistic regression analysis. However, in our study, contrary to the literature, we found that cough symptom decreased both the need for intensive care unit admission and mortality rate in univariate and multivariate analyses. Yamanoğlu et al. reported that cough increased the risk of developing ARDS in

COVID-19 patients, whereas Huang et al. and Tuna et al. reported that cough did not affect the prognosis in COVID-19 patients.[8, 9, 19] Although the positive effect of cough on prognosis seems to be different from the common opinions and results, the fact that cough is a defence mechanism that ensures the removal of the disease agent from the body seems to be compatible with the view that cough should not be interrupted, especially in infections with secretory cough, and pulmonary rehabilitation practices.[20, 21]

According to Huang et al., the laboratory parameters associated with the need for intensive care are WBC, neutrophils, lymphocytes, d-dimer, albumin, ALT, total bilirubin and LDH.[8] According to Anai et al. platelets, CRP, LDH, ferritin, creatinine, ALT, AST and d-dimer.[8, 14] In the study by Tuna et al. it was observed that lymphopenia, increased CRP, increased d-dimer and increased ferritin increased the likelihood of COVID-19-related pneumonia in univariate analysis, but no significant difference was observed in multivariate analysis.[19] In their study, Avcı et al. found AST, GGT, LDH, CRP, d-dimer, ferritin and fibrinogen as laboratory parameters that increased disease severity in univariate and multivariate regression analysis; Bao et al. WBC, neutrophils, lymphocytes, eosinophils, CRP, ALT, AST, LDH, CK, albumin, urea, creatinine, total bilirubin and d-dimer; Sun et al. found hemoglobin decrease, leukocytosis, neutrophilia, lymphopenia and eosinopenia to be significant.[4, 22, 23] Nazlı et al. found d-dimer and ferritin as parameters affecting hospitalisation.[7] In previous studies, hemoglobin, WBC, neutrophil, platelet, lymphocyte, glucose, ALT, AST, albumin, LDH, urea, creatinine, troponin, PT/INR, aPTT, CRP, ferritin and d-dimer were found to be related with mortality.[2, 11, 12, 24]

Conclusion

Although many laboratory values were found to be significant in univariate analysis, we found that platelet, urea, albumin, PTZ, fibrinogen were associated with mortality and need for ICU, and leukocyte was associated with need for ICU but not with mortality. The fact that COVID-19 is affected by many prognostic factors; mutations/new variants and the introduction of vaccines may have led to different results in different populations, numbers and times.

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Single-Center Experience with Chemotherapy Desensitization in Patients with Hypersensitivity Reactions: Clinical Outcomes and Efficacy

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Abstract

Chemotherapeutic drugs have been widely used in cancer treatment for approximately 70 years. Despite the increasing use of biological agents in clinical practice, classical chemotherapy remains the gold standard, either alone or in combination with monoclonal antibodies or other biologics, for treating most cancers. However, all chemotherapeutic agents can cause hypersensitivity reactions (HSRs) with varying incidences. In patients with chemotherapy-induced HSRs, desensitization plays a crucial role in enabling continued treatment. As new therapeutic agents are introduced, the need for desensitization is expected to increase.

Keywords: Chemotherapy, Hypersensitivity, Desensitization, Anaphylaxis, Cancer

Oral Presentation – OP201

Introduction and Purpose

Chemotherapeutic drugs have been widely used in cancer treatment for approximately 70 years. Despite the increasing use of biological agents in clinical practice, classical chemotherapy remains the gold standard, either alone or in combination with monoclonal antibodies or other

biologics, for treating most cancers. However, all chemotherapeutic agents can cause hypersensitivity reactions (HSRs) with varying incidences.

HSRs are defined as reproducible reactions triggered by exposure to a specific stimulus at a dose typically tolerated by healthy individuals. These reactions may occur through immunological or non-immunological mechanisms. Notably, chemotherapy-induced HSRs are the third leading cause of fatal drug-induced anaphylaxis in the United States, with similar cases reported in Europe. The most frequent culprits include platinum compounds, taxanes, epipodophyllotoxins, and asparaginase. (1) Among platinum-based drugs, carboplatin is the primary cause of HSRs, with a reported incidence of 46% in patients who have received seven or more infusions. In contrast, the incidence of HSRs with oxaliplatin is approximately 15%, with less than 1% experiencing severe reactions. Cisplatin-related HSRs are observed in about 5% of patients. Taxanes can trigger HSRs in up to 30% of patients, but premedication with antihistamines and corticosteroids can reduce this rate to below 5%. The incidence of HSRs with asparaginase ranges from 6% to 43%, while epipodophyllotoxins have a reaction rate of 6.5% to 41%. (2-4)

Most chemotherapy-induced HSRs are type I hypersensitivity reactions mediated by immunoglobulin E (IgE), leading to mast cell degranulation and the release of histamine and other inflammatory mediators. Clinically, these reactions present with flushing, pruritus, hypotension, nausea, vomiting, wheezing, dyspnea, and, in severe cases, anaphylaxis.

The HSR phenotypes associated with platinum compounds include type I reactions, cytokine release reactions, and mixed reactions, with oxaliplatin exhibiting the greatest heterogeneity. Taxanes can activate mast cells and/or basophils through IgE-mediated pathways, direct basophil stimulation, or IgG-mediated complement activation, resulting in the release of anaphylatoxins (C3a, C5a). Additionally, excipients such as Cremophor (used in paclitaxel) and polysorbate 80 (used in docetaxel) can induce mast cell activation either through IgE-dependent pathways or direct complement activation. Biomarkers such as tryptase, histamine,

leukotrienes, and prostaglandins indicate type I reactions, while cytokines like IL-6, TNF-α, and IL-1ß are associated with cytokine release and mixed reactions. Desensitization is recommended for type I and selected cytokine release or mixed reactions but is not indicated for direct mast cell/basophil activation. (5)

HSRs typically occur during or within a few hours after drug infusion, but delayed reactions can manifest hours or even days post-administration. The most common symptoms include skin manifestations such as erythema and pruritus, which may progress to urticaria, angioedema, and generalized rash. Respiratory and gastrointestinal symptoms may follow, and severe cases can lead to hypotension, cardiovascular collapse, and even death. Other less critical symptoms include chills and fever, often associated with monoclonal antibodies, as well as back and chest pain due to the proinflammatory cascade and hypertension, particularly with taxanes.

Diagnosing chemotherapy-induced HSRs requires a thorough patient history and an assessment of reaction type and severity. Skin tests are the most commonly used diagnostic tools, particularly for platinum and taxane hypersensitivity. Other biomarkers such as specific IgE (sIgE), basophil activation tests (BAT), and total IgE levels have also been investigated. (6)

Drug desensitization involves the gradual administration of increasing drug doses, starting with very low amounts and progressively escalating while maintaining uninterrupted exposure. Protocols for desensitization have been successfully implemented in numerous studies, though individual adjustments may be necessary based on patient responses. Mild symptoms may occur during desensitization, typically in the final steps, but these are managed appropriately, allowing the procedure to continue. Patients receive premedication before desensitization, and the dilution and number of steps depend on the severity of their reaction. If no equally effective alternative chemotherapy agent is available, desensitization is a viable option. (7)

Desensitization induces a temporary state of drug tolerance, which dissipates once the drug is fully eliminated from the body. While initial desensitization procedures are sometimes conducted in intensive care units, growing evidence supports the safe administration of

desensitization protocols in outpatient settings under the supervision of allergy specialists and experienced nurses, regardless of reaction severity. (8)

This study aims to evaluate the effectiveness of desensitization protocols in enabling the safe administration of chemotherapeutic agents that are essential for cancer treatment but known to cause hypersensitivity reactions. By applying structured desensitization techniques, we seek to demonstrate their success in maintaining uninterrupted chemotherapy while minimizing adverse effects.

Materials and Methods

This study included patients who were evaluated for chemotherapy-related hypersensitivity reactions and subsequently underwent desensitization between November 2023 and January 2025. A total of 20 patients experienced reactions during chemotherapy, and their medical records were retrospectively reviewed. Data were collected on the underlying malignancies, the specific chemotherapeutic agents administered, the types of hypersensitivity reactions, skin test results, history of atopy, comorbidities, and other drug allergies. Hypersensitivity reactions were classified according to the National Cancer Institute Common Terminology Criteria for Adverse Events (NCI CTCAE), categorizing patients into infusion reactions, drug allergies, or anaphylaxis. The severity of drug allergy and anaphylaxis was further graded, with grade 5 representing fatal reactions and grade 1 indicating mild, non-systemic manifestations.

Results

Among the 20 patients, 17 were female and 3 were male. Hypersensitivity reactions were reported in 4 patients receiving taxanes, 10 patients receiving platinum-based chemotherapy, and 1 patient exposed to both platinum and taxanes. Additionally, 2 patients developed reactions to pertuzumab, while 1 patient each experienced hypersensitivity to trastuzumab, nivolumab, and irinotecan. All reactions were classified as early-onset. All patients were included in the drug allergy and anaphylaxis category, with 9 cases graded as severity level 2,

6 cases as grade 4, 3 cases as grade 3, and 1 case as grade 1. Skin testing was performed in 11 patients, with intradermal tests yielding positive results in 6 patients and skin prick tests in 1 patient. During the desensitization process, 4 patients developed anaphylaxis and cutaneous symptoms, all of whom were successfully managed with adrenaline, corticosteroids, and antihistamines. Desensitization was completed in 19 patients, all with successful outcomes. One patient underwent the procedure six times. Two patients did not receive desensitization, one due to a misdiagnosis of scabies and the other because an alternative chemotherapeutic agent was initiated by the oncologist.

Conclusion

In conclusion, chemotherapy desensitization proves to be effective when the drug is administered gradually to patients in cases where it is essential for treatment. This approach allows patients to continue receiving the drug, which may be the only available option for their condition, despite its known allergic potential. With the increasing use of targeted therapies and immunotherapies, hypersensitivity reactions to these drugs are also becoming more common. Desensitization of these drugs, which are crucial in cancer treatment, represents an important step in advancing cancer care. In this context, we aim to highlight the successful desensitization outcomes observed in our patient cohort.

Keywords: Chemotherapy, Hypersensitivity, Desensitization, Anaphylaxis, Cancer

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Knowledge and Awareness of Interventional Radiology Among Primary Care Physicians: A Cross-Sectional Study

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Oral Presentation – OP202

Introduction and Aim

The utilization of interventional radiology (IR) has increased significantly, particularly over the past two decades. Family physicians play a crucial role in patient consultation and referral, necessitating continuous updates on emerging developments in IR. Given the rapid advancements in this field, it is essential for family physicians to maintain up-to-date knowledge. This study aims to assess the level of knowledge and medical literacy regarding IR among actively practicing Family Medicine Specialists (FMS), Contractual Family Medicine Residents (CFMR), and Family Practitioners (FP) in order to raise awareness and highlight potential gaps in education.

Material and Method

This descriptive, cross-sectional study was conducted on a voluntary basis among all primary care family physicians actively working in Aydın over a one-year period. No sampling was performed; instead, the entire target population was included. Data were collected through a face-to-face survey comprising 13 questions on sociodemographic characteristics and medical literacy, along with 12 questions assessing IR knowledge. Each correct response in the knowledge section was awarded one point, yielding a possible score range of 0 to 12, with

higher scores indicating greater IR knowledge. Statistical analyses were performed using SPSS 22.0.

Results

Among the total population of 360 eligible physicians, 208 participated in the study (157 males). Of the participants, 75% (n=156) were FPs, while the remainder were FMS and CFMR. Notably, 60.1% (n=125) of respondents reported learning about IR from colleagues, whereas 5.3% (n=11) had never heard of IR. The mean IR knowledge score was 5.2±2.6 (range: 0–11). Female participants demonstrated significantly higher scores (6.2±2.3) compared to males (4.9±2.6) ($p<0.001$). FMS (n=38) had a significantly higher mean knowledge score (6.5±2.1) than the combined CFMR+FP group (4.9±2.6) ($p<0.001$). Furthermore, participants who did not read medical research articles within the past month had significantly lower knowledge scores (4.18±2.79) compared to those who read 1–5 articles (5.60±2.41, $p=0.024$) or more than five articles (6.33±2.67, $p=0.003$).

Conclusion

Higher IR knowledge levels were associated with female gender, FMS status, shorter years of service, and frequent reading of medical journals. Awareness can be improved through regular engagement with medical literature and structured in-service training programs.

Keywords: Interventional Radiology, Family Medicine, Primary Care

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Association Between Serum Free Copper Levels and Novel Oxidative Stress Markers in Individuals Using a Copper Intrauterine Device

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Oral Presentation – OP211

Objective: We aimed to investigate the changes in oxidative stress in copper intrauterine device (Cu-IUD) users and the relationship between it and serum free copper (Cu) level.

Material and Methods: This study was conducted among women who applied to the Health Sciences University Konya Beyhekim Education and Research Hospital Family Medicine Polyclinic and Education Family Health Center No. 92, including those who used Cu-IUD T380 and those who had never used an IUD. After obtaining written informed consent from participants who agreed to take part in the study, venous blood samples were collected and stored at -80°C. The levels of native thiol (NT), total thiol (TT), and disulfide (DS) in the blood were analyzed, and the DS/NT, DS/TT, and NT/TT ratios were calculated. Additionally, serum copper (Cu), serum free copper, ceruloplasmin, and ischemia-modified albumin (IMA) levels were measured in the serum samples.

Findings: A total of 188 participants were included in our study, of whom 89 (47.3%) were using Cu-IUD and 99 (52.7%) were not using an IUD. Among the participants, 29 (15.4%) were single, while 159 (84.6%) were married. The median duration of Cu-IUD use was 6.00 (6.25) years.

Age (p=0.001), body mass index (BMI) (p=0.028), serum copper (Cu) (p=0.007), serum free Cu (p=0.041), ceruloplasmin (p=0.017), and ischemia-modified albumin (IMA) (p=0.005) were found to be significantly higher in the Cu-IUD user group (Table 1).

A significant negative correlation was observed between serum free Cu levels and NT (r=-0.276; p=0.009), TT (r=-0.267; p=0.011), and NT/TT (r=-0.252; p=0.017) in Cu-IUD users. In contrast, a significant positive correlation was found between DS/NT (r=0.248; p=0.019) and DS/TT (r=0.248; p=0.019).

Conclusion: In our study, serum free Cu, serum Cu, ceruloplasmin, and IMA levels were found to be higher in the Cu-IUD user group compared to the non-user group. Women who choose Cu-IUD for contraception should be monitored more closely for chronic diseases, oxidative stress, and conditions that may be caused or exacerbated by elevated serum Cu levels.

Keywords: Copper Intrauterine Device, Thiol-Disulfide Homeostasis, Serum Free Cu

Table 1. Comparison of parameters in study groups

	Total n=188 Median [IQR25-75]	**Not using IUD n=99(52.7%) Median [IQR25-75]**	**Using Cu-IUD n=89(47.3%) Median[IQR25-75]**	p
Age[1] (year)	37.00 [28.00-43.00]	34.00 [23.00-43.00]	37.00 [32.00.44.00]	**0.001**
BMI[1] (kg/m^2)	26.61 [23.14-31.25]	26.23 [22.26-30.48]	26.95 [24.19-32.02]	**0.028**
Serum Cu[1] (µg/dL)	125.10 [107.12-148.49]	119.86 [104.06-139.55]	132.53 [111.12-153.10]	**0.007**
Serum free Cu[1] (µg/dL)	54.33 [42.83-72.54]	50.75 [40.62-67.20]	57.71 [44.54-75.71]	**0.041**
Ceruloplasmin[1](mg/dL)	22.50 [20.71-25.05]	21.95 [20.50-24.67]	22.78 [21.29-25.97]	**0.017**
	Mean±SD	**Mean±SD**	**Mean±SD**	
NT[2] (µmol/L)	387.70±36.28	389.17±34.03	386.06±38.76	0.558
TT[2] (µmol/L)	429.15±39.18	430.69±36.82	427.43±41.79	0.570
DS[2] (µmol/L)	20.72±1.93	20.75±1.96	20.68±1.91	0.788
DS/NT[2] (%)	5.35±0.37	5.34±0.38	5.37±0.36	0.607
DS/TT[2] (%)	4.83±0.38	4.82±0.31	4.85±0.29	0.598
NT/TT[2] (%)	90.32±0.61	90.34±0.63	90.29±0.58	0.600
IMA[2] (ABSU)	0.72±0.05	0.71±0.06	0.73±0.05	**0.005**

[1]Mann Whitney U test, [2]Independent two-samples T test, BMI: Body mass index, Cu: Copper, SD: Standard deviation, NT: Native thiol, TT: Total thiol, DS: Disulfide, IMA: Ischemia modified albumin, ABSU: Absorbance units

Investigation Of Health Literacy Levels of Patients Applaying to Selçuk University Faculty of Medicine Family Medicine Polyclinic

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Oral Presentation – OP212

Purpose: The aim of this study was to examine the health literacy levels of patients who applied to the family medicine outpatient clinic of a tertiary education and research hospital.

Method: With 95% confidence level and 5% margin of error, the sample size was calculated as 278 people. So far, 115 (32.30%) of the 356 people who applied to the outpatient clinic have been reached. A questionnaire form consisting of 9 questions for sociodemographic data and the Turkish Health Literacy-32 scale (TSOY-32) were administered face-to-face. As such, the work continues.

Results: During the study period, 115 people who applied to the outpatient clinic agreed to participate in the study. The mean age of the participants was 36.78±12.16 years and 72.2% of the participants were female.

A significant difference was found between the TSOY-32 Scale and the educational level of the participants ($p<0.005$). No significant difference was found between the participants' gender, busines case and income status, and health literacy levels. No significant difference was found between the participants' marital status, parenting status, liking to read books, and their health literacy level.

Conclusion: It was observed that the level of health literacy was significantly higher in participants with higher levels of education.

In this context, education programs and health communication need to be enriched with strategies to improve the health literacy of patients. In this way, patients will be encouraged to access health information, understand this information and make correct decisions regarding their health, and their overall health level will be increased.

Keywords: Health Literacy, Health Literacy Scala

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Having a Child with Autism: Gender Related Differences and Parents' Struggles in Life

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Oral Presentation – OP213

Aim: Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by deficiencies in social communication and interaction, along with restricted and repetitive behaviors and interests, beginning in early childhood. As one of the chronic conditions that manifest during childhood, ASD imposes a significant burden on families. This study aims to compare the impact of an ASD diagnosis on parents' lives based on the gender of children with ASD.

Materials and Methods: The study was conducted with the parents of 61 children diagnosed with ASD who received treatment and/or follow-up care at the outpatient clinics of the Child and Adolescent Mental Health Clinic of SBÜ Gülhane Training and Research Hospital between May 1, 2023, and October 30, 2023, and who voluntarily participated in the research. A data collection form consisting of 58 questions, designed by the researchers based on the current literature, was administered through face-to-face interviews. This form inquired about the participants' sociodemographic characteristics and the challenges they encountered in their daily and social lives during the ASD diagnosis process. The data were analyzed using IBM SPSS 22.0 software.

Results: Among the 61 parents who participated in our study, 57.4% (n=35) were women, 67.2% (n=41) had an income above the minimum wage, and 42.6% (n=26) were university

graduates. The average age of children diagnosed with ASD was 6.2±2.9 years, and 77% (n=47) were male. In the families included in our study, 24.6% (n=15) of mothers were employed before their child was diagnosed with ASD and the working lives of 80% (n=12) of the previously working mothers were negatively affected after their children were diagnosed. Additionally, after receiving the diagnosis, 49.2% (n=30) of families faced economic difficulties, and 54.1% (n=33) experienced negative impacts on their social lives.

A statistically significant relationship was found between the gender of the child diagnosed with ASD and the impact on parents' social lives and economic status ($p<0.05$). It was determined that the social lives and financial situations of parents with male children diagnosed with ASD were more adversely affected compared to those with female children diagnosed with ASD.

Conclusion: Our study revealed that the impact on parents of children diagnosed with ASD varied depending on the child's gender. Parents were most affected in terms of their professional, economic, and social lives, forcing them to endure significant struggles to cope with these challenges. To increase public awareness of ASD, policies should be reviewed, public service announcements should be organized, and support from non-governmental organizations should be ensured. Measures should be implemented to support children and parents in education, employment, economic stability, and social life, while access to psychological support services for parents should be facilitated. This approach can help minimize the impact on children diagnosed with ASD and their families and improve early diagnosis and treatment rates.

Family physicians in primary care play a crucial role in increasing public awareness of ASD, facilitating the diagnosis process and ensuring early diagnosis.

Keywords: Autism Spectrum Disorder, Parents, Child, Awareness, Life Struggle

Mothers' Attitudes Toward Childhood Fever and Their Use of Over-the-Counter Antipyretics

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Introduction

Fever is one of the most common symptoms encountered in childhood. Although it serves as a natural defense mechanism of the body, it remains a significant source of concern for families. Despite the widespread use of antipyretic medications, there is limited data on the factors influencing parental attitudes toward fever and their patterns of over-the-counter (OTC) antipyretic use. Understanding the public's knowledge of fever, assessing the impact of sociodemographic characteristics on parental attitudes, and examining their relationship with OTC antipyretic use will provide valuable insights for the development of preventive strategies aimed at promoting rational medication use and safeguarding public health.



Materials and Methods

This study was conducted through face-to-face surveys with mothers of children who presented to the Pediatric Outpatient Clinics of Ankara Bilkent City Hospital between February 1 and 28, 2025. A 21-item questionnaire was administered to participants, with 17 forms excluded due to incomplete responses.

Results

A total of 141 families were included in the study. Among them, 76 mothers (53.9%) and 73 fathers (51.8%) had a university-level education or higher. Twenty-two families (15.6%) reported that their monthly income was insufficient to cover their expenses. Additionally, 50 parents (35.5%) had been parenting for less than five years (Table 1).

Of the participating families, 106 (75.2%) reported using antipyretic medications without a prescription (Table 2). No statistically significant association was found between OTC antipyretic use and parental education level, financial status, or place of residence ($p > 0.05$ for each). However, a significant relationship was observed between parental education level and the appropriate use of antipyretics based on body temperature ($p < 0.05$). Parents with a university-level education or higher were less likely to administer antipyretics when the child's body temperature was below 38°C ($p < 0.05$). In contrast, no significant difference was observed among parents with secondary or primary school education ($p > 0.05$ for each).

Similarly, parents with higher education levels were more likely to perceive fever as a generally harmless physiological response ($p < 0.05$). However, this perception did not significantly differ among parents with lower education levels ($p > 0.05$ for each). Additionally, no significant association was found between OTC antipyretic use and parenting experience or the presence of a chronic illness in the child ($p > 0.05$).

Conclusion

Our findings suggest that financial status and parenting experience do not play a significant role in preventing the use of OTC antipyretic medications. Although no direct correlation was observed between parental education level and the overall use of OTC antipyretics, the significant association between higher education levels and both the appropriate administration of antipyretics and the perception of fever as a non-threatening condition suggests that

improving public education may be a key strategy in promoting the rational use of antipyretic medications.

Table 1. Demographic Characteristics of the Participants

Age (mean, IQR)	
Father	36 (32-40)
Mother	33 (30-37)
Children	3 (2,75-4)
Child's Gender	
female	%51,8 (n=73)
male	%48,2 (n=68)
Mother's Educational Level	
Primary Education	%21,3 (n=30)
Secondary Education	%24,8 (n=35)
Higher Education	%53,9 (n=76)
Father's Educational Level	
Primary Education	%24,1 (n=34)
Secondary Education	%24,1 (n=34)
Higher Education	%51,8 (n=73)
Employment Status of Mothers	
Employed	%44,7 (n=63)
Unemployed	%55,3 (n=78)
Employment Status of Fathers	
Employed	%98,6 (n=139)
Unemployed	%1,4 (n=2)
Presence of a Child with a Chronic Illness	
No Chronic Illness	%86,5 (n=122)
Chronic Illness Present	%13,5 (n=19)
Family's Place of Residence	
Urban	%71,6 (n=101)
Rural	%28,4 (n=40)
Economic Status	
Income higher than expenses	%15,6 (n=22)
Equal to expenses	%49,6 (n=70)
Lower than expenses	%34,8 (n=49)
Duration of Parenthood	
<5 Years	%35,5 (n=50)
5-10 Years	%31,9 (n=45)
10-15 Years	%21,3 (n=30)
>15 Years	%11,3 (n=16)

Table 2. Antipyretic Use Characteristics of the Participants

Over-the-Counter Antipyretic Use	
Yes	%75,2 (n=106)
No	%24,8 (n=35)
Most Commonly Used Antipyretic	
Paracetamol	%70,2 (n=99)
İbuprofen	%29,8 (n=42)
Route of Antipyretic Administration	
Oral	%75,2 (n=106)
Rectal	%24,8 (n=35)
Alternating Antipyretic Use	
Yes	%54,6 (n=77)
No	%45,4 (n=64)
At What Temperature Do You Administer an Antipyretic?	
<38 °C	%22,7 (n=32)
>38 °C	%77,3 (n=109)
Do you think fever is harmful?	
Yes	%62,4 (n=88)
No	%37,6 (n=53)
Source of Recommendation for Over-the-Counter Antipyretic Medication	
Previous Doctor Recommendation	%43,3 (n=61)
Pharmacist	%17,7 (n=25)
Own Experience	%14,2 (n=20)
No Over-the-Counter Use	%24,8 (n=35)
Source of Dosage Information for Over-the-Counter Antipyretic Medication	
Previous Doctor Recommendation	%41,1 (n=58)
Pharmacist	%18,4 (n=26)
Own Experience	%9,2 (n=13)
Patient Information Leaflet	%6,4 (n=9)
No Over-the-Counter Use	%24,8 (n=35)
What Is Your Approach If the Fever Does Not Decrease After Using an Over-the-Counter Antipyretic?	
Apply physical cooling methods	%32,6 (n=46)
Administer a different antipyretic	%12,1 (n=17)
Go to the emergency department	%30,5 (n=43)
No Over-the-Counter Use	%24,8 (n=35)

Keywords: Children, Antipyretic Use, Fever, Over The Counter Drug

Evaluation of Family Physicians' Awareness, Knowledge, Attitudes, and Practices Redarging Eating Disorders

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Objective:

Eating disorders, as defined by the DSM-5, are complex psychiatric conditions that typically emerge during adolescence or early adulthood and may lead to serious medical and psychological consequences. Family physicians, as the first point of contact in the healthcare system, play a pivotal role in the early recognition and management of these disorders. However, the current literature offers limited insight into family physicians' knowledge, clinical approaches, and referral practices regarding eating disorders. Diagnostic challenges often arise due to the atypical presentation of symptoms and patients' tendencies to conceal their behaviors. Therefore, evaluating family physicians' knowledge, attitudes, and clinical practices is essential for improving early diagnosis and establishing effective referral pathways. This study aims to assess the awareness, knowledge, attitudes, and clinical practices of family physicians concerning eating disorders.

Oral Presentation – OP219

Materials and Methods:

This descriptive, cross-sectional study included voluntary participation from academic faculty, specialists, residents, and family physicians working in various provinces across Türkiye. Since no existing tool was found in the literature to assess family physicians' awareness and ability to recognize symptoms of eating disorders, a novel questionnaire was developed by the researchers. The instrument included items on demographic characteristics, knowledge of eating disorders, symptom recognition skills for different types of eating disorders, and attitudes

and clinical practices related to these conditions. The survey was distributed digitally via Google Forms, and responses were collected anonymously.

Results:

Preliminary analyses are based on responses from 193 family physicians across Türkiye. The mean age of participants was 38.8 ± 9.9 years; 60.6% were female, and 39.4% were male. Nearly half (49.7%) reported having never received any training on eating disorders. While 91.2% rated their knowledge as insufficient or limited, only 8.8% considered themselves adequately informed.

Participants reported the highest levels of familiarity with Anorexia Nervosa (86.5%) and Bulimia Nervosa (68.9%), while knowledge of Avoidant/Restrictive Food Intake Disorder (ARFID) and Orthorexia Nervosa was substantially lower. Only 3.1% of physicians reported frequently encountering patients diagnosed with an eating disorder in their practice, whereas 78.8% said they rarely or never did.

Regarding clinical management, 59.1% of respondents reported referring suspected cases to psychiatry, and 24.4% referred patients to dietitians. Additionally, 54.4% stated they felt inadequate in managing eating disorders and expressed a strong desire to participate in training programs on the topic. Most participants emphasized the need for educational content focused on core symptoms, treatment strategies, and communication techniques.

Conclusion:

The findings indicate that family physicians require enhanced training and awareness regarding eating disorders. Given their crucial role in early detection and intervention within primary care settings, targeted in-service training and educational initiatives that deliver up-to-date, evidence-based information could significantly improve family physicians' competencies in this area.

Keywords: Family Practice, Anorexia Nervosa, Bulimia Nervosa

Determination of the Association between the Levels of Physical Activity and Cognitive Perceptions of Physicians and the Frequency of Family Doctors Prescribing Exercise

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Oral Presentation – OP221

Objectives: The aim of this study was to determine the relationship between the physical activity levels and cognitive perceptions of physicians and the frequency of exercise prescribed by primary care physicians.

Methods: This cross-sectional study was conducted with 221 primary care physicians. A questionnaire of three sections was administered, including questions prepared according to the American College of Sports Medicine (ACSM) recommendations evaluating the current practices of the physicians on the subject of prescribing exercise, the General Practice Physical Activity Questionnaire (GPPAQ), and the Cognitive Behavioral Physical Activity Questionnaire (CBPAQ).

Results: A significant relationship was determined between the daily physical activity of the physician and exercise prescribing rates ($p=0.005$). From the data obtained from the GPPAQ and the CBPAQ, it was determined that as the activity level increased, so the Outcome Expectation ($p<0.001$), Self-regulation ($p<0.001$), and Total Cognitive Activity ($p<0.001$) points increased, and Personal Barriers points decreased ($p=0.135$). The frequency of prescribing exercise was found to be <20% for all chronic diseases for which exercise is known to be effective. A significant relationship was determined between prescribing exercise and the total number of correct responses to the questions measuring the level of knowledge

according to the ACSM recommendations ($p<0.001$). It was stated by 208 (94.1%) physicians that they wished to have more knowledge of this subject.

Conclusion: A correlation was determined between the frequency of prescribing exercise by physicians and the physical activity level and cognitive perceptions of the physicians. As the physical activity level increased, so the frequency of prescribing exercise increased.

Keywords: Exercise Prescription, Cognitive Behaviour, Primary Care

Does Smoking During the Postmenopausal Period Affect HbA1c Levels?

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Objective

Smoking is an independent risk factor for type 2 diabetes. In diabetic patients who smoke, glycemic control deteriorates. The postmenopausal period is a phase that leads to the development of chronic diseases such as osteoporosis, cardiovascular diseases, and diabetes mellitus. It is inevitable that smoking in the postmenopausal period will bring various health problems.

Our aim is to examine the effect of smoking on HbA1c levels in the postmenopausal period.

Materials and Methods

Our study included 106 individuals who had been in menopause for one year and applied to the Family Medicine outpatient clinic of Eskisehir Osmangazi University Hospital. Our study is a cross-sectional study conducted between 01.09.2024 and 30.11.2024. A sociodemographic data form was completed using a face-to-face interview method. HbA1c values measured for follow-up or control purposes were recorded from the system. The obtained data were analyzed using SPSS. Chi-square and advanced Chi-square tests were used for the analysis of cross tables.

Results

Our study group consisted of 106 patients who had been in menopause for one year. The mean age of the participants was 57.35±6.84, with a minimum of 40 and a maximum of 69. Chronic diseases were present in 90.6% (n=96) of individuals. Diabetes mellitus was found in 30.3% (n=33) of chronic diseases. Among the patients, 84.9% (n=90) had a history of natural menopause, while 14.2% (n=15) had a history of surgical menopause. In the study, smoking was found to be higher in postmenopausal women with HbA1c values of 5.7-6.4 (prediabetes) compared to postmenopausal women with HbA1c values of <5.7 (normal) and >6.5 (diabetes) ($p<0.05$).

Table 1: Relationship Between Postmenopausal Smoking and HbA1c Levels

HbA1c Level	**Postmenopausal Smoking**		
	Yes n (%)	**No n (%)**	**p-value***
<5,7	10 (21.7)	36 (78.3)	**0.002**
5,7-6,4	24 (57.1)	18 (42.9)	
>6,5	5 (27.8)	13 (72.2)	

*Advanced Chi-square analysis was performed.

Conclusion

Patients should be informed about the negative health consequences of the postmenopausal period. The importance of quitting smoking before diabetes develops in prediabetic patients should be emphasized, and recommendations for a healthy lifestyle should be provided.

Key Words: Smoking, Postmenopausal Period, HbA1c

The Relationship Between Sleep Quality and Gastrointestinal Symptoms in Medical Residency Students

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Oral Presentation – OP224

Objective: In this study, we aimed to examine the relationship between sleep quality and gastrointestinal symptoms among medical residency students.

Materials and Methods: This descriptive study was conducted with 159 medical residency students working in the internal medicine departments of hospitals affiliated with the University of Health Sciences in Istanbul. Participants were asked to complete a survey that included the Sociodemographic Information Form, the Pittsburgh Sleep Quality Index, and the Gastrointestinal Symptom Rating Scale. All statistical analyses were performed using IBM SPSS version 25.0.

Results: Of the participants in the study, 74.2% (n=118) were female and 25.8% (n=41) were male. The mean score on the Gastrointestinal Symptom Rating Scale (GSRS) was 34.63±14.70. The average total score on the Pittsburgh Sleep Quality Index (PSQI) was 7.03±3.38. The proportion of individuals with good sleep quality was 24.5% (n=39), while 75.5% (n=120) had poor sleep quality. A positive and significant relationship was found between the total GSRS score and the total PSQI score, as well as the subscales of "Sleep Quality," "Sleep Latency," "Sleep Disturbance," "Use of Sleep Medication," and "Daytime Dysfunction." Individuals with poor sleep quality had higher total GSRS scores compared to those with good sleep quality. Additionally, a statistically significant positive correlation was

observed between the GSRS subscales of "Abdominal Pain," "Dyspepsia," "Reflux," "Diarrhea," "Constipation," and the total PSQI score.

Conclusion: In our study, it was found that individuals with poor sleep quality had higher total GSRS scores as well as higher scores in the subscales of Abdominal Pain, Reflux, Diarrhea, Dyspepsia, and Constipation.

Keywords: Medical Specialty Resident, Sleep Quality, Gastrointestinal Symptoms

Investigation of Metabolic Syndrome Frequency in Patients with Chronic Renal Failure

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Introduction and Aim



Metabolic syndrome (MetS) is a condition that includes many comorbid conditions such as type 2 diabetes, cardiovascular disease, dyslipidemia, and central obesity. Especially with technological developments, sedentary lifestyles have become an important social problem along with nutritional disorders. Although the frequency of metabolic syndrome (MetS) is increasing, it is more frequently encountered in patients with diabetes and cardiovascular problems, but unfortunately it is overlooked in other chronic diseases. Cardiovascular disease and type 2 diabetes, which are the most important components of metabolic syndrome, can develop complications that can lead to renal failure. In our study, we aimed to investigate the frequency of metabolic syndrome in patients with chronic renal failure (CRF), and to reveal that caution should be exercised in this patient group in terms of metabolic syndrome diagnosis.

Material and Methods

Our study was conducted on patients who were diagnosed with CKD and applied to the family medicine clinic between 01.01.2024 and 31.12.2024 at Balıkesir Atatürk City Hospital Family Medicine Clinic. Our study was planned as retrospective, cross-sectional and descriptive. Age, gender, CKD diagnosis period, systolic-diastolic blood pressure, waist circumference, total cholesterol, triglyceride, hdl, ldl, fasting blood glucose, DM and HT diagnoses of the patients

with CKD were recorded. National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III)-2001 and International Diabetes Foundation (IDF)-2005 diagnostic criteria were used to diagnose MetS for each patient. Patients whose patient information and data could not be accessed correctly were excluded from the study.

Results

Our study included 73 patients who visited the Family Medicine Clinic at Balıkesir Atatürk City Hospital.The mean age of the patients was 62.07±10.5. The duration of diagnosis of Chronic Kidney Disease among the patients included in the study was 5.25±3.08. Of the patients included in the study, 34.2% (n=25) were female and 65.8% (n=48) were male. Triglyceride level was 208.08±111.4, total_cholesterol 196.3±51.6, HDL 47.2±10.5, LDL 122.3±69.5, FBS 131.7±55.5, waist circumference 108.4±13.0. Of the patients included in the study, 39.7% (n=29) had DM and 94.5% (n=69) had HT. Of the patients included in the study, 38.4% (n=28) were diagnosed with MetS according to NCEP-ATP III, and 63% (n=46) were diagnosed with MetS according to IDF.

Conclusion

The prevalence of MetS in our country was determined as 22%, and it was revealed that 55% of patients with CAD had MetS. In our study, we found the frequency of MetS in patients with CKD to be as high as 63%. Mets, which is such a common comorbid disease, can be reduced by increasing the diagnosis, follow-up and treatment of individuals. In chronic kidney disease, mortality and dialysis can be prevented by correcting the comorbid conditions that cause MetS.

Keywords: Metabolic syndrome, Choronic Renal Failure, National Cholesterol Education Program (NCEP), International Diabetes Foundation (IDF)

Evaluation of Family Functioning in Juvenile Offenders

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Oral Presentation – OP229

Introduction

The family plays a fundamental role in an individual's development, and disruptions in family functioning can have detrimental effects on the emotional and behavioral development of children. Existing literature consistently highlights the association between impaired family dynamics and an increased risk of delinquent behavior in children. This study aims to assess the family functioning of juvenile offenders and examine whether family dysfunction varies based on the presence of psychiatric diagnoses.

Method

This study included 31 male juvenile offenders. Family functioning was evaluated using the Family Assessment Scale (FAS), with subscale scores exceeding 2 points indicating impaired family functioning. Additionally, demographic characteristics, family characteristics, and psychiatric diagnoses were analyzed. Ethical approval was obtained from the local ethics committee before starting the study. All analyses were performed using SPSS, version 26.

Results

The mean age of the participants was 13.97 ± 0.91 years, and the mean age at first offense was 13.58 ± 1.2 years. The mean age of mothers was 40.52 ± 6.2 years, while fathers had a mean age of 43.74 ± 7.2 years. Socioeconomic data indicated that 71% (n=22) of the participants'

families had an income below the minimum wage, and 19.4% (n=6) had at least one incarcerated family member.

Assessment of family functioning revealed notable impairments across multiple domains. Dysfunction was observed in problem-solving (38.7%, n=12) and communication (38.7%, n=12). Higher rates of dysfunction were found in roles (45.2%, n=14) and emotional responsiveness (45.2%, n=12). The most significant impairment was in the ability to provide adequate interest (83.9%, n=26), followed by behavior control (58.1%, n=18). General family dysfunction was identified in 25.8% (n=8) of the participants. Regarding psychiatric diagnoses, 32.3% (n=10) of the participants met the criteria for Attention Deficit Hyperactivity Disorder (ADHD), while 67.7% did not present with any psychiatric disorder. Comparative analysis between the ADHD and non-ADHD groups revealed significantly greater impairments in the ADHD group in communication ($p<0.05$), roles ($p = 0.047$), behavior control ($p = 0.028$) and general functions ($p = 0.04$).

Conclusion

The findings shows that there are significant impairments in the family functioning of juvenile offenders, with more pronounced dysfunction observed in those diagnosed with ADHD. It suggests that early interventions aimed at strengthening family structure and parent-child relationships are important in reducing the risk of criminal behaviour. The implementation of targeted family-based interventions could play a vital role in preventing criminal behavior among at-risk youth.

Keywords: Juvenile Offenders, Family Functioning, Psychiatric Diagnose

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Is There an Association between In-Utero Exposure to Maternal COVID-19 and Offspring's Diagnosed with Autism Spectrum Disorder?

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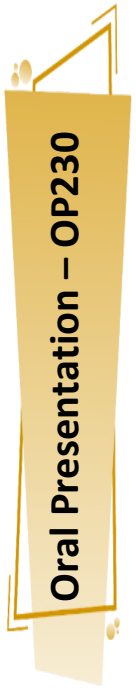

Introduction

It is claimed that children of mothers who got COVID-19 during pregnancy have an increased risk of being diagnosed with developmental delays or disorders, including those associated with autism spectrum disorder (ASD). However, previous studies investigating the association between maternal COVID-19 infection and ASD have produced mixed results. Therefore, this study aimed to examine whether there is a relationship between maternal COVID-19 infection and offspring's ASD diagnosis in offspring.

Method

The study included 76 children diagnosed with ASD between the ages of 1 and 5 years old and 84 healthy children matched for age and gender, and the two groups were compared in terms of COVID-19 infection that their mothers had during pregnancy. Ethical approval was obtained from the local ethics committee before starting the study. All analyses were performed using SPSS, version 26.

Results

While the mean age of the cases in the ASD group was 32.37±6.40 months and 76.3% (n=58) were male, the mean age of the children in the control group was 32.90±6.62 months and 78.6% (n=66) were male. No significant difference was found between the two groups in terms of age

and gender. The two groups were also similar in terms of family characteristics (parental age and education, family income level, family structure, etc.). History of COVID-19 infection during pregnancy was 6.6% (n=5) in the ASD group and 3.6% (n=3) in the control group, and COVID-19 vaccination during pregnancy was 21.1% (n=16) in the ASD group and 20.2% (n=17) in the control group. There was no significant difference between the two groups in terms of the history of COVID-19 infection and COVID-19 vaccination during pregnancy.

Conclusion

The results of this study showed that there was no relationship between a history of COVID-19 infection during pregnancy and ASD diagnosis. However, due to the small sample size and the inclusion of only those who had a COVID-19 test during pregnancy and were positive, our findings need to be evaluated carefully and supported by further studies.

Keywords: Maternal COVID-19 Infection, maternal COVID-19 Vaccination, Autism Spectrum Disorder

Attitudes of Medical Specialization Students Towards Healthy Eating

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Objective: This study aimed to assess the attitudes of family medicine residents toward healthy nutrition and explore the factors influencing their provision of nutritional counseling to patients.

Materials and Methods: Between May 1 and June 1, 2023, a total of 223 physicians undergoing specialization training at the Family Medicine Clinics of Health Sciences University Training and Research Hospital in Istanbul participated in the study. They were administered a "Sociodemographic Information Form" and the "Attitude Scale on Healthy Nutrition (ASHN)" questionnaire. Data were collected via an online survey created using Google Forms.

Results: Among the participants, 85 (38.1%) were male, and 138 (61.9%) were female. A total of 129 participants (42.2%) were enrolled in the Contracted Family Medicine Specialty (CFMS) program, while 94 (57.8%) were in the Family Medicine Specialty (FMS) program. The vast majority (98.7%) of residents considered providing nutrition education to their patients important, and 79.4% allocated time for such education. The median ASHN score was 76.5 (min: 56, max: 101), with 21.1% exhibiting an ideal level of positive attitude toward healthy nutrition. Attitudes toward healthy eating were significantly influenced by age, years of medical practice, type of family medicine specialization, level of nutrition knowledge, and the provision of nutritional counseling to patients ($p < 0.05$). Additionally, the time allocated for nutritional

counseling was significantly associated with gender, age, years of medical and residency experience, type of residency program, and level of nutrition knowledge ($p < 0.05$).

Conclusion: A significant relationship was observed between physicians' nutrition knowledge and the time they allocated for providing nutrition education to patients. Nutrition knowledge was influenced by age, years of medical practice, and the type of residency program. Furthermore, nutrition knowledge was strongly associated with attitudes toward healthy nutrition and the allocation of time for nutritional counseling. Enhancing the nutrition-related knowledge, skills, and attitudes of family physicians is essential for the promotion and maintenance of public health.

Keywords: Healthy Nutrition, Family Medicine, Nutrition Knowledge

Pediatric Surgery and Family Medicine Collaboration: Optimization of Referral Process with Retrospective Analysis of Patients

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Oral Presentation – OP232

Background: The aim of this study was to analyze the diagnostic distribution of patients admitted to pediatric surgery outpatient clinics, to identify cases that can be managed jointly with family physicians, to classify conditions requiring surgery, and to propose a collaboration model to optimize the referral process.

Methods: We retrospectively analyzed 1426 patients (411 females, 28.8%; 1015 males, 71.2%; mean age: 5.52±4.98 years) admitted to the pediatric surgery outpatient clinic in a one-year period. Diagnoses were divided into four groups according to gender, age and clinical priority criteria: (Group 1) Those who could be followed up directly by family medicine, (Group 2) Those who required family medicine follow-up after a diagnosis of pediatric surgery, (Group 3) Those who required emergency surgery, (Group 4) Those who required elective surgery. Elective surgeries were subgrouped according to age or clinical conditions.

Results: The most common diagnoses were circumcision (19.28%), hydrocele (8.41%), undescended testis (8.06%), phimosis (5.26%) and abdominal pain (5.26%). Conditions that could be managed directly by family medicine included constipation (4.56%), anal fissure (3.51%), mild urinary tract infections (1.75%) and neonatal colic (1.47%). Retractile testis (1.05%) and mild phimosis were among the diseases recommended to be followed up by family medicine after the diagnosis was confirmed by pediatric surgery.Cases requiring elective

surgery were analyzed in two groups as age-related and surgery after clinical follow-up. Age-related conditions requiring surgery included undescended testis (1 year) (8.06%), hydrocele (1 year) (8.42%), hypospadias (6-12 months) (1.75%) and umbilical hernia (2-4 years) (4.21%). Cases requiring surgery after clinical follow-up were hydronephrosis (Grade III/IV) (1.05%) and enlarged thyroid nodule (0.70%). Appendicitis (1.75%), testicular torsion (0.35%), corrosive esophagitis (0.70%) and inguinal hernia (3.06%) were the diseases requiring urgent surgical intervention.

Conclusion: While 19.21% of patients admitted to pediatric surgery outpatient clinics can be managed by family medicine, a group of 15.15% are suitable for family medicine follow-up after the diagnosis is confirmed by pediatric surgery. 44.94% of patients requiring elective surgery were identified, and follow-up of these patients with the cooperation of family medicine and pediatric surgery may contribute to optimizing the referral process. 6.59% of patients requiring emergency surgical intervention require rapid referral management. Other and special conditions constitute 14.11% of the patient group. Standardization of referral criteria, teleconsultation practices and age/gender-based multidisciplinary training programs can improve patient management. This proposed model will increase the efficiency of the healthcare system by reducing unnecessary outpatient visits, reinforce parents' trust in the process and make patient management processes more effective by prioritizing patients requiring emergency surgery.

Keywords: Pediatric Surgery, Family Medicine, Referral Criteria, Patient Follow-Up Protocols, Multidisciplinary Collaboration

The Relationship Between Mindfulness and Impulsivity in Individuals with Obesity: The Role of Sociodemographic Variables

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Objective

Obesity is a complex condition that affects not only physical health but also cognitive and behavioral processes. Mindfulness refers to being aware of one's thoughts and behaviors, while impulsivity represents a lack of control over these processes. This study aimed to examine the relationship between mindfulness and impulsivity in individuals with obesity and to evaluate the effects of sociodemographic variables on this relationship.

Materials and Methods

A total of 60 individuals with a BMI ≥ 30 were included in the study. Sociodemographic data were collected from the participants; mindfulness was assessed using the Mindful Attention Awareness Scale (MAAS), and impulsivity was measured using the Barratt Impulsiveness Scale (BIS). The data were analyzed using SPSS software, and correlation analysis, t-tests, ANOVA, Chi-square tests, and multiple regression analyses were conducted.

Results

A significant negative correlation was observed between MAAS and BIS scores, indicating that as mindfulness increases, impulsivity decreases. Gender was found to be a significant variable affecting MAAS scores ($\beta = -0.59$, $p = 0.038$), with women showing lower mindfulness scores

compared to men. A borderline statistical relationship was observed between educational level and obesity group (p = 0.077). Chi-square analyses did not reveal any significant relationships among sociodemographic variables. No independent variable was found to significantly predict BIS scores, though the model showed a general trend.

Conclusion

In individuals with obesity, higher levels of impulsivity are associated with lower levels of mindfulness. Women exhibited lower mindfulness levels compared to men. These findings highlight the importance of incorporating mindfulness-based interventions and gender-sensitive approaches in programs targeting individuals with obesity.

Keywords: Mindfulness, Impulsivity, Obesity

The Role of Primary Health Care Services in the Diagnosis and Follow-up of Chronic Venous Insufficiency: The Importance of CEAP Staging

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Objective:

Chronic venous insufficiency (CVI) is a disease caused by pathological changes in the venous system that significantly affect the quality of life. Its prevalence is reported between 10-40% and the literature. Progressive complications can be prevented through early diagnosis and appropriate management. In this context, primary healthcare organizations and family medicine are the main steps in which the disease is first evaluated, symptoms are managed, and referral to specialty support is made when necessary. Although the CEAP (Clinical-Etiologic-Anatomic-Pathophysiologic) classification is a standard tool for staging CVD, its widespread use in primary care can play a decisive role in early diagnosis and determination of appropriate treatment strategies. This study aimed to emphasize the importance of family medicine in the diagnosis and follow-up of CVD.

Oral Presentation – OP234

Materials and Methods:

Between January 2024 and January 2025, 550 patients admitted to the cardiovascular surgery outpatient clinic and diagnosed with CVD after clinical examination and imaging were evaluated consecutively and retrospectively. Demographic data, Clinical, Etiological, Anatomical, Pathophysiological (CEAP) stages, and treatments were analyzed using an electronic patient record system.

Results:

Demographically, 66.4% of the patients were female (n=365) and 33.6% were male (n=185). The age range was 18-87 years and the mean age was 44 years (median: 43 years).

According to the CEAP classification, 70% of the patients (n=386) were in the early stages (stage 1-2. There were 95 patients (17.2%) with stage 3, which was accompanied by ankle swelling and edema. Thirty-seven patients (6.73%) with skin changes and hyperpigmentation were classified into stages 4 and 5. There were 32 patients (16.36%) in stage 6 with open ulcers on the skin. Endovenous ablation and/or conventional surgery were performed in 16.4% (). Conservative approaches, including medical treatment, compression therapy, and lifestyle modifications, were recommended in 83.6 % (n = 460) of the patients.

Conclusions:

Our study shows that the majority of CVI patients (65%) are in CEAP Stage 1-2 and that a large proportion of these patients can be followed with conservative treatment without the need for surgical intervention. These findings reveal the importance of early diagnosis and conservative management in primary health care. Family physicians can intervene at an early stage with physical examination and symptom questioning in the diagnosis of CVD and prevent disease progression with approaches such as lifestyle changes, compression therapy, and medical treatment with phlebotonic agents in symptomatic cases. Increasing awareness of this issue can contribute to early diagnosis and strengthening patient management. The prevention of disease progression can increase patient comfort and reduce the need for further treatment. It may also reduce treatment costs by ensuring effective use of hospital resources.

On the other hand, our study supports that the systematic use of CEAP staging, which is easy and practical to apply, in primary care is critical for preventing disease progression and optimizing treatment costs.

In conclusion, primary healthcare organizations play a key role in CVD management because of early diagnosis and implementation of conservative treatment strategies. However, integrating CEAP staging into family medicine practice will facilitate dynamic follow-up of the disease and standardization of treatment algorithms.

Keywords: Chronic Venous Insufficiency, CEAP Staging, Primary Health Care, Conservative Treatment, Family Medicine

An Examination of Phobic Symptoms and Attitudes Toward Marriage in Women

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Oral Presentation – OP237

Objective:

Depressive disorders are highly prevalent among women and are often accompanied by phobic symptoms, including somatic anxiety, social phobia, specific phobias, and agoraphobia. Such comorbidities worsen the overall clinical picture and affect interpersonal functioning, including attitudes toward intimate relationships and marriage. Although the co-occurrence of depression and anxiety disorders is well established (Kessler et al., 2005), fewer studies have focused on how these mental health conditions influence sociocultural attitudes, particularly marital approval, among women (Nolen-Hoeksema, 2001). This study aims to investigate the relationship between phobic symptoms, sociodemographic variables, and attitudes toward marriage in women diagnosed with depressive disorders.

Methods:

The study included 60 female participants and were divided into two groups: those with and without a depression diagnosis. Variables assessed included phobic symptoms (somatic, agoraphobia, social phobia, specific phobia, panic, and xenophobia), age, education level, and marital approval. Data were analyzed using correlation and group comparison techniques (t-tests and descriptive statistics) via SPSS.

Results:

Women diagnosed with depression exhibited higher rates of somatic symptoms (24%), social phobia (21%), and specific phobia (21%) compared to those without depression. Marriage approval rates were slightly lower in the depressed group (17%) than in the non-depressed group (20%). A modest positive correlation was found between age and marriage approval ($r = 0.32$). No significant relationship was found between education level and phobia presence.

Conclusion:

Depression in women is associated with increased levels of phobic symptoms and a slight decrease in positive attitudes toward marriage. These findings underscore the importance of considering both affective and interpersonal dimensions when evaluating psychiatric patients. Mental health interventions targeting women may benefit from integrating components that address social functioning and relationship attitudes.

Keywords: Depression, Phobia, Marriage, Women, Sociodemographics

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The Effect of Peloid Therapy on Functionality and Sleep Quality in Patients with Knee Osteoarthritis

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Oral Presentation – OP239

Objective: Osteoarthritis (OA) is a chronic, degenerative, and the most common joint disease, starting with damage of the articular cartilage. It is usually seen in load-bearing joints. Knee OA, from a biopsychosocial perspective, is a significant public health issue causing the highest rates of disability, labour lost, and financial burden. The main goals of knee OA treatment are to reduce pain, increase the range of motion, and improve patient's functionality and quality of life. Although there is no gold standard treatment method, it is possible to find numerous treatment guidelines. These guidelines recommend lifestyle modifications as the first step, followed by non-pharmacological treatment methods, pharmacological treatments, and surgical options. Peloid therapy is a cost-effective treatment method using mud composed of organic and inorganic components formed through biological and/or geological processes, and has been used for centuries to treat various diseases. In OA treatment, peloid therapy is applied in the form of baths or packs. Its positive effects on pain, functionality, and quality of life in knee OA patients have been demonstrated. However, there are only a limited number of studies in the literature. The aim of our study is to examine the effectiveness of peloid therapy on functionality and sleep quality in patients with knee OA.

Materials and Methods: Our study is designed as a cross-sectional study and includes 89 patients aged between 18-70, diagnosed with OA according to the American College of Rheumatology criteria, who applied to the Medical Ecology and Hydroclimatology outpatient clinic between June 15, 2021 and December 15, 2022, and who accepted to participate in the study after being administered peloid therapy. After providing the necessary explanations, written informed consent was obtained from all patients. Patients were evaluated using a data collection form prepared by the responsible researcher for socio-demographic features and disease characteristics, and assessments were done at the beginning and at the end of the 12th session using the Lequesne Algofunctional Knee Index (LAKI) for functionality and the Jenkins Sleep Scale (JSS) for sleep quality. Patients received 12 sessions of local peloid pack therapy at the Medical Ecology and Hydroclimatology clinic. Treatment was scheduled once daily at the same time over 12 working days. Peloid packs pre-heated to 42°C were applied to the knee at a thickness of about 2 cm and covered with stretch film. Data were analyzed with IBM SPSS 21 (IBM SPSS Inc., Chicago, IL).

Results: Of the patients included in the study, 79 (88.8%) were female and 10 (11.2%) were male. The mean age of the participants was 60.04±8.03 years. Their mean Body Mass Index (BMI) was 30.55±5.40 kg/m². The mean functionality score before treatment was 11.96±3.71 and post-treatment was 7.82±3.85, showing a statistically significant difference ($p<0.01$). Statistically significant differences were also found in subcategories of functionality (pain and discomfort, maximum walking distance, and daily living activities) before and after treatment ($p<0.001$). Regarding sleep quality, the pre-treatment score was 13.29±6.01, and the post-treatment score was 10.41±6.32, also showing a statistically significant improvement ($p<0.001$).

***Table* 1.** Pre- and post treatment measurements off JSS and LAKI.

	Pre-treatment (mean±SD)	**Post-treatment (mean±SD)**	**Difference (mean±SD)**	**Test statistic**	**P value**
JSS	13.29±6.01	10.41±6.32	3.58±5.22	Z=-5.710*	**p<0.001****
LAKI Pain	4.82±1.64	2.77±1.70	2.23±1.69	Z=-7.398	**p<0.001**
LAKI Walking	2.42±1.78	1.85±1.57	0.69±1.26	Z=-4.106	**p<0.001**

LAKI Daily Activities	4.72±1.30	3.19±1.52	1.74±1.61	Z=-6.700	**p<0.001**
LAKI Total	11.96±3.71	7.82±3.85	4.67±3.28	Z=-7.616	**p<0.001**

*Wilcoxon Signed-Rank Test.
**Statistical significance at the 0.005 level

Conclusion: Our study showed that peloid therapy has positive effect for functionality and sleep quality on the patients with knee OA. It can be effectively used in reducing pain and discomfort, increasing walking distance, improving daily living activities, and enhancing sleep quality. If this study had been conducted outside the COVID-19 pandemic period, a significantly higher number of participants might have been reached, including more male patients and individuals with normal body weight. Despite some limitations, the prospective design and inclusion of all knee OA patients meeting the criteria is a strength of the study. Our study is one of the few to evaluate the effectiveness of peloid pack therapy alone in knee OA patients and stands out with the highest number of participants while also examining the effect of peloid therapy on sleep quality.

Keywords: Knee Osteoarthritis, Peloid Therapy, Functionality, Sleep Quality

Media Device Exposure and Parental Perspectives on Its Effects Among Children and Adolescents in Turkey During the COVID-19 Lockdown

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Introduction:

Due to the COVID-19 pandemic, a nationwide lockdown was implemented in Turkey from May 23 to 26, 2020, and the following weekend. School closures and the obligation to stay at home during the lockdown created an environment where children were exposed to media devices more frequently than usual. This study aimed to investigate changes in children's exposure to media devices during the COVID-19 lockdown and explore parental perspectives on the effects of media device use on children.

Methods:

This cross-sectional study was conducted between May 23 and June 12, 2020. An online questionnaire, prepared based on a literature review, was administered to parents of children aged 0-18 years via email and WhatsApp groups. Sample size calculation was performed using Open Epi, determining a required sample of 384 participants with a 95% confidence interval. Data were analyzed using IBM SPSS Statistics version 21, with $p<0.05$ considered statistically significant.

Results:

A total of 394 parents participated, 333 of whom (84.5%) were women, with a mean age of 37.1±6.6 years. Parents reported that their children's media device usage increased during the lockdown compared to the pre-pandemic period (p<0,001), with the most significant increase

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observed in computer use. No significant relationship was found between parental education level and children's media device usage. The most common activities used to reduce media use were reading books (78.9%) and drawing/painting (77.4%). More than half of the parents stated that during the lockdown, media devices were increasingly used for communication with acquaintances (66.5%), education (59.1%), entertainment (69.5%), playing games (57.6%), and watching cartoons (65.6%). Nearly half (48.2%) reported using media devices to keep their children occupied while doing household chores. Additionally, more than half of the parents indicated that media use increased their children's understanding of the pandemic process (65.5%) and ways to prevent infection (74.9%).

Conclusion:

Exposure to media devices increased during the COVID-19 lockdown. Regardless of educational background, all parents should be made aware of potential negative effects to protect children from overexposure.

Keywords: Children, Media Exposure, Parental Perspectives, Screen Time, COVID-19, Lockdown

Introduction

After the first cases of pneumonia of unknown origin were identified in Wuhan in December 2019, the World Health Organization (WHO) declared the 2019 coronavirus disease (COVID-19) a public health emergency of international concern (1, 2). As COVID-19 spread from China to the rest of the world, it reached Turkey on March 11, 2020, leading to periods of lockdown in the country.

Lockdown and quarantine periods can lead to psychological, social, and physical adverse effects in children (3, 4). Additionally, school closures during this period—similar to weekends and summer vacations—increase children's screen exposure. Increased screen time may

contribute to aggressive behaviors, excessive weight gain, sleep disturbances, and issues related to cognitive, social, and emotional development, as well as language and speech skills (5, 6).

This study aims to investigate changes in media device exposure among children and adolescents during the COVID-19 lockdown in Turkey and to explore parental perspectives on the effects of media devices on children.

Methodology

This is a cross-sectional study conducted between May 23, 2020, and June 12, 2020. Ethical approval for the study was obtained from the Ondokuz Mayıs University Ethics Committee (Decision No: 2020/317). A questionnaire, prepared based on a literature review, was administered online (via email groups, WhatsApp groups, etc.) to parents with children aged 0-18 years (2-4, 7-11). The term **"media devices"** in the questionnaire refers to smartphones, tablets, computers, televisions, and gaming consoles. Sample size calculation was performed using OpenEpi, and the required sample size was determined to be 384 participants at a 95% confidence interval. Data were analyzed using IBM SPSS Statistics version 21. Descriptive statistics were presented as frequencies, percentages, means, and standard deviations. The Kolmogorov-Smirnov test was used to assess the normality of the data distribution. The Mann-Whitney U test was applied for comparisons of independent variables with non-normal distribution, while the Wilcoxon test was used for dependent variables. Correlation analysis was also performed. A p-value of <0.05 was considered statistically significant.

Results

A total of 394 parents participated in the study, of whom 333 (84.5%) were women. The mean age of the participants was 37.1±6.6 years. The most commonly owned media device was the smartphone, and university graduates owned a greater number of media devices ($p<0.001$). Participants reported that their children's usage time for all media devices increased during the lockdown compared to the pre-lockdown period ($p<0.001$), with the most significant increase observed in computer usage. No significant relationship was found between parents'

educational level and their children's media device usage time (p>0.05). The most common activities performed to reduce media usage were reading books (78.9%) and drawing/coloring (77.4%).

More than half of the participants stated that, during the quarantine period, media device usage increased for communication with acquaintances (66.5%), education (59.1%), entertainment (69.5%), gaming (57.6%), and watching cartoons (65.6%). Nearly half (48.2%) reported that they used media devices to keep their children occupied while doing housework. Additionally, one-third (32.5%) used media devices to prevent their children from disturbing them while they were using their own devices, and 36.3% reported increased media use when they were feeling tired (Figure 1).

More than half of the participants stated that media device usage helped children better understand the pandemic process (65.5%) and ways to prevent illness (74.9%). However, one-third of the participants reported that increased media use raised their children's anxiety about the health of acquaintances (31%), empathy toward sick individuals (33.2%), distractibility (35%), and the likelihood of experiencing behavioral problems and temper tantrums (35%) (Figure 2).

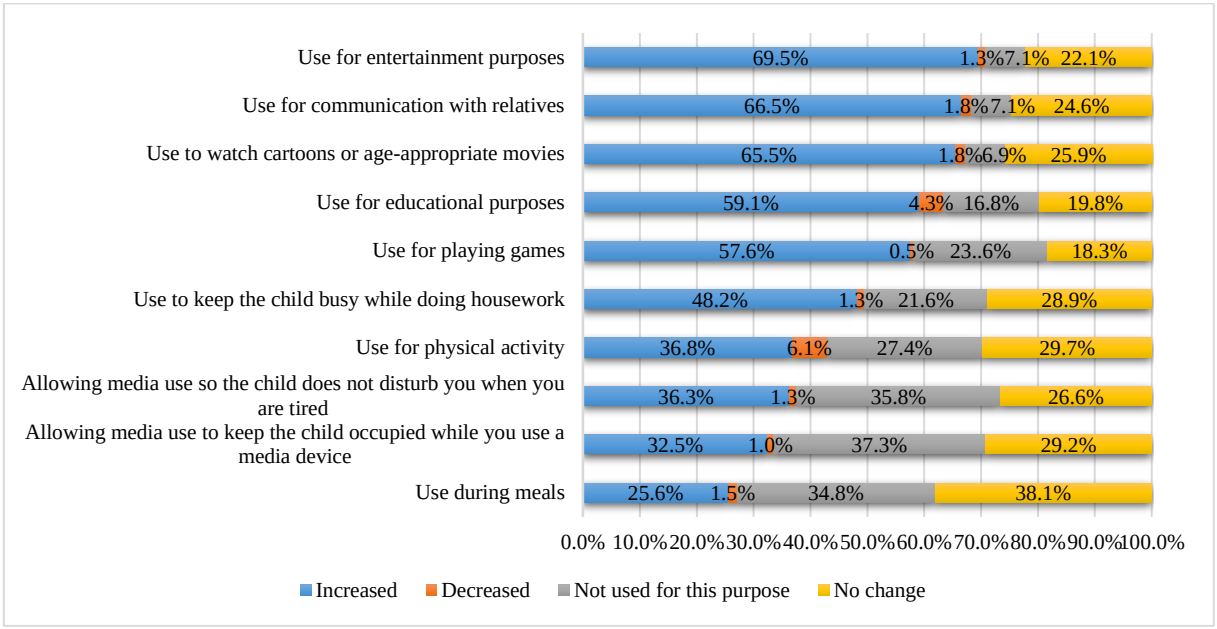

Figure 1. Parental Perspectives on Purpose-Specific Changes in Children's Media Device Use During the COVID-19 Lockdown

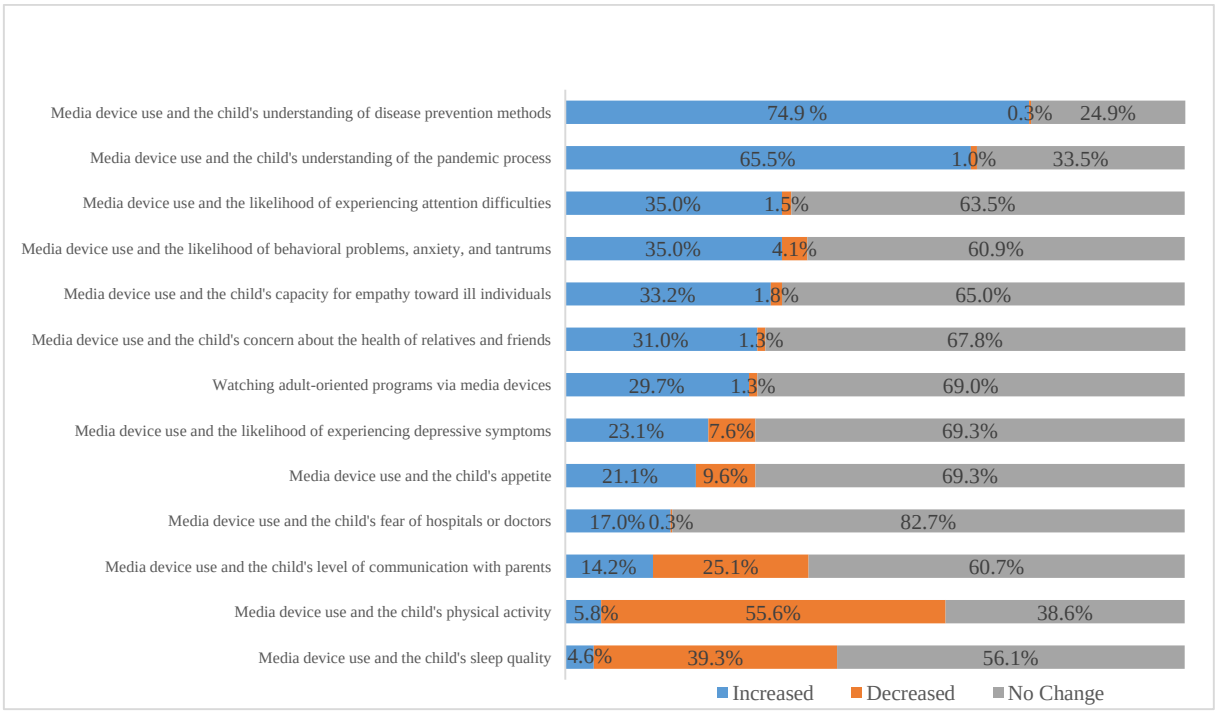

Figure 2. Parental Perspectives on the Relationship Between Children's Media Device Use and Various Behavioral and Emotional Characteristics During the COVID-19 Lockdown

Discussion

The lockdowns implemented during the COVID-19 pandemic led to significant changes in the interaction of children and adolescents with media devices. In our study, according to parents' statements, the duration of their children's use of all media devices increased compared to the pre-lockdown period. This finding is consistent with other studies that report a rapid increase in the time children spent with media devices as a result of spending more time at home since the beginning of the pandemic (12, 13). The reason for the significant increase in computer usage time in this study may be attributed to the use of computers for remote education and communication with peers. This finding aligns with the observation that, as media devices became a central component of daily life and interactions during the pandemic (for work, school, learning, socialization, and entertainment), parents purchased new devices, primarily computers and handheld devices, for their children (14).

Our research found that, with the influence of developing technology, smartphones have replaced television as the most commonly owned media device, and that parents with higher education levels owned more media devices. This situation, along with the advancement of technology and increased accessibility of smartphones, has led to children being introduced to media devices at an earlier age (15).

When examining the purposes for media device usage, most parents indicated that during the quarantine period, there was an increase in the use of these devices for communication with family and friends, education, entertainment, playing games, and watching cartoons. The continuation of remote education during the pandemic may have increased the use of media devices for educational purposes (16, 17). Additionally, the use of media devices for communication by adolescents is consistent with the literatüre (18). Moreover, the literature indicating that children spent more time in front of screens during the pandemic, and that this time remained high even after public health measures were lifted, highlights the need for preventive measures regarding media device usage (19).

According to parents, media device usage increased the understanding of the pandemic and ways to protect against the disease, while also enhancing empathy for those who were sick, but it also led to some negative effects (20). Specifically, concerns about the health of loved ones, distractibility, behavioral problems, and an increase in anger outbursts among children were reported (21-23). These findings support the literature indicating that media usage habits can lead to both positive and negative outcomes (24).

Children's interaction with media devices significantly increased during the COVID-19 pandemic, leading to both positive and negative effects (25). It is crucial for parents to adopt a conscious and controlled approach to their children's media use, as this is important for their healthy development.

Conclusion

As a result, children's interaction with media devices significantly increased during the COVID-19 pandemic, leading to both positive and negative effects. According to parents, while media devices provided educational and social benefits during the pandemic and quarantine periods, they also raised concerns about the potential negative impacts on children's behavior and well-being. Following the increased usage of media devices during the pandemic, both parents and children should be informed and supported in terms of media usage. Additionally, the decline in physical activity and sleep quality associated with media device usage should be evaluated at the primary care level post-pandemic, while efforts should be made to further enhance the positive effects, such as improving hygiene habits and fostering empathy.

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A Pilot Study on the Association Between Technology Use and Depression Severity in Clinically Diagnosed Patients

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Introduction:

Digital device and social media use have become deeply embedded in daily life and may play a critical role in the course and management of depressive disorders. Although problematic use of these technologies is increasingly discussed, the relationship between digital behaviors and depression severity remains to be fully clarified. This pilot study aimed to explore associations between depressive symptom severity and levels of smartphone and social media use in patients clinically diagnosed with depression.

Methods:

This preliminary study included 20 patients diagnosed with depressive disorders and receiving outpatient psychiatric care. Sociodemographic data were collected alongside three self-report instruments: the Depression Anxiety Stress Scale (DASS), the Bergen Social Media Addiction Scale (BSMAS), and the Smartphone Addiction Scale-Short Version (SAS-SV). Depression severity was calculated using six core items from the DASS depression subscale. Pearson correlation analysis was used to assess relationships between depression scores and digital technology use.

Results:

Among the 20 participants (70% female, mean age: 33.6 years), the average depression score was 19.2 (SD = 3.4). Significant positive correlations were observed between depression

severity and several items on the smartphone addiction scale, including perceived loss of control and negative impact on functioning. Social media use was also mildly correlated with depressive symptom severity.

Conclusion:

In this pilot sample of patients with depression, higher levels of smartphone and social media use were associated with more severe depressive symptoms. These findings support the need for further research into digital behavior patterns in mood disorders and suggest that technology use may be a relevant focus in clinical evaluation and treatment planning.

Keywords: Depression, Digital Behaivour, Smartphone Addiction, Social Media Addiction

Readability and Content Evaluation of Turkish-Language Websites on Vitamin D in Children

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Oral Presentation – OP245

Objective: Vitamin D plays a crucial role in children's bone health, immune function, and overall development. Given its significance, access to reliable and comprehensible health information is essential for parents and caregivers. In the digital era, many individuals rely on online resources for health-related information; however, the readability and accuracy of such content can vary significantly. The accessibility of scientific knowledge depends not only on the credibility of the sources but also on the complexity of the language used. Previous studies have shown that the readability of health-related websites often exceeds the general population's literacy level, which may limit the effectiveness of online health education. This study aims to assess the readability and content quality of Turkish-language websites providing information on vitamin D in children, offering insights into their suitability for public use.

Materials and Methods: In March 2025, a Google search (https://www.google.com) was conducted using the keyword "Vitamin D in Children." Websites from the first 13 pages of search results were screened. Informative texts from these websites were transferred to Microsoft Word, with headings, author details, URLs, addresses, and links removed to prevent bias in readability results. The average number of words per sentence, the average number of syllables per word, and the average number of polysyllabic words (four or more syllables) per sentence were calculated using Microsoft Excel. The content analysis assessed whether the websites provided information on the definition, sources, causes of deficiency, consequences

of deficiency, diagnosis, treatment, and toxicity of vitamin D. The topic framework for content evaluation was developed based on guidelines from the Turkish Society of Endocrinology and Metabolism and relevant UpToDate articles. Readability was assessed using the Ateşman and Bezirci-Yılmaz formulas. Websites containing fewer than ten sentences, as well as discussion forums, commercial blogs, and sites consisting solely of images, tables, or videos, were excluded. Data analysis was performed using SPSS 21.

Results: After excluding non-eligible websites, a total of 63 websites were included in the study, of which 36 (57.1%) were authored by healthcare professionals (Group 1), while 27 (42.9%) were prepared by other individuals and organizations (Group 2). Among the included websites, 55.6% provided a definition of vitamin D, 73% described its physiological functions, 87.3% listed its sources, 58.7% discussed the causes of vitamin D deficiency, 87.3% explained its consequences, 38.1% covered its diagnosis, 76.2% addressed its treatment, and 55.6% contained information on vitamin D toxicity. No significant differences were found between the two groups in terms of content coverage. A comparison of the readability scores between the study groups is presented in Table 1, while Table 2 displays the classification of the study groups according to Ateşman's readability levels.

Conclusion: In this study, the readability level of the analyzed websites was classified as "moderately difficult" according to the Ateşman index and at the "college level" based on the Bezirci-Yılmaz formula. The findings indicate that the readability level of Turkish-language websites on vitamin D in children exceeds the average literacy level of the Turkish population. Additionally, it was observed that the websites lack sufficient information regarding the diagnosis of vitamin D deficiency. To improve readability, authors should use words with fewer syllables and construct shorter sentences when preparing website content. Furthermore, website content should be enhanced to include comprehensive information on the definition of vitamin D, causes of deficiency, diagnosis, and toxicity.

Table 1: Comparison of Readability Scores Between Study Groups

	Group 1 Median (Min-Max)	Group 2 Median (Min-Max)	Total Median (Min-Max)	p
Ateşman Readability Score	53.06(32.89-60.45)	50.92(36.75-66.58)	52.52(32.89-66.58)	0.261
Bezirci-Yılmaz Readability Score	12.45(9.54-18.79)	14.58(8.81-18.91)	12.79(8.81-18.91)	0.255
Number of Syllables per Word	2.80(2.61-3.02)	2.83(2.17-2.98)	2.81(2.17-3.02)	0.718
Number of Words with 4 or More Syllables in Sentences	4.27(3.46-6.92)	4.62(2.86-6.33)	4.36(2.86-6.92)	0.474

[1]*Mann Whitney U Test*

Table 2: Comparison of Study Groups According to Ateşman's Readability Ranges

	Group 1 Median (Min-Max)	Group 2 Median (Min-Max)	Total Median (Min-Max)	p
Very Difficult + Difficult	11(45.80)	13(54.20)	24(100.00)	0.155
Moderate	25(64.1)	14(35.9)	39(100.00)	

[1]*Chi-Square Test*

Keywords: Children, Vitamin D, Readability, Turkish Websites

The Relationship Between Serum Adropin, Asprosin and Irisin Levels and Cardiovascular Disease Risk in Healthy Individuals, Prediabetic and Type 2 Diabetes Patients

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Oral Presentation – OP248

Objectives

Type 2 diabetes mellitus (DM) is a chronic metabolic disorder with an increasing prevalence and a high societal and individual burden. Cardiovascular disease is the most important cause of morbidity and mortality in diabetic patients and the increased risk of cardiovascular disease also increases costs. In recent years, circulating levels of adropin, asprosin and irisin have been thought to be associated with diabetes. Investigating the relationship between diabetes and these proteins may guide us in the prevention, early diagnosis and even treatment of both diabetes and its cardiovascular complications. In this study, we aimed to determine the relationship between serum adropin, asprosin and irisin levels and diabetes, cardiovascular disease risk and some blood parameters in healthy, prediabetic and diabetic patients.

Materials and Methods

The study included 30 patients with type 2 DM, 30 patients with prediabetes and 29 healthy individuals who applied to Selçuk University Faculty of Medicine, Family Medicine Outpatient Clinic between 01.07.2024-31.12.2024. It was approved by the decision of the ethics committee of Selçuk University Faculty of Medicine (2024/252). Consent was obtained from the

participants, a sociodemographic questionnaire was administered, Framingham risk score was calculated, height, weight, waist circumference, blood pressure measurements were recorded and biochemistry tests were noted.

Results

Age, gender and BMI of the participants were matched. Framingham risk score, waist circumference, systolic blood pressure, WBC, glucose, HbA1c, HOMA-IR values were higher in the diabetes group ($p<0.001$, $p=0.019$, $p=0.003$, $p=0.042$, $p<0.001$, $p=0.023$, $p<0.001$). Circulating levels of adropin, asprosin, and irisin in the participants were not statistically significant based on both Framingham risk level and diabetes status. Framingham risk score was positively correlated with age, BMI, waist circumference, systolic and diastolic blood pressure, glucose, triglyceride, HOMA-IR, HbA1c levels and negatively correlated with HDL levels ($r=0,560$; $p<0,001$, $r=0,301$; $p=0,004$, $r=0,267$; $p=0,011$, $r=0,626$; $p<0,001$, $r=0,294$; $p=0,005$, $r=0,607$; $p<0,001$), $r=0,371$; $p<0,001$, $r=0,235$; $p=0,026$, $r=0,665$; $p<0,001$, $r=-0,382$; $p<0,001$). In the diabetes group, there was a positive correlation between adropin value and irisin and asprosin value ($r=0.789$; $p<0.001$, $r=0.889$; $p<0.001$); there was a positive correlation between irisin value and adropin and asprosin value ($r=0.789$; $p<0.001$, $r=0.749$; $p<0.001$); and a positive correlation was found between asprosine value and adropin and irisin values ($r=0.789$; $p<0.001$, $r=0.749$; $p<0.001$). One unit increase in BMI decreased adropin by 30.622 units; one unit increase in waist circumference decreased adropin by 8.694 units; one unit increase in Framingham score decreased adropin by 10.700 units; one unit increase in HOMA-IR decreased adropin by 24.897 units; one unit increase in age decreased irisin by 0.494 units; and one unit increase in BMI decreased asprosin by 2.243 units.

Conclusion

In our study, we found that circulating levels of adropin, asprosin and irisin did not show a significant trend in glucose metabolism disorders and in determining cardiovascular risk. Since there are many factors influencing the levels of these proteins, we believe that their use alone

would not be sufficient for predicting cardiovascular risk or the early diagnosis of diabetes. We think that our study contributes to the literature in this field and may guide future research.

Keywords: Type 2 Diabetes Mellitus, Prediabetes, Adropin, Asprosin, Irisin, Framingham Risk Score

Does Body Mass Index Affect Neutrophil Lymphocyte Ratio in People Without Chronic Disease?

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Aim

The prevalence of obesity is increasing worldwide. Obesity is a chronic disease caused by increased fat mass in the body. It is involved in the etiology of many chronic diseases. Neutrophil lymphocyte ratio (NLR) is a practical method used to evaluate inflammatory and chronic processes. It increases in diseases such as malignancies, coronary artery disease, inflammatory arthritis and ulcerative colitis.

Our aim is to investigate the effect of body mass index on mean NLR in individuals without chronic disease.

Material Method

Our study included 118 patients who applied to the Family Medicine outpatient clinic of Eskişehir Osmangazi University Hospital between 01.11.2024-30.12.2024, did not have chronic diseases and requested hemogram examination. In our study, height and weight measurements were taken. Sociodemographic data form was filled out with face-to-face interview method and hemogram results were recorded. Obtained data were analyzed using SPSS. Kruskal Wallis Test was used for analytical analysis.

Findings

46.6% (n=55) of participants were male and 53.4% (n=63) were female. The mean age of the study group was 52.27 ± 18.00, min. 19 and max. 89.

Individuals were distributed according to their body mass index as 38.1% normal weight, 30.5% overweight and 31.4% obese (Table 1). The mean NLR of all participants was calculated as 2.11 ± 1.15.

Table 1: Distribution of the study group according to body mass index

Body Mass Index	n	%
18.5 - 24.9 (normal)	45	38.1
25.0 - 29.9 (overweight)	36	30.5
30.0 - 39.9 (obese)	37	31.4
Total	118	100.0

Table 2: NLR mean values according to body mass index

Body Mass Index	NLR		
	Mean ± SD	Min - Max	P value
18.5 - 24.9	1.81 ± 1.12	0.48 – 6.24	**0.002**
25.0 - 29.9	2.21 ± 0.66	1.33 – 4.28	
30.0 - 39.9	2.37 ± 1.46	0.89 – 8.53	

A highly significant relationship was found between body mass index and NLR averages ($p < 0.05$). As the body mass index increases, NLR averages also increase (Table 2).

Conclusion

The NLR value, which increases in chronic inflammatory processes, increases with the increase in body mass index even if chronic disease has not developed. The use of the NLR value as an early stage marker, which we can use cheaply and practically in primary care, can be supported by other inflammation markers and studies to be conducted on larger patient populations.

Keywords: Neutrophil Lymphocyte Ratio, Body Mass İndex, Obesity

Early Diagnosis and Clinical Surgical Outcomes on the Road to Surgery in Carotid Artery Diseases

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Oral Presentation – OP250

Introduction:

Carotid artery disease holds a significant place among cerebrovascular diseases, and early diagnosis and appropriate treatment, especially in patients at risk for stroke, are crucial for the patients' quality of life and survival. Stroke is known as the third most common cause of death after cancer and ischemic heart disease, with 80% of strokes being of ischemic origin, and 10-15% of these cases being attributed to carotid artery disease. Family physicians play a crucial role in early diagnosis, managing risk factors, and making necessary referrals, particularly in asymptomatic patients. In this study, the clinical outcomes of patients who underwent isolated carotid artery endarterectomy in our clinic were evaluated, and the contribution of early diagnosis to surgical success was emphasized.

Methods:

In this retrospective study, 52 patients who underwent isolated carotid artery endarterectomy between 2019 and 2025 in our clinic were examined. Patients who underwent simultaneous coronary artery bypass surgery and carotid surgery were excluded from the study. Patients presented either asymptomatically or symptomatically, and during the initial evaluation, physical examination, blood tests, and carotid vertebral artery color Doppler ultrasound were performed. Especially in asymptomatic patients, advanced imaging techniques were employed when carotid bruits were detected. For patients with significant stenosis, carotid computed

tomography angiography (CTA) or digital subtraction angiography (DSA) was performed. In asymptomatic patients with severe stenosis, brain diffusion MRI was used to identify the presence of silent infarcts.

When determining surgical indications, the degree of stenosis, symptomatology, the patient's medical condition, vascular and local anatomical factors, and carotid plaque morphology were considered. Complex plaques with neovascularization, ulceration, and thrombus, as well as bilateral lesions, were primarily assessed when determining which side to operate on. The choice of anesthesia was made by mutual agreement between the surgeon and the anesthesiologist, and carotid endarterectomy and patchplasty were performed under general anesthesia with cerebral oximetry and NIRS monitoring.

Results:

The mean age of the patients was 71.7 years (range 57-83), with 40.3% female and 59.7% male. The most common comorbidities were diabetes mellitus (25%), hypertension (23%), coronary artery disease (15%), peripheral artery disease (8%), and hyperlipidemia (29%). Of the patients, 23% were referred by family physicians, 48% were referred from other clinics, and 29% directly presented to our clinic. A significant portion of patients referred by family physicians were asymptomatic, with carotid bruits detected during routine physical examination. The postoperative mortality rate was 3.8% (n=2), with both cases being in the symptomatic group. Postoperative complications included 2 cases of transient ischemic attack (TIA), 1 case of dysphagia, and 2 cases of hematoma at the incision site. These patients were successfully treated with revision surgery. The average hospital stay was 3.9 days.

Conclusion:

Early diagnosis and treatment of carotid artery disease significantly reduce the risk of stroke and mortality. Family physicians should pay attention to the presence of carotid bruits during routine physical examinations, especially in asymptomatic individuals over 60 years of age. In 35% of patients with a bruit, stenosis greater than 50% can be detected, and rapid evaluation

and advanced imaging techniques are necessary. Screening for asymptomatic carotid artery disease should also be considered in patients with coronary artery disease and peripheral artery disease.

Smoking cessation counseling, achieving a healthy body mass index (<25 kg/m²), regular blood pressure monitoring, lipid level reduction, and blood glucose regulation should be implemented. Antiplatelet therapy (ASA or Clopidogrel), and dual antiplatelet therapy if necessary, should be used. Family physicians actively managing risk factors contribute to improving patients' quality of life and the recovery of surgical outcomes.

Keywords: Carotid Artery Stenosis, Carotid Endarterectomy, Stroke

Evaluation of *Toxoplasma gondii*, Rubella and Cytomegalovirus Seroprevalences

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Abstract

Objective: *Toxoplasma gondii*, rubella, and cytomegalovirus infections can occur in individuals of all ages and are among the causes of serious morbidity and mortality in terms of public health. This study aimed to evaluate the seroprevalence of *Toxoplasma gondii*, rubella and cytomegalovirus IgM and IgG antibodies studied in the Immunology/Serology unit of the Central Laboratory of patients who applied to the Health Application and Research Center of Çukurova University Balcalı Hospital due to various clinical indications between January 2023 and December 2024, according to gender and different age groups.

Material and Method: The seroprevalence of *Toxoplasma gondii*, rubella and cytomegalovirus IgG and IgM antibodies against in serum samples from patients referred to the Immunology/Serology unit of the Central Laboratory from various clinics during the two-year period was studied by the Chemuliminesan microparticle immunoassay method (CMIA; Architect i2000SR, Abbott Diagnostics, Abbott Park, IL) in accordance with the manufacturer's recommendations. Only patients in whom both IgM and IgG were requested for all three agents (*Toxoplasma gondii*, rubella and cytomegalovirus) from the same patient were included in the study.

Results: During the two-year period in which the study was conducted, *Toxoplasma gondii*, rubella and cytomegalovirus IgM and IgG tests were ordered simultaneously in 877 patients, of

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whom 432 were female and 445 were male. The ages of women range from 0 to 84, with a mean age of 24.39±20.78, while the ages of men ranged from 0 to 79, with a mean age of 19.30±20.50. The seropositivity rates of *Toxoplasma gondii*, rubella and cytomegalovirus IgM and IgG were recorded at 0.79% and 25.9%; 1.36%; and 80.27%; and 6.49%, and 89.05%, respectively. The detection rate of seropositivity both IgM and IgG antibodies for *Toxoplasma gondii*, rubella and cytomegalovirus were 6 (0.68%), 11 (1.25%) and 54 (6.15%) respectively. The number of both IgG and IgM seropositive cases among 0-1 age groups, constituting 15.16% (133/877) of the total number of patients, was 6 for rubella and 19 for cytomegalovirus.

Conclusion: With the exception of differences in cytomegalovirus seroprevalence, the findings of our study appear to align with those of other research conducted in our country. The data of our study are important in terms of determining the regional seroprevalence and contributing to the epidemiological data of our country.

Keywords: Citomegalovirus, Rubella, Seroprevalence, *Toxoplasma Gondii*

Introduction

Toxoplasma gondii (*T. gondii*) rubella, and cytomegalovirus (CMV) infections are group of infection agents that are prevalent in the general population of all ages, typically asymptomatic, but can cause severe symptoms and postpartum sequelae in the fetus if experienced during pregnancy[1,2].

T. gondii is a cosmopolitan obligate intracellular protozoan parasite. It is distributed worldwide in humans and warm-blooded animals. It is estimated that one-third of the global human population carries a *T. gondii* infection[3]. Globally, the seroprevalence of *T. gondii* is very heterogeneous according to regions of the world and populations. This depends on food habits, socioeconomic factors and hygiene practices[4,5].

Rubella is a highly contagious viral infection that spreads through airborne droplets and primarily affects children and young adults worldwide. It is a teratogenic pathogen that can cross the placenta and cause fetal infection. Rubella virus infection throughout pregnancy may result in miscarriage, prematur birth, fetal death or congenital rubella syndrome (CRS)[6]. The risk of congenital malformations in newborn infants is 50% in the first month, 25% in the second month, and 17% in the third month[7]. Rubella is a vaccine-preventable disease. As of January 2024, 175 out of 194 countries had introduced rubella vaccines and global coverage was estimated at 69%. Reported rubella cases declined 97%, from 670 894 cases in 102 countries in 2000 to 17 865 cases in 78 countries in 2022[8].

CMV, is ubiquitous in all human populations. The virus is mostly asymptomatic in healthy individuals. CMV can be transmitted congenitally from mother to infants during pregnancy It affects approximately 60% of women of childbearing age in developed countries and 90% in developing countries[7]. CMV is one of the most prevalent perinatal infectious agents, occurring in 0.2-2.4% of all live births[6]. Congenital infections in newborn infants can lead to permanent hearing loss, vision impairments, intellectual disabilities, and even death. The serological status of women of reproductive age offers important insights into their immunity, which may help identify women at risk and contribute to preventing congenital infections caused by these agents[9].

Since these infections are difficult to distinguish from each other clinically, their diagnosis is mostly based on serological detection of specific antibodies. IgM and IgG-type antibody levels determined as a result of these serological tests provide information about exposure to the agent and whether the infection is acute or past[1].

The prevalence of *T. gondii*, rubella, and CMV infections varies significantly based on geographic region, socioeconomic status, race, and age. Understanding the seroprevalence and distribution of these infectious agents in populations can inform public health strategies aimed a reducing the overall burden of infectious diseases and assist in healthcare planning to mitigate the impact of these infections[5].

This study aimed to evaluate the seroprevalence of *T. gondii*, rubella and cytomegalovirus IgM and IgG antibodies studied in the Immunology/Serology unit of the Central Laboratory of patients who applied to the Health Application and Research Center of Çukurova University Balcalı Hospital due to various clinical indications between January 2023 and December 2024, according to gender and different age groups.

Materials and Methods

The seroprevalence of *T. gondii*, rubella and CMV IgG and IgM antibodies against in serum samples from patients referred to the Immunology/Serology unit of the Central Laboratory from various clinics during the two-year period was evaluated. *T. gondii*, rubella and CMV IgM and IgG antibodies were analysed by IgM and IgG commercial kits with chemiluminescent microparticular immunoassay method in Architect system (CMIA; Architect i2000SR, Abbott Diagnostics, Abbott Park, IL). The results were evaluated according to the evaluation criteria of the kits. Only patients in whom both IgM and IgG were requested for all three agents (*T. gondii*, rubella and cytomegalovirus) from the same patient were included in the study. Only the initial results of each patient were taken into account and repeated recordings were excluded.

Statistical Analysis

In the evaluation of the data obtained in the study, mean±standard deviation was used for general descriptive statistics, and percentage (%) and frequency (n) distributions were used for categorical variables.

Results

Over the course of the study period, the results of a total of 877 patients were analyzed in terms of anti-Toxoplasma, anti-Rubella, and anti-CMV antibodies. Of the 877 patients, 432 were female and 445 were male. The ages of women range from 0 to 84, with a mean age of 24.39±20.78, while the ages of men ranged from 0 to 79, with a mean age of 19.30±20.50. The rates of anti-Toxoplasma, anti-Rubella, and anti-CMV IgM antibody positivity were 0.79%, 1.36%, and 6.49%, respectively, whereas IgG antibody positivity was 25.9%, 80.27%, and 89.05%, respectively. Table 1 presents the Seroprevalence of *T. gondii*, Rubella and CMV IgM

and IgG antibodies according to age groups and sex amoung the study population. The detection rate of seropositivity both IgM and IgG antibodies in a single serum sample for *T. gondii*, rubella and CMV were 6 (0.68%), 11 (1.25%) and 54 (6.15%) respectively. The number of both IgG and IgM seropositive cases among 0-1 age groups, constituting 15.16% (133/877) of the total number of patients, was 6 for rubella and 19 for CMV. While 55.30% of the samples were sent from pediatric wards and policlinics, 19.61% from internal medicine services and policlinics, 6.27% from infectious diseases and clinical microbiology policlinics, 5.81% from ophthalmology services and policlinics, 3.42% from gynecology and obstetrics policlinics, 3.07% from neurology services and policlinics, the remaining 6.49% were sent from other policlinics and services.

Discussion

Seropositivity for anti-Toxoplasma IgM and IgG antibodies was found to be 1.4% and 30.9%, respectively in Rize province by Bahçeci et al.; 2.2% and 67.5%, respectively, in İstanbul province by Demir et al.; 1.3% and 22.1% in Bolu province by Avcıoğlu et al.; 1.1% and 37.6% in Van province by Parlak et al [1,10,4,11]. In the present study, the rate of seropositivity for anti-Toxoplasma IgM and IgG antibodies was found to be 0.79% and 25.9%, respectively.

The rate of seropositivity for anti-rubella IgM and IgG antibodies was reported to be 0.7% and 91.0%, respectively in Rize province by Bahçeci et al.; 0.2% and 92.0%, respectively, in İstanbul province by Demir et al.; 0.5% and 94.2% in Bolu province by Avcıoğlu et al.; 0.5% and 86.5% in Van province by Parlak et al [1,10,4,11]. In the present study, IgM and IgG antibody positivity for Rubella was 1.36% and 80.27%, respectively. High rate of IgG antibody positivity was interpreted as an indicator of success of immunization practices.

When the studies performed on seropositivity in Turkey were evaluated, it was observed that seropositivity for anti-CMV IgM and IgG antibodies was reported to be 2.0% and 98.8%, respectively, by Bahçeci et al.; 3.2% and 94%, respectively, by Demir et al.; 1.6% and 98.2%, respectively, by Avcıoğlu et al.; and 2.6% and 100%, respectively, by Parlak et al [1,10,4,11]. In the present study, CMV IgM and IgG antibody positivity rates were 6.49% and 89.05%, respectively, IgM rates which were higher than the rates reported in the literatüre.

In light of the data in table 1, we believe that the distribution of IgM/IgG antibodies between sex and age groups, just like the general seroprevalence rates, varies from region to region depending on many factors such as the region of residence, cultural habits, and nutritional habits.

Table 1. Seroprevalence of *T. gondii*, Rubella and CMV IgM and IgG antibodies according to age groups and sex amoung the study population (n:877)

		***T. gondii* IgM (n:877)**			***T. gondii* IgG (n:877)**			**CMV IgM (n:877)**			**CMV IgG (n:877)**			**Rubella IgM (n:877)**			**Rubella IgG (n:877)**		
Age	**Sex**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**	**(+) n(%)**	**BORDERLİNE**	**(-) n(%)**
0-1	F	0(0)	0(0)	49(5.5)	8(0.9)	5(0.5)	36(4.1)	6(0.6)	2 (0.2)	41(4.6)	40(4.5)	0(0)	9(1.0)	1(0.1)	0(0)	48(5.4)	26(2.9)	0(0)	23(2.6)
	M	0(0)	0(0)	84(9.5)	12(1.3)	4(0.4)	68(7.7)	14(1.5)	5 (0.5)	65(7.4)	68(7.7)	0(0)	16(1.8)	5(0.5)	0(0)	79(9.0)	52(5.9)	0(0)	32(3.6)
	T	0(0)	0(0)	133(15.1)	20(2.2)	9(1.0)	104(11.8)	20(2.2)	7 (0.7)	106(12.0)	108(12.3)	0(0)	25(2.85)	6(0.6)	0(0)	127(14.4)	78(8.8)	0(0)	55(6.2)
2-9	F	1(0.1)	0(0)	87 (9.9)	15(1.7)	2(0.2)	71(8.0)	7(0.7)	3(0.3)	78(8.8)	70(7.9)	0(0)	18(2.0)	0(0)	0(0)	88(21.4)	78(8.8)	0(0)	10(1.1)
	M	0(0)	0(0)	127(14.4)	8(0.9)	1(0.1)	118 (13.4)	6(0.6)	5(0.5)	116(13.2)	109(12.4)	0(0)	18(2.0)	3(0.3)	0(0)	124(14.1)	113(12.8)	0(0)	14(1.5)
	T	1(0.1)	0(0)	214(24.4)	23(2.6)	3(0.3)	189 (21.5)	13(1.4)	8(0.9)	194(22.1)	179(20.4)	0(0)	36(4.1)	3(0.3)	0(0)	212(24.1)	191(21.7)	0(0)	24(2.7)
10-19	F	2(0.2)	1(0.1)	76 (8.6)	11(1.2)	5(0.5)	63(7.1)	2(0.2)	4(0.4)	73(8.3)	73(8.3)	0(0)	6(0.6)	1(0.1)	0(0)	78(8.8)	63(7.1)	0(0)	16(1.8)
	M	1(0.1)	0(0)	70(7.9)	8(0.9)	0(0)	63(7.1)	5(0.5)	3(0.3)	63(7.1)	67(7.6)	0(0)	4(0.4)	1(0.1)	0(0)	70(7.9)	52(5.9)	0(0)	19(2.1)
	T	3(0.3)	1(0.1)	146(16.6)	19(2.1)	5(0.5)	126 (14.3)	7(0.7)	7(0.7)	136(15.5)	140(15.9)	0(0)	10(1.1)	2(0.2)	0(0)	148(16.8)	115(13.1)	0(0)	35(3.9)
20-29	F	1(0.1)	0(0)	66(7.5)	18(2.0)	1(0.1)	48(5.4)	4(0.4)	7(0.7)	56(6.3)	61(6.9)	0(0)	6(0.6)	1(0.1)	1(0.1)	65(7.4)	60(6.8)	0(0)	7(0.7)
	M	0 (0)	0(0)	40(4.5)	6 (0.6)	2(0.2)	32(3.6)	2(0.2)	1(0.1)	37(4.2)	37(4.2)	0(0)	3(0.3)	0(0)	0(0)	40(4.5)	35(3.9)	0(0)	5(0.5)
	T	1(0.1)	0(0)	106(12.0)	24(2.7)	3(0.3)	80(9.1)	6(0.6)	8(0.9)	93(10.6)	98(11.1)	0(0)	9(1.0)	1(0.1)	1(0.1)	105(11.9)	95(10.8)	0(0)	12(1.3)
30-39	F	1(0.1)	0(0)	47(5.3)	19(2.1)	1(0.1)	28(3.1)	1(0.1)	1(0.1)	46(5.2)	43(4.9)	0(0)	5(0.5)	0(0)	1(0.1)	47(5.3)	40(4.5)	0(0)	8(0.9)
	M	0(0)	0(0)	36(4.1)	15(1.7)	1(0.1)	20(2.2)	0(0)	0(0)	36(4.1)	34(3.8)	0(0)	2(0.2)	0(0)	1(0.1)	35(3.9)	33(3.7)	0(0)	3(0.3)
	T	1(0.1)	0(0)	83(9.4)	34(3.8)	2(0.2)	48(5.4)	1(0.1)	1(0.1)	82(9.3)	77(8.7)	0(0)	7(0.7)	0(0)	2(0.2)	82(9.3)	73(8.3)	0(0)	11(1.2)
40-49	F	0(0)	0(0)	34(3.8)	19(2.1)	1(0.1)	14(1.5)	3(0.3)	1(0.1)	30(3.4)	33(3.7)	0(0)	1(0.1)	0(0)	0(0)	34(3.8)	28(3.1)	0(0)	6(0.6)
	M	0(0)	0(0)	32(3.6)	16(1.8)	1(0.1)	15(1.7)	1(0.1)	0(0)	31(3.5)	30(3.4)	0(0)	2(0.2)	0(0)	0(0)	32(3.6)	24(2.7)	0(0)	8(0.9)
	T	0(0)	0(0)	66(7.5)	35(3.9)	2(0.2)	29(3.3)	4(0.4)	1 (0.1)	61(6.9)	63(7.1)	0(0)	3(0.3)	0 (0)	0(0)	66(7.5)	52(5.9)	0(0)	14(1.5)
50-59	F	0(0)	0(0)	35(3.9)	20(2.2)	1(0.1)	14(1.5)	1(0.1)	1(0.1)	33(3.7)	33(3.7)	0(0)	2(0.2)	0(0)	0(0)	35(3.9)	28(3.1)	0(0)	7(0.7)
	M	1(0.1)	0(0)	26(2.9)	14(1.5)	1(0.1)	12(1.3)	0(0)	0(0)	27(3.0)	26(2.9)	0(0)	1(0.1)	0(0)	0(0)	27(3.0)	24(2.7)	0(0)	3(0.3)
	T	1(0.1)	0(0)	61(6.9)	34(3.8)	2(0.2)	26(2.9)	1(0.1)	1(0.1)	60(6.8)	59(6.7)	0(0)	3(0.3)	0(0)	0(0)	62(7.0)	52(5.9)	0(0)	10(1.1)
60-69	F	0(0)	0(0)	18(2.0)	12(1.3)	0(0)	6(0.6)	0(0)	0(0)	18 (2.0)	18 (2.0)	0(0)	0(0)	0(0)	0(0)	18 (2.0)	16(1.8)	0(0)	2(0.2)
	M	0(0)	0(0)	18(2.0)	12(1.3)	1(0.1)	5(0.5)	2(0.2)	0(0)	16(1.8)	17(1.9)	0(0)	1(0.1)	0(0)	0 (0)	18 (2.0)	16(1.8)	0(0)	2(0.2)
	T	0(0)	0(0)	36(4.1)	24 (2.7)	1(0.1)	11(1.2)	2(0.2)	0(0)	34(3.8)	35(3.9)	0(0)	1(0.1)	0(0)	0 (0)	36(4.1)	32(3.6)	0(0)	4(0.4)

≥70	F	0(0)	0(0)	14(1.5)	9(1.0)	0(0)	5 (0.5)	1(0.1)	2(0.2)	11(1.2)	13(1.4)	0(0)	1(0.1)	0(0)	0 (0)	14(1.5)	10(1.1)	0(0)	4(0.4)
	M	0(0)	0(0)	10(1.1)	6(0.6)	0(0)	4(0.4)	2(0.2)	0 (0)	8(0.9)	9(1.0)	0 (0)	1(0.1)	0 (0)	0 (0)	10(1.1)	6(0.6)	0(0)	4(0.4)
	T	0(0)	0(0)	24(2.7)	15(1.7)	0(0)	9(1.0)	3(0.3)	2 (0.2)	19(2.1)	22(2.5)	0 (0)	2(0.2)	0 (0)	0 (0)	24(2.7)	16(1.8)	0(0)	8(0.9)

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Evaluation of Infections in Children Exposed to Secondhand Smoke

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Oral Presentation – OP255

Aim

Passive smoking is a well-established risk factor for respiratory diseases in children. Exposure to secondhand tobacco smoke, often resulting from parental smoking, increases hospitalization rates due to lower respiratory tract infections such as asthma, bronchiolitis, and pneumonia in children under five years of age.

This study aims to investigate the impact of passive smoking on prevalence of infections in children, namely the common cold, tonsillitis, sinusitis, bronchitis, and urinary tract infections.

Materials and Methods

130 individuals with children under 5 years of age who presented to Eskişehir Osmangazi University Hospital Family Medicine outpatient clinic were included in this study. Our study was a cross-sectional study conducted between 01.02.2024-30.03.2024. A questionnaire including sociodemographic data form, passive smoking and the most frequent infection in children in the last 1 year (once a month) was applied using face-to-face interview method. The data obtained were analyzed using SPSS. Chi-Square test was used to analyze the cross tabulations.

Results

Among the study participants, 14.6% (n=19) were male and 85.4% (n=111) were female. The mean age of the participants was 37.35± 7.07 years, with min. 24 and max. 56 years. Additionally, 30.8% (n=40) of participants were university graduates, and 26.2% (n=34) were civil servants. 16.9% (n=22) of the children had chronic diseases.

In our study, a significant relationship was found between having a smoker at home and the prevalence of tonsillitis ($p< 0.05$). Having a smoker at home significantly increased the prevalence of tonsillitis in children under 5 years of age.

Table 1: The Relationship Between Passive Smoking and The Most Common Infection of The Child

Most common infection in the last 1 year	Smokers **at Home**			**Test Value ; p**
	Yes n (%)*	No n (%)*	Total n (%)**	
Common Cold				
Yes	40 (67.8)	19 (32.2)	59 (45.7)	0.000 ; 1.000
No	48 (68.6)	22 (31.4)	70 (54.3)	
Tonsillitis				
Yes	81 (71.7)	32 (28.3)	113 (86.9)	4.970 ; **0.026**
No	7 (41.2)	10 (58.8)	17 (13.1)	
Sinusitis				
Yes	16 (80.0)	4 (20.0)	20 (15.4)	1.040 ; 0.308
No	72 (65.5)	38 (34.5)	110 (84.6)	
Bronchitis				
Yes	18 (72.0)	7 (28.0)	25 (19.2)	0.075 ; 0.784
No	70 (66.7)	35 (33.3)	105 (80.8)	
Urinary tract infection				
Yes	7 (70.0)	3 (30.0)	10 (95.7)	0.026 ; 0.871
No	81 (67.5)	39 (32.5)	120 (92.3)	
Total	88 (67.7)	42 (32.3)	130 (100.0)	

*Percentage based on total of the rows.
**Percentage based on total of the columns.

Conclusion

Exposure to secondhand smoke poses significant health risks to children including respiratory infections and adversely affects their development. Increasing parental awareness of the harmful effects of passive smoking could help reduce the prevalence of respiratory infections and improve children's overall health outcomes.

Keywords: Passive Smoking, Childhood

Does Gender Affect Serum Gamma-Glutamyl Transferase Levels in Hypertensive Patients?

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Objective

Serum gamma-glutamyl transferase (GGT) levels are commonly used as a biomarker in patients with liver disease or alcohol consumption. In recent years, GGT levels have also been utilized as a prognostic indicator for coronary artery disease and metabolic syndrome. It is well established that GGT levels vary according to gender and age.

This study aims to evaluate the effect of hypertension on serum GGT levels in relation to gender differences.

Materials and Methods

A total of 149 patients who presented to the Family Medicine outpatient clinic at Eskisehir Osmangazi University Hospital between December 1, 2024, and February 30, 2025, and had their serum GGT levels measured within the past week, were included in this cross-sectional study. Sociodemographic data and chronic disease history were collected through face-to-face interviews. The optimal GGT threshold values were set at 50 IU/L for men and 35 IU/L for women, based on coronary heart disease risk assessments. Data were analyzed using SPSS, and the chi-square test was applied for the analysis of contingency tables.

Oral Presentation – OP258

Results

Of the participants, 45.0% (n=67) were male and 55.0% (n=82) were female. The mean age of male participants was 50.47±18.22 years (range: 19–82), while that of female participants was 51.39±18.53 years (range: 19–89). Among male patients, 70.1% reported no alcohol consumption history, whereas 85.4% of female patients had no history of alcohol use.

No significant relationship was found between the presence of hypertension and serum GGT levels in male patients (p>0.05) (Table 1).

Table 1: The Relationship Between Serum GGT Levels and Hypertension in Male Patients

Hypertension	**Serum GGT Levels in Male Patients**			**Test Value**
	<50 IU/L n (%)*	>50 IU/L n (%)*	Total n (%)**	**; p**
Present	31 (93.9)	2 (6.1)	33 (49.3)	Fisher ; 0.427
Absent	29 (85.3)	5 (14.7)	34 (50.7)	
Total	60 (89.6)	7 (10.4)	67 (100.0)	

Conversely, a significant relationship was observed between hypertension and serum GGT levels in female patients (p<0.05) (Table 2). Specifically, 33.3% of hypertensive women had GGT levels >35 IU/L, compared to 12.5% of non-hypertensive women.

Table 2 : The Relationship Between Serum GGT Levels and Hypertension in Female Patients

Hypertension	**Serum GGT Levels in Female Patients**			**Test Value**
	<35 IU/L n (%)*	>35 IU/L n (%)*	Total n (%)**	**; p**
Present	28 (66.7)	14 (33.3)	42 (51.2)	3.893 ; **0.048**
Absent	35 (87.5)	5 (12.5)	40 (48.8)	
Total	63 (76.8)	19 (23.2)	82 (100.0)	

* Percentages calculated based on row totals
**Percentages calculated based on column totals

Conclusion

Serum GGT levels, which serve as a prognostic indicator for cardiovascular diseases, may exhibit gender-specific variations in hypertensive patients. In our study, a significant relationship between hypertension and serum GGT levels was observed in female patients.In clinical practice, considering serum GGT levels, particularly in hypertensive female patients, may be beneficial.

Keywords: Gamma-Glutamyl Transferase, Gender, Hypertension

Search Behaviors Regarding Prostate Health: Changes and Trends in Turkey

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Oral Presentation – OP260

Purpose

Prostate diseases are a significant health issue that frequentlyoccur in men with age and affect their quality of life. With thewidespread use of the internet, the search for informationabout prostate health is also increasing. In this study, thesearch trends related to prostate enlargement, prostate cancer, prostate surgery, prostate medication treatment, and prostateherbal treatment in Turkey were examined, and the changesover time were analyzed.

Materials and methods

Google Trends (GT) is a tool that measures the popularity of specific keywords worldwide. The relative search volume(RSV) on GT shows the relative search volume over time foreach term, scaled between 0-100. In the study, the keywords"prostate enlargement," "prostate cancer," "prostate surgery," "prostate drug treatment," and "prostate herbal treatment" were analyzed across Turkey during the period from January2015 to January 2025. According to these keywords, the RSV results within the process were identified, and it wasdetermined whether the changes were statistically significant.

Results

The conducted analyses reveal a change in the interest levelsof keywords related to prostate diseases over time. Prostatecancer is the term with the highest search volume, with an average RSV value calculated as 68.3 ± 7.9. A significantincrease over time has been observed in

searches for this term($p < 0.05$). Prostate surgery has the second highest searchvolume, with an average RSV value of 46.1 ± 7.4, and thisterm also shows a significant increasing trend over time ($p < 0.05$). Prostate enlargement has shown a slight decrease withan average RSV value of 22.3 ± 5.2. Prostate drug treatmentand prostate herbal treatment have lower search volumes, withvalues of 16.2 ± 4.1 and 9.7 ± 3.0, respectively. There were nostatistically significant results for an increase or decrease in these three parameters.

Conclusion

Prostate cancer and prostate surgery are the most frequentlyresearched topics by internet users, indicating an increasinginterest in prostate health. It is of extreme importance forhealthcare professionals to keep up with current trends relatedto prostate diseases and to provide accurate information totheir patients, especially regarding prostate cancer andsurgeries.

Keywords: Prostate Cancer, Quality Of Life, Prostate Treatment

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Evaluation of the Relationship Between Adults' Health Perception and Attitudes Towards Hypertension Prevention

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Oral Presentation – OP261

Introduction and Aim: The aim of our study was to evaluate the relationship between adults' health perception and their attitudes towards hypertension prevention.

Materials and Methods: This cross-sectional, descriptive study was conducted with individuals who applied to the Family Medicine outpatient clinic of Karadeniz Technical University Faculty of Medicine. The sample consisted of volunteer individuals over the age of 18 who had not been diagnosed with hypertension or diabetes. The Hypertension Prevention Attitude Scale is a newly developed scale, and no previous studies have been found related to this scale. The sample size was calculated as 333 using G*Power 3.1 software, with a 0.1 effect size (d), 0.05 alpha error, and 95% power. A 53-item questionnaire consisting of a sociodemographic information survey, a health perception scale with established validity and reliability, and a hypertension prevention attitude scale was applied to 333 volunteer patients who visited the clinic between December 2022 and February 2023. The normality of continuous data was assessed using the Kolmogorov-Smirnov test. Descriptive statistics were performed, and the relationships between variables were analyzed using Independent sample t-test, Mann Whitney U test, and Chi-square test. Descriptive statistics for categorical data were shown as frequency (n) and percentage (%). The statistical significance level was set at $p < 0.05$.

Results: The median age was 24 (min: 18, max: 68) years. The median health perception scale (HPS) score was 54 (min: 31, max: 74), and the median hypertension prevention attitude scale (HPAS) score was 106 (min: 34, max: 130). A weak positive correlation was found between the HPS score and the HPAS score ($r = 0.278$, $p < 0.001$). A weak negative correlation was found between age and the HPS score ($r = -0.187$, $p = 0.001$), and a weak positive correlation was found between age and the HPAS score ($r = 0.027$, $p = 0.626$). When the HPS and HPAS scores were compared by gender, it was found that the health perception scale score of men was significantly higher than that of women ($p = 0.001$). The health perception scale score showed a statistically significant difference based on marital status ($p = 0.036$), with a significant difference between married and single participants ($p = 0.027$). A statistically significant difference in health perception scale scores was observed based on the presence of chronic diseases ($p = 0.029$).

Conclusion: It was found that participants had good health perception and hypertension prevention attitudes. Older age, being female, being married, and having chronic diseases were found to negatively affect health perception. The decrease in health perception with increasing age was notable. As health perception increased, individuals' attitudes towards hypertension prevention also improved. This result may suggest that increasing awareness about health among individuals with low health perception could contribute to changing hypertension prevention attitudes in the society.

Keywords: Health Perception, Hypertension Prevention, Cross-sectional Study, Health Awareness, Hypertension Prevention Attitude Scale, Health Education

Evaluation of Pediatricians' HPV Vaccine Knowledge and Awareness Before and After Training

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Abstract

Objective: The aim of this study is to evaluate pediatricians' level of knowledge about HPV infection and the HPV vaccine, their attitudes toward the vaccine, and changes in their knowledge and awareness after education.

Materials and Methods: This study included 90 pediatric residents. The participants were given a pre-survey on HPV infection and the vaccine, followed by a comprehensive educational session. After the education, the same survey was administered again, and the knowledge levels before and after the education were compared.

Results: A total of 90 pediatric residents participated in the study. Of the participants, 63 were female (70%) and the average age was 30.03±4.29 years. The median duration of employment as a pediatric resident was 21 months (range: 2-58 months). Of the participants, 49 (54.4%) were married and 24 (26.7%) had children. All participants were aware that HPV is a sexually transmitted disease and can cause cancer. Among cancer types, cervical cancer was most frequently mentioned (96.7%). Risk factors highlighted included multiple partners (97.8%), HIV infection (61.1%), smoking (45.6%), and not using condoms (80%). The most commonly known oncogenic HPV types were HPV 16 and 18. Among prevention methods, vaccination 98.9%), monogamy (88.9%), and condom use

Oral Presentation – OP266

(87.8%) were the most frequently mentioned. The recommended age for women to receive the HPV vaccine was an average of 11.3±3.78 years, and 35 participants provided the correct answer (9 years). For men, the recommended age for the HPV vaccine was an average of 12.52±3.77 years, and 17 participants gave the correct answer (9 years). Among the participants, 91.1% stated that they recommend the HPV vaccine to their patients. The main reasons for not recommending the vaccine were cost, effectiveness, lack of information.

After the education, the same questionnaire was repeated for all participants. All participants indicated that HPV affects both men and women and causes cancer in the anogenital system and oropharyngeal regions in both genders. The participants provided correct answers regarding transmission routes, risk factors, the number of oncogenic HPV types, preventive measures, and vaccine-related questions. It was observed that participants' awareness of the importance of vaccination in prevention, vaccine types, who should receive the vaccine, and its effectiveness increased after the education. All participants stated that they would recommend the vaccine to themselves, their close ones, and their patients. All participants believed that the HPV vaccine should be included in the routine vaccination schedule. The most important reason for the exclusion of the HPV vaccine from the routine vaccination schedule in our country was found to be the cost.

Conclusion: The findings of our study demonstrated the effectiveness of training in improving pediatricians' knowledge levels regarding HPV and the vaccine. Our study emphasizes the need for continuous training in the fight against HPV and the critical importance of maintaining pediatricians' knowledge up to date for public health.

Keywords: Awareness, HPV (Human Papillomavirus), Knowledge, Pediatrics, Vaccines.

Knowledge Levels and Attitudes of Family Medicine Residents in Ankara Regarding Tuberculosis and Directly Observed Treatment Practices

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Oral Presentation – OP267

Objective

This study aims to evaluate the knowledge levels and attitudes of family medicine residents in Ankara regarding the diagnosis and treatment of tuberculosis (TB).

Methods

The study was conducted between May and July 2019 in eight clinics in Ankara that provide family medicine residency training. A total of 270 family medicine residents who were accessible and agreed to participate were included in the study. Data analysis was performed using SPSS 21.0 software, with statistical significance set at $p<0.05$.

Results

Among the participants, 66% were female, with an average age of 31.7 years. A total of 26% were affiliated with community health centers (SAHU), 33% were in their first year of residency, and 34% were in their final year. Regarding TB knowledge, 51% correctly identified all five TB risk factors, 46% recognized microbiological methods as the primary diagnostic

tool, 37% knew that Quantiferon and PPD are used for latent TB testing, and 73% correctly identified cough as the most common symptom.

Regarding TB treatment knowledge, 55% correctly answered questions about the duration of TB treatment, 55% knew the first-line medications for active TB, 88% identified the first-choice drug for TB prophylaxis, 90% recognized the drug that causes red urine discoloration, 67% identified the ototoxic drug, 40% knew the drug that increases uric acid levels, 28.8% identified hepatotoxic anti-TB drugs, and 40% were aware of the appropriate treatment regimen for recurrent TB.

Other findings revealed that 77% correctly identified the type of mask used during the contagious period, 16% knew the TB prevalence rate, and 78% understood the definition of directly observed treatment (DOT). The most frequently incorrect statement (answered incorrectly by 77% of participants) was: *"A PPD induration of 10 mm or more in a BCG-vaccinated individual indicates a positive result."* The most frequently correct statement (answered correctly by 89.5%) was: *"TB medications are provided free of charge."*

Regarding attitudes, 82.2% of participants believed that family physicians should engage in public education and awareness activities about TB, while 85.2% considered TB an occupational disease for healthcare workers. Additionally, 54% thought that DOT should not be performed by family physicians, with 52% citing patient follow-up difficulties and 48% attributing it to high workload. On average, participants correctly answered 31.2 out of 51 knowledge questions. Family medicine residents demonstrated significantly higher knowledge levels than those affiliated with SAHUs and were more likely to believe that DOT should not be performed by family physicians. Knowledge levels did not vary significantly based on other demographic factors.

Conclusion

The findings highlight specific areas where family medicine residents have insufficient knowledge about TB diagnosis and treatment. Targeted educational programs focusing on these areas could enhance the competencies of future family physicians, ensuring a more effective role in TB management.

Keywords: Family Physician, Tuberculosis, Directly Observed Treatment, Knowledge Level, Attitude

Evaluation of Knowledge Levels on Atopic Dermatitis Among Family Medicine Residents

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Oral Presentation – OP268

Background: Atopic dermatitis is one of the most common chronic inflammatory skin diseases in childhood and can significantly impact patients' quality of life. In family medicine, physicians frequently encounter patients with atopic dermatitis, making accurate diagnosis, treatment, and referral decisions crucial. This study aims to assess family physicians' knowledge levels regarding atopic dermatitis and the factors influencing their knowledge.

Objective: This study aims to evaluate the knowledge level of family physicians about atopic dermatitis and the factors affecting this knowledge.

Methods: The study was conducted through an online survey among family medicine residents. Statistical analyses were performed using NCSS 2007 software. In addition to descriptive statistical methods, Chi-square analysis was used to determine relationships between qualitative data. A significance level of $p<0.01$ and $p<0.05$ was considered.

Results: Only 34.5% of participants correctly answered the question about the most common age group affected by atopic dermatitis. Most participants correctly answered questions regarding the etiology, risk factors, affected body regions, and skin characteristics of atopic dermatitis (93.3%, 81.7%, 75%, 83%, respectively). However, questions related to treatment were frequently answered incorrectly (44%, 61%, 70%). Questions about referral criteria were

answered correctly by 98.3% of participants. Additionally, a significant relationship was found between correct responses and factors such as years in the profession, years in family medicine, and completion of pediatrics and dermatology rotations.

Conclusion: This study demonstrates that family medicine residency training and dermatology and pediatrics rotations play a crucial role in enhancing family physicians' knowledge of atopic dermatitis. However, deficiencies in treatment-related knowledge highlight the need for strengthened training in this area. Expanding educational programs will be a significant step toward strengthening primary healthcare services and improving patient care quality.

Keywords: Atopic Dermatitis, Family Physicians, Knowledge Level

Retrospective Analysis of Published Medical Specialty Dissertations on Palliative Care in Turkey

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Oral Presentation – OP269

Objective: The aim of this study was to analyze specialty dissertation research on palliative care conducted by physicians trained in various medical specialties in Turkey.

Materials and Methods: The database of the Dissertation Center of the Council of Higher Education was used for this retrospective study. Medical specialty dissertations published in Turkey between 2023 and 2024 were scanned through the database system. The topic of the dissertation was selected as palliative care. No exclusion criteria were used during screening. All authorized and approved palliative care medical specialty dissertations were included in the study. This study was supported by TUBITAK.

Results: Between 2023 and 2024, 34 dissertations related to palliative care were carried out by physicians undergoing specialty training in Turkey. It was found that 17 of these studies were conducted by the department of family medicine, 9 by the department of internal medicine, 3 by the department of public health, 2 by the department of pediatrics, 1 by the department of chest diseases, 1 by the department of anesthesiology and reanimation and 1 by the department of emergency medicine. The three cities with the highest number of these dissertations were Istanbul (n=9), Ankara (n=5) and Izmir (n=5), respectively. The lowest number of palliative patients included in the dissertations was 48 and the highest number was 632 (mean± standard deviation was 193± 128.97). When the research topics of these dissertations were examined, it was seen that some topics were emphasized and repeated more.

The research topic of 8 of these 34 dissertations was to investigate the level of sleep quality, anxiety, and depression in caregivers of patients hospitalized in the palliative care service. The research topic of 3 dissertations was to examine the knowledge, attitudes, and behaviors of family physician specialty training on palliative care. The topic of 3 dissertations was to investigate the relationship between vitamin levels and mortality in patients who were followed and treated in palliative care service. In addition, the research topic of 3 dissertations was to investigate pressure ulcers and factors associated with pressure ulcers in patients hospitalized in palliative care.

Conclusion: It is seen that the number of medical specialty dissertations on palliative care published in the last 2 years in our country is quite low. In addition, it was determined that most of the dissertations were conducted only in metropolitan cities. Also, it has been determined that various medical specialty departments have conducted studies on palliative care. The increasing importance of palliative care in the world creates the need for a larger number and more multicenter studies in this field in our country. In addition, family medicine physicians and other specialty physicians who receive medical specialty education should conduct more studies on palliative care.

Keywords: Dissertations, Family Medicine, Palliative Care

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Salmonella Bacteremia and Its Antibiotic Resistance Profile in Pediatric Patients at a Tertiary Care Hospital

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Abstract

Objective: The aim of this study was to examine the demographic, clinical characteristics and antibiotic resistance profile of pediatric patients diagnosed with Salmonella bacteremia in a tertiary hospital.

Materials-Methods: This cross-sectional retrospective study included pediatric patients under the age of 18 who had Salmonella growth in blood cultures at Çukurova University Balcalı Hospital between September 2016 and February 2025. The sociodemographic, clinical characteristics, serotype distribution of Salmonella strains and antibiotic resistance profile of the patients were recorded.

Results: A total of 16 patients, 4 (25%) female and 12 (75%) male (M/F: 3), with a median age of 65.4 months (8-204 months) were included in the study. Nine (56.25%) of the patients were under five years of age and 7 (43.75%) were five years of age and older. The most common findings were fever (75%) and diarrhea (18.75%). According to the seasons, growth was in summer in 6 (37.5%) patients, in autumn in 3 (18.75%) patients, in

Oral Presentation – OP270

winter in 5 (31.25%) patients, and in spring in 2 (12.5%) patients. Most of the patients (81.25%) had accompanying immune deficiency or hematological-oncological disease. In *Salmonella spp.* typing, serogroup B was grown in 1, serogroup C in 4, serogroup D in 4, and typing was not done in 7. According to the years, *Salmonella spp.* blood growth was most frequently seen in 2019. In the isolated *Salmonella spp.*, ampicillin resistance was detected as 54.5%, ceftriaxone resistance as 50.0%, ciprofloxacin resistance as 50.0%, trimethoprim sulfamethoxazole resistance as 6.25%, and meropenem resistance as 6.25%. It was observed that patients were more frequently treated with meropenem, ceftriaxone/cefotaxime and ciprofloxacin. It was determined that 3 (18.75%) patients died.

Conclusions: Salmonella is one of the common causes of bloodstream infections in developing countries. It is difficult to distinguish it from other causes of febrile bacteremia. It is associated with high mortality rates, especially in immunodeficiency and hematological-oncological patients. In recent years, with the increase in antibiotic resistance rates, treatment regimens have become more difficult. Therefore, more studies are needed on serogroup determination and antibiotic resistance profile.

Keywords: *Salmonella spp.* Infections, Antibiotic Resistance, Bacteremia, Child

Evaluation of Phenylketonuria Cases Referred Through the Newborn Screening Program: A Single-Center Experience

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Oral Presentation – OP271

Objective: Phenylketonuria (PKU) is an autosomal recessive metabolic disorder caused by mutations in the *PAH* gene, leading to the absence or deficiency of the phenylalanine hydroxylase enzyme. In untreated cases, elevated phenylalanine crosses the blood-brain barrier, disrupting neurotransmitter synthesis and causing neurotoxic effects. The primary treatment for classic PKU is a phenylalanine-restricted diet, whereas mild/moderate cases may benefit from cofactor therapy. This study aims to present the demographic characteristics and follow-up data of cases referred through the newborn screening program.

Materials and Methods: Cases referred to the Pediatric Metabolism Clinic of Adana City Training and Research Hospital for phenylketonuria evaluation through the national newborn screening program between July 2023 and February 2025 were retrospectively analyzed.

Results: The study included 105 infants referred with a preliminary diagnosis of phenylketonuria through the newborn screening program, comprising 55 males (52.3%) and 50 females (47.6%). Of these cases, 74.3% were Turkish, while 25.7% were of Syrian nationality. A total of 63 cases were referred from Adana and its districts, while 42 were from different provinces, including Hatay (n=19), Osmaniye (n=6), Kahramanmaraş (n=3), Siirt (n=2), Niğde (n=2), Adıyaman (n=1), Antalya (n=1), Mardin (n=1), Burdur (n=1), Ağrı (n=1), Tunceli (n=1), Diyarbakır (n=1), Şanlıurfa (n=1), Mersin (n=1), and Rize (n=1). The median age at admission to the Pediatric Metabolism Clinic was 93 days (min: 5 days, max: 430 days). The median age

at admission for Turkish cases was 58 days (min: 5 days, max: 430 days), whereas for migrant cases, it was 215 days (min: 22 days, max: 578 days). Phenylalanine levels were measured in all cases. A total of 33 cases were diagnosed with hyperphenylalaninemia and followed up without treatment. Six cases were diagnosed with mild/moderate phenylketonuria and initiated on sapropterin therapy. Seven cases were diagnosed with classic phenylketonuria and were started on a protein-restricted diet.

Conclusion: Phenylketonuria is a common hereditary metabolic disorder in our country, where early diagnosis and treatment can prevent clinical manifestations. Timely referral of patients to pediatric metabolism specialists plays a crucial role in preventing neurotoxic effects. Our study highlights the importance of early diagnosis and treatment of phenylketonuria, emphasizing the necessity of national newborn screening programs.

Keywords: Phenylketonuria, National Newborn Screening Program

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Infectious Diseases in Turkey: An Overview from the Past to the Present

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Introduction and Aim: Infectious diseases such as tuberculosis (TB), malaria, measles and acquired immunodeficiency syndrome (AIDS), constitute a significant global health burden. These diseases are part of the World Health Organization's aim to eliminate epidemics under the Sustainable Development Goals framework and represent substantial health threats in low-income, developed and developing countries. In Turkey, the incidence and prevalence of these infections are crucial for evaluating the effectiveness of health policies and vaccination strategies. Measles and TB, are vaccine-preventable diseases. However, fluctuations in global cases of AIDS, TB, malaria, and measles indicate ongoing challenges controlling these diseases. This study aims to compare AIDS, tuberculosis, malaria, and measles in Turkey in terms of local and imported cases. Additionally, it seeks to investigate the correlation between vaccination rates and the incidence of TB and measles.

Material and Methods: This study utilized health data from the Ministry of Health of Turkey to examine local and imported cases of AIDS, TB, malaria, and measles between 2008 and 2023, along with vaccination and incidence trends from 2002 to 2023. The normality of the data was assessed using the Shapiro-Wilk test. In the comparison of the number of cases of these infections based on case origin, an Independent Samples T-Test was used for data that followed a normal distribution, while the Mann-Whitney U test was applied for data that did not follow a normal distribution. The relationship between the number of cases and case origin was

examined using Generalized Linear Model (GLM) analysis. The relationship between vaccination rates and the incidence of TB and measles was assessed using Spearman's correlation analysis.

Results: The results revealed statistically significant differences in the number of AIDS, TB, and malaria cases based on case origin ($p=0.002$; $p<0.001$; $p<0.001$). While AIDS and measles were more prevalent in the local population, malaria was more common in the foreign population. However, no significant difference was observed for measles based on case origin ($p=0.792$). The results of the GLM analysis indicate a significant relationship between case origin and AIDS, TB, and malaria, but not for measles cases ($p<0.001$; $p<0.001$; $p<0.001$; $p=0.194$). Additionally, a moderate negative correlation was found between vaccination rates and incidence of TB and measles ($p=0.004$, $r= -0.588$; $p=0.006$, $r= -0.570$).

Conclusion: The results obtained from our study indicate that targeted and comprehensive approaches are crucial for health policies to effectively control the spread of infections among local and foreign populations. Increasing vaccination rates plays an important role in reducing the incidence of vaccine-preventable diseases. The variation in health needs and risk profiles across population groups highligts the importance of developing targeted measures and intervention programs for these groups, as well as the critical need to enhance vaccination rates. In this context, more detailed and comprehensive health policies can be implemented, considering the health dynamics for both populations. Strengthening sustainable vaccination programs will not only provide measures to protect the health of both populations, but also serve as a critical step in minimizing the spread of infectious diseases.

Keywords: Public Health, Infectious Diseases, AIDS, TB, Malaria, Measles

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Relationship Between Atherogenic Index of Plasma and Obesity-Associated Parameters in Children Aged 6-11 Years

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Oral Presentation – OP279

Introduction

Atherogenic index of plasma (AIP) is considered an important marker in cardiovascular risk assessment, with elevated values in early childhood potentially indicating future cardiovascular disease risk. However, studies on AIP in pediatric populations remain limited. This study aims to investigate the relationship between, age-based weight percentiles, body mass index (BMI), complete blood count and biochemical parameters, and AIP in children aged 6–11 years.

Materials and Methods

This retrospective and cross-sectional study included 48 children aged 6–11 years with no active complaints. Participants' systolic and diastolic blood pressure, BMI, weight, height, pulse, complete blood count, and biochemical parameters, along with age-based weight and height percentile values, were recorded. AIP was calculated using the logarithmic ratio of triglycerides (TG) to high-density lipoprotein cholesterol (HDL-C). The data were statistically analyzed to assess associations between BMI, percentile values, blood parameters, and AIP. Statistical significance was set at $p<0.05$.

Results

The mean age of participants was 100.23±16.94 months, with 39.6% (n=19) being female. Positive and statistically significant associations were observed between age-based weight percentiles and TG, low-density lipoprotein (LDL) values, and AIP (p=0.022, p=0.048, and

p=0.003, respectively). A significant correlation was also found between age-based weight percentiles and AIP classification (p<0.001). As both BMI and weight percentiles increased, the AIP classification shifted from low to higher cardiovascular risk categories.

Conclusion

In this study, AIP values were positively associated with BMI and age-based weight percentiles in children aged 6–11 years. These findings suggest that AIP may be a simple, cost-effective, and practical indicator for identifying early cardiometabolic risk in children with higher BMI or weight percentiles. Monitoring AIP levels in this population could contribute to the early detection of at-risk individuals and support preventive health strategies.

Keywords: Pediatric Obesity, Body Mass Index, Cholesterol, HDL, Triglycerides

Introduction

The prevalence of obesity among children and adolescents has been increasing due to changes in lifestyle and dietary behaviors (1). Obese children are at a heightened risk for type 2 diabetes, cardiovascular diseases, hypertension, metabolic syndrome, hyperlipidemia, and certain types of cancer, including colon, breast, gallbladder, and endometrial cancers (2).

Various clinical parameters are employed to predict coronary artery disease (CAD). While low levels of large-particle high-density lipoprotein cholesterol (HDL-C) have been associated with CAD, small HDL-C particles and small dense low-density lipoprotein (sdLDL) are considered more atherogenic compared to total plasma low-density lipoprotein cholesterol (LDL-C) levels and are recognized as important indicators of atherosclerosis and cardiovascular diseases (3,4). In 2002, the National Cholesterol Education Program (NCEP) identified sdLDL as a risk factor for CAD and recommended its measurement (5). However, due to the complexity and high cost of sdLDL measurement, its clinical utility remains limited. The atherogenic index of plasma (AIP) is a logarithmic expression of the ratio between plasma triglycerides(TG) and HDL-C,

and is commonly used as a surrogate marker for estimating the concentration of small, dense LDL particles (sdLDL). It is used to predict atherosclerotic processes and the risk of CAD (4,6).

An AIP value of <0.11 is considered to indicate low cardiovascular risk, 0.11–0.24 is classified as intermediate risk, and >0.24 is associated with elevated cardiovascular risk (7). Although AIP is recognized as a predictive biomarker of atherosclerosis in adults, studies evaluating its variation and cardiometabolic blood profile in the pediatric population remain scarce (8). Therefore, investigating the relationship between AIP and obesity in the pediatric population may contribute to the earlier identification of cardiovascular risks and the development of preventive strategies.

This study aims to investigate the relationship between AIP and obesity-associated parameters in children aged 6–11 years who presented for routine school screenings and had no active medical complaints.

Materials and Methods

This is a single-center retrospective cross-sectional study, where participants were selected through simple random sampling from individuals who visited the Çifteler Family Health Center in February 2025. Patient data were collected from their registered files, the Family Medicine Information System, or the e-NABIZ system. Ethical approval for the study was obtained from the Scientific Research Ethics Committee of Eskişehir City Hospital on 20/03/2025 with the decision number ESH/BAEK 2025/146.

During the specified dates, 52 children aged 6–11 years who visited for school screenings, and who underwent height, weight, blood pressure, and pulse measurements along with hemogram and biochemical tests, were identified. These children had no acute infections or chronic diseases and were not receiving treatment for any such conditions. Considering these 52 participants as the population, the sample size required for the study was calculated using simple random sampling. To ensure statistical power, the minimum required sample size for a

95% power level at α=0.05 was found to be 46 participants. The study was completed with 48 participants.

The hemogram parameters evaluated included White Blood Cells (WBC), Hemoglobin (Hb), Hematocrit (Hct), Platelet/Lymphocyte Ratio (PLR), Neutrophil/Lymphocyte Ratio (NLR), Mean Corpuscular Hemoglobin (MCH), Mean Platelet Volume (MPV), Mean Corpuscular Volume (MCV). The biochemical parameters assessed were TG, total cholesterol (TC), HDL-C, LDL-C, glucose (fasting blood sugar), and liver enzymes (ALT, AST).

Statistical Analysis

Demographic data were presented as counts (n) and percentages (%), while continuous variables were reported as Mean±SD. Normality was assessed using the Shapiro-Wilk test and visual inspection of graphs. The relationships between age, age-based height/weight percentiles, body mass index (BMI), and laboratory data were analyzed using Spearman's correlation. The relationships between the AIP and lymphocytes, Hb, MPV, LDL, TC and AST were analyzed using Pearson's correlation. Statistical analyses were performed using IBM SPSS Statistics 21.0 and MS Excel 2007, with a significance level set at $p<0.05$.

Results

The mean age of the children participating in the study was found to be 100.23±16.94 months. Of the children, 60.4% (n=29) were male, and 39.6% (n=19) were female. The mean height of the children was 132.23±8.60 cm, the mean weight was 31.10±9.75 kg, and the mean BMI was 17.49±4.07 kg/m². The average age-based height percentile was 65.89±29.51, and the average age-based weight percentile was 62.69±29.84. Among the study participants, 17 children were classified as low risk, 12 as moderate risk, and 19 as high risk based on their AIP.

A weak, positive, statistically significant relationship was found between the age-based weight percentile and both TG and LDL levels (r=0.330; p=0.022, r=0.287; p=0.048). A positive, statistically significant relationship was observed between the age-based weight percentile and AIP (r=0.418; p=0.003). Additionally, a moderate, positive, statistically significant relationship

was found between the age-based weight percentile and AIP classification (r=0.490; p<0.001). As the age-based weight percentile increased, AIP classification shifted from low risk to high risk.

A moderate positive, statistically significant relationship was observed between BMI and TG (r=0.419; p=0.003). A weak, positive, statistically significant relationship was found between BMI and AIP and LDL levels (r=0.387; p=0.007, r=0.301; p=0.037). Furthermore, a moderate, positive, statistically significant relationship was found between BMI and AIP classification (r=0.433; p=0.002). As BMI increased, AIP classification shifted from low risk to high risk (Table 1).

Table 1. Relationship Between Age, Age-Based Height Percentile, Age-Based Weight Percentile, BMI Values, and Laboratory Parameters in Individuals

	Age (months)		**Age-Based Height Percentile**		**Age-Based Weight Percentile**		**BMI (kg/m^2)**	
	r	**p**	**r**	**p**	**r**	**p**	**r**	**p**
Systolic Blood Pressure (mm Hg)	0.361	**0.012**	0.084	0.572	0.065	0.661	0.193	0.188
Diastolic Blood Pressure (mm Hg)	0.053	0.719	0.175	0.233	0.172	0.243	0.137	0.352
Pulse (beats/min)	-0.083	0.575	-0.146	0.321	-0.115	0.437	-0.049	0.740
WBC (10^3/µl)	-0.066	0.654	0.039	0.792	0.109	0.463	0.022	0.882
Neutrophil (10^3/µl)	0.064	0.667	-0.066	0.657	0.007	0.964	-0.015	0.918
Lymphocyte (10^3/µl)	-0.277	0.057	0.028	0.852	0.023	0.877	-0.046	0.756
PLT (10^3/µl)	-0.297	**0.041**	-0.125	0.397	-0.100	0.499	-0.083	0.575
NLR	0.159	0.281	-0.041	0.781	-0.022	0.884	-0.021	0.888
PLR	-0.008	0.956	-0.113	0.446	-0.143	0.334	-0.098	0.509
Hemoglobin (g/dL)	0.364	**0.011**	-0.253	0.082	-0.035	0.813	0.243	0.096
Hematocrit	0.275	0.058	-0.171	0.244	-0.011	0.940	0.020	0.133
MCV (fL)	0.040	0.788	0.015	0.918	0.142	0.336	0.132	0.371
MCH (pg)	0.087	0.559	-0.054	0.714	0.020	0.890	0.032	0.830
MPV (fL)	0.342	**0.017**	-0.077	0.601	0.057	0.703	0.141	0.340
TG (mg/dL)	0.165	0.263	-0.036	0.810	0.330	**0.022**	0.419	**0.003**
HDL (mg/dL)	-0.177	0.230	-0.228	0.119	-0.266	0.067	-0.143	0.331
AIP	0.149	0.313	0.140	0.343	0.418	**0.003**	0.387	**0.007**
AIP Classification	0.059	0.689	0.180	0.220	0.490	**<0.001**	0.433	**0.002**
LDL (mg/dL)	-0.050	0.737	-0.019	0.897	0.287	**0.048**	0.301	**0.037**
Total Cholesterol	-0.092	0.534	-0.090	0.541	0.210	0.151	0.263	0.070
AST (U/L)	-0.235	0.108	-0.081	0.582	-0.200	0.173	-0.212	0.148
ALT (U/L)	0.116	0.434	0.034	0.819	0.126	0.394	0.137	0.354

r: Spearman Correlation Coefficient

The relationship between participants' AIP and AIP classification and their laboratory parameters is presented in Table 2.

Table 2. Relationship Between Participants' AIP and AIP Classification and Laboratory Parameters

	AIP		AIP Classification	
	r	**p**	**r**	**p**
Systolic Blood Pressure (mm Hg)	0.135	0.360	0.094	0.526
Diastolic Blood Pressure (mm Hg)	0.211	0.151	0.262	0.072
Pulse (beats/min)	-0.053	0.720	-0.005	0.973
WBC (10^3/µl)	0.031	0.833	0.106	0.474
Neutrophil (10^3/µl)	0.141	0.338	0.209	0.155
Lymphocyte (10^3/µl)	-0.195*	0.184	-0.192	0.192
PLT (10^3/µl)	-0.108	0.465	-0.107	0.471
NLR	0.186	0.205	0.252	0.084
PLR	0.111	0.452	0.114	0.439
Hemoglobin (g/dL)	-0.132*	0.371	-0.170	0.249
Hematocrit	-0.038	0.796	-0.002	0.988
MCV (fL)	0.229	0.118	0.224	0.125
MCH (pg)	0.091	0.538	0.089	0.546
MPV (fL)	0.034*	0.816	0.019	0.898
TG (mg/dL)	0.866	**<0.001**	0.806	**<0.001**
HDL (mg/dL)	-0.607	**<0.001**	-0.563	**<0.001**
LDL (mg/dL)	0.282*	0.052	0.202	0.169
Total Cholesterol	0.165*	0.261	0.105	0.476
AST (U/L)	-0.114*	0.442	-0.132	0.371
ALT (U/L)	0.205	0.163	0.211	0.149

*r: Spearman Correlation Coefficient, *Pearson Correlation Coefficient,*

Discussion

Our study revealed a statistically significant positive correlation between the AIP and both BMI and weight-for-age percentiles in children aged 6 to 11 years. No statistically significant correlations were found between AIP and any laboratory parameters other than triglycerides

and HDL-C, both of which are intrinsic to the AIP formula and therefore not considered independent associations.

Dağ et al. previously investigated the relationship between AIP and hepatic steatosis in obese adolescents in Turkey, enrolling 136 participants aged 10 to 17 years. Among them, 83 were classified as obese and 53 served as healthy controls. Hepatic steatosis was assessed via ultrasonography. The study demonstrated significantly elevated AIP values in the obese group compared to controls. Furthermore, within the obese subgroup, those with hepatic steatosis exhibited higher AIP levels than those without. These findings suggest that AIP could serve as a predictive marker for fatty liver disease in obese adolescents (9). Despite differences in age group, our findings are consistent with theirs in establishing a strong link between obesity and elevated AIP.

A population-based study conducted in Slovakia among 2012 lean individuals aged 14–20 explored associations between AIP and cardiometabolic risk factors. The authors identified 55 individuals with AIP values exceeding 0.11, emphasizing that even lean adolescents may present with increased atherogenic risk. Notably, the study highlighted that neither central nor general obesity is a prerequisite for the emergence of AIP-associated cardiometabolic risk, and such risks can be present even in those classified as low-risk (AIP <0.11) (10). Similarly, a Chilean study involving 208 participants aged 5–19 reported that 54% of children exhibited high atherogenic risk based on AIP, which correlated with alterations in anthropometric parameters and insulin resistance (11). In our study, 19 out of 48 children (39.5%) were categorized as high-risk according to AIP classification. The variability across studies may be attributable to differences in sample sizes, participant age ranges, genetic predispositions, and lifestyle factors.

In a separate investigation conducted by Verduci et al. in Italy, 153 obese children aged 6–12 were enrolled in a study assessing changes in AIP following nutritional and lifestyle interventions. Participants were assigned to either an individually tailored or a community-

based obesity treatment program lasting 12 months. As expected, both groups exhibited reductions in BMI z-scores. However, significant decreases in LDL, triglycerides, and AIP were observed exclusively in the individually targeted intervention group (8). These findings underscore the potential efficacy of personalized nutritional and behavioral strategies in reducing AIP and mitigating cardiovascular risk among obese children.

A further contribution comes from the work of Dündar and Akıncı, who examined 1130 children aged 6–18 to assess the relationship between subclinical hypothyroidism (SH), metabolic parameters, and AIP. Children diagnosed with SH had significantly higher AIP levels, triglycerides, and insulin resistance compared to their euthyroid counterparts. The authors posited that elevated TSH may negatively influence both lipid and glucose metabolism, advocating for broader studies in this area (12). Our study did not include TSH levels and thus did not evaluate its potential metabolic impact—an important limitation. Additionally, the single-center design and relatively small sample size represent further constraints on the generalizability of our findings.

Conclusion

This study demonstrated that AIP values are positively associated with BMI and weight-for-age percentiles in children aged 6–11 years. These findings indicate that AIP may serve as a valuable and practical biomarker for the early detection of cardiometabolic risk in pediatric populations. Given its simplicity, cost-effectiveness, and ease of application, incorporating AIP into routine screening protocols could contribute significantly to the prevention of cardiovascular disease later in life. Regular monitoring of AIP levels in childhood may aid in the identification of at-risk individuals and support early interventions in the fight against obesity and related metabolic disorders.

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A Perspective on Family Planning Among Women of Reproductive Age in a Family Health Center in Kahramanmaraş

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Aim:

In primary healthcare services, women of reproductive age are regularly screened and provided with educational sessions. The use of both modern and traditional contraceptive methods continues to be prevalent. This study aims to assess the contraceptive methods utilized by women in this age group and to evaluate their preferences and barriers to contraceptive use in a family health center in Kahramanmaraş. By identifying current trends and gaps in contraceptive use, this study seeks to contribute to the development of more effective reproductive health education and counseling strategies.

Methods:

The study population consisted of women aged 15–49 years who were registered at our family health center and had been regularly followed up over the past six months. Women with communication barriers or chronic illnesses were excluded. Data were analyzed using a statistical software program, and a p-value of <0.05 was considered statistically significant.

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Results:

The study included 335 women with a mean age of 32.2 ± 6.2 years. The average age at marriage was 20.6 ± 3.7 years, while the mean age at first pregnancy was 21.8 ± 4.1 years. Among the participants, 231 (68.9%) were married. A total of 124 women (37%) were childless, whereas 211 (62.9%) had children. At the time of the study, 18 women (5.3%) were pregnant.

When asked about contraceptive use, 168 participants reported not using any method. Among them, 104 (31%) were single, while 64 (19.1%) were married but did not use any form of contraception.

The reasons for not using contraception included a personal preference not to use any method in 37 women (11%), a desire to conceive in 12 women (3.5%), being in menopause in 12 women (3.5%), and infertility in 3 women (0.89%).

Among the 149 women (44.4%) who were actively using contraception, 52 (15.5%) relied on traditional methods, while 97 (28.9%) used modern methods. Modern contraceptive methods included barrier methods in 27 women (8%), hormonal contraception in 10 women (2.9%), surgical sterilization in 28 women (8.3%), intrauterine devices (IUDs) in 25 women (7.4%), and other modern methods in 7 women (2%).

Traditional contraceptive methods were used by 52 participants (15.5%), with withdrawal (coitus interruptus) being the most common method, used by 29 women (8.6%). Additionally, 18 women (5.3%) relied on breastfeeding as a natural contraceptive method, 1 woman (0.3%) used the calendar method, and 4 women (1.1%) reported using other traditional methods.

Conclusion:

Our study revealed that a significant proportion of women of reproductive age either do not use any contraceptive method or rely on traditional methods. The high prevalence of non-use and traditional method reliance underscores the need for continuous reproductive health education

and counseling. Providing comprehensive and evidence-based family planning education in primary healthcare settings could enhance awareness and facilitate informed decision-making regarding contraception. Increased accessibility to modern contraceptive methods and addressing misconceptions surrounding family planning could further improve contraceptive uptake and reproductive health outcomes in this population.

Keywords: Family Planning, Women, Contraceptive Methods

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Clinical Characteristics of Diabetic Patients Registered at Nenehatun Training Family Health Center and an Evaluation of the Reimbursement Status of Antidiabetic Medications

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Introduction

Diabetes mellitus is one of the most commonly encountered diseases in primary care due to its high prevalence. The better diabetes is managed, the more effectively glycemic control is maintained, leading to a reduction in complications and an overall improvement in quality of life. Although most diabetic patients are followed up in primary care, diabetes management is frequently conducted in secondary and tertiary healthcare settings. One of the primary reasons for this is that many antidiabetic medications prescribed by family medicine specialists are not covered by the Social Security Institution (SSI) reimbursement system.

Oral Presentation – OP284

Objective

The aim of this study is to evaluate the sociodemographic characteristics of diabetic patients registered at Nenehatun Training Family Health Center (EASM) and to investigate whether the antidiabetic medications prescribed by family physicians are covered by the Social Security Institution.

Materials and Methods

This study was conducted at Nenehatun Training Family Health Center (EASM), which operates under the Department of Family Medicine, Atatürk University Faculty of Medicine. Data were collected from 50 diabetic patients who visited the EASM in March 2025. Information regarding their age, gender, presence of comorbidities, prescribed antidiabetic medications, and duration of diabetes was recorded. The current reimbursement status of antidiabetic drugs was compared with the latest Social Security Institution's health implementation guidelines. The data were analyzed using SPSS 22.0, and descriptive statistics were calculated as frequency percentages, means, and standard deviations.

Results

The mean age of the participants was 61.1±12.5 years, and 64% (n=32) were female. A total of 98% (n=49) of the patients had at least one additional chronic disease. Hypertension was present in 68% (n=34) and dyslipidemia in 64% (n=32) of the patients. The mean duration of diabetes was 86.7±36.3 months. A total of 44% (n=22) of patients were using a single antidiabetic medication, while 28 patients were on two or more medications, with an average of 2.6 medications per patient. Metformin or a metformin combination was present in the treatment regimen of 78% (n=39) of the patients, while 38% (n=19) were using insulin preparations. Among the total of 95 antidiabetic medications used by the 50 patients, 22 (23.2%) were found to be reimbursable by the Social Security Institution without the need for an internal medicine or endocrinology specialist’s report. However, only 24% (n=12) of the patients were able to have their antidiabetic medications reimbursed when prescribed by family physicians. It was also observed that insulin use increased with both age and diabetes duration.

Conclusion

Family medicine, as the cornerstone of primary healthcare services, should play a central role in the follow-up and management of chronic diseases such as diabetes. The findings of this

study indicate that a significant proportion of diabetic patients' medications are not reimbursed if prescribed by family physicians without a specialist report. Considering the increasing prevalence of diabetes and the rising number of elderly individuals, lifting the restrictions on family physicians' ability to prescribe and issue reports for antidiabetic medications would be beneficial. This change would strengthen patient trust in primary care, preventing it from being seen merely as a prescription renewal center for specialists. Additionally, it would help reduce patient load in secondary and tertiary healthcare settings, thus decreasing healthcare costs. Expanding the authority of family medicine specialists to prescribe and issue reports for antidiabetic medications and including such prescriptions in the Social Security Institution's reimbursement system would enhance diabetes management in primary care. Moreover, updating primary care diabetes management guidelines accordingly would further reinforce primary healthcare services.

Keywords: Family Medicine, Diabetes Management, Antidiabetic Drugs

Evaluation of the Relationship Between Respiratory Function Tests and the Fagerström Dependence Test in Patients Applying to a Smoking Cessation Clinic

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Oral Presentation – OP286

Introduction - Objective: Tobacco use is one of the leading causes of mortality and morbidity worldwide and plays a role in the etiology of numerous respiratory and cardiovascular diseases, particularly chronic obstructive pulmonary disease (COPD) and lung cancer. This study aims to determine the relationship between respiratory function tests (RFT) and the Fagerström nicotine dependence test in patients applying to a smoking cessation clinic.

Method: This study is retrospective, cross-sectional, and descriptive in nature, including patients who applied to the smoking cessation clinic. The demographic data, presence of chronic lung disease and other comorbidities, respiratory function test results, and Fagerström dependence test scores of patients who visited the clinic between January 2024 and March 2025 were recorded. Patients were classified as very low, low, moderate, high, or very high dependent based on their Fagerström scores. Statistical analyses were performed using SPSS version 22.0 software. p-values <0.05 were considered significant.

Results: A total of 140 patients who applied to the smoking cessation clinic between January 2024 and March 2025 were included in the study. Of the participants, 75.7% were male, with a mean age of 41.5 ± 12.3 years. Chronic lung disease was observed in 11.4% of the patients.

Among those with at least one chronic disease, hypertension was the most common, observed in 16.4% of cases. Among patients with chronic lung disease, 10% used beta-2 agonists, and 10% used corticosteroid medications. None of the patients used an oxygen concentrator. When classified based on nicotine dependence levels according to the Fagerström Nicotine Dependence Test, significant differences were found between the groups in terms of FEV1, FEF25-75, PEF, and FEV1/FVC (p-values: 0.04, 0.26, 0.12, 0.007, and 0.021, respectively). Patients classified as very highly dependent had lower FEV1, FEV1/FVC, FEF25-75, and PEF values compared to the low-dependence group (p-values: 0.017, 0.026, 0.005, and 0.003, respectively). No significant difference was found between the groups regarding FVC (p:0.26). A negative correlation was observed between the Fagerström nicotine dependence test score and respiratory function test parameters, except for FVC (Table 1).

Conclusion: In conclusion, respiratory function tests in smokers, even those without chronic lung disease, indicated obstruction-related impairment in the very high dependence group. Therefore, it should be recognized that pathological changes occur before the development of chronic lung disease in smokers, and smoking cessation treatment should be initiated at an earlier stage.

Table 1: Relationship Between Respiratory Function Test (RFT) and Fagerström Dependence Score

	FEV1	FVC	FEV1/FVC	FEF25-75	PEF
Fagerström score	**r**	-0.191*	-0.129	-0.184*	-0.206*
	p	0.024	0.128	0.03	0.015
	n	140	140	140	140

*p < 0.05, **p < 0.01 (significant correlation)

Keywords: Smoking, Respiratory Function Test, Fagerström

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Perspectives of Older Adults on Falls and Fall Prevention Interventions Following Fall-Related Hip Fractures: A Qualitative Study

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Oral Presentation – OP290

Aim: Falls represent a significant issue for both older adults and healthcare systems, posing a major challenge for aging populations. We aimed to understand how older adults with fall-related fractures perceive falls and fall risks, their attitudes toward falling, and their views and expectations about fall prevention in primary care.

Methods: This qualitative study was conducted in the Department of Orthopedics of Ankara Etlik City Hospital, involving 26 older adults aged 65 and above who were admitted due to hip fractures caused by falls. Data was collected through face-to-face, semi-structured interviews. Thematic analysis was used for qualitative analysis.

Results: The qualitative analysis revealed three main themes: (1) Awareness and Attitudes Toward Falling, (2) Causes and Risk Factors of Falls, and (3) Suggestions, Experiences, and Expectations About Fall Prevention in Family Medicine. Within the first main theme, the idea of fatalism and acceptance emerged as an important view. It was revealed that a significant number of participants perceived falling as inevitable and as part of fate, often accepting it in accordance with their religious beliefs. Physiological causes, environmental

factors, activity-related falls, and the impact of physical and health-related risks on falling were the main areas emphasized within the second theme. Most participants stated they had fallen at home, often due to slipping, dizziness, or feeling unbalanced. In the third main theme, the prominent sub-theme was “Perceptions and Expectations Regarding the Role of Family Physicians in Fall Prevention”. In this context, participants believed that the family physician could help in fall prevention and noted a lack of post-fall information provided by the family physician. Almost all participants (except one) reported not receiving any information from their family physicians about fall prevention during routine visits. Furthermore, most participants stated that they did not share their fall experiences with their family physicians, explaining this with the belief that falls are unpreventable and the perception that family physicians are inadequate in this regard.

Conclusion: This study provides valuable insights into the experiences and perceptions of older adults related to falls and fall prevention. The findings that many participants view falls as inevitable and report limited engagement with fall prevention in primary care are noteworthy. However, the potential for enhancing the role of family physicians in fall prevention, as suggested by the participants, is promising for reducing fall-related risks in the elderly population.

Keywords: Falls, Fall prevention, Elderly, Primary Care, Qualitative Research

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Evaluation of the Relationship Between Fagerström Nicotine Dependence Levels and Depression, Anxiety and Stress Levels in Individuals Attending a Smoking Cessation Clinic

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Oral Presentation – OP291

Abstract

Nicotine addiction remains not only a leading cause of preventable mortality but also economic burden around the world. Consumption of tobacco products is the leading cause of preventable deaths. It is also known that approximately 19 million people in Turkey consume tobacco products. This represents a serious public health problem and imposes a significant burden on the healthcare system. This study aims to evaluate the relationship between nicotine dependency levels and the depression, anxiety, and stress levels of individuals who visited a smoking cessation clinic in Izmir, Turkey

Materials and Methods

A total of 623 individuals who has visited Smoking Cessation Clinic at İzmir Buca Seyfi Demirsoy Training and Research Hospital were included in the study. Nicotine dependency was assessed via the Fagerström Test for Nicotine Dependence (FTND), while psychological status was evaluated with the Depression Anxiety Stress Scale (DASS-21). Data were analysed using SPSS 18.0. Frequency and Pearson correlation analyses were performed, and $p<0.05$ was considered statistically significant.

Results

Nicotine replacement therapy (Nikitabs) was started for 316 individuals (%50.7). Of those undergoing treatment, 171 (%54.1) returned for follow-up, and 81 (%47.36) reported quitting smoking.

The mean exhaled carbon monoxide (CO) level of the applicants was 17.57 ± 10.21 ppm (min: 0; max: 63), the mean BMI was 26.13 ± 4.47 kg/m² (min: 15.06; max: 42.12), and the mean Fagerström score was 6.75 ± 2.75 (min: 0; max: 23). The average pack-years of smoking was 27.29 ± 19.14 years (min: 0.01; max: 100).

Participants DASS-21:

- Mean depression score: 4.85 ± 4.06 (min: 0; max: 20)
- Mean anxiety score: 5.44 ± 3.81 (min: 0; max: 20)
- Mean stress score: 5.99 ± 3.95 (min: 0; max: 21)

A significant positive correlation was found between Fagerström dependence scores and all three DASS-21 subscale scores (depression, anxiety, and stress). When comparing smoking pack-years with scale sub-scores, a significant positive correlation was also observed with just anxiety (Table 1).

Conclusion

Nicotine dependency is a complex condition involving physiological, cognitive, and psychosocial factors. Our study emphasized the importance of evaluating smoking addiction in a comprehensive and multifaceted manner by considering not only the psychological state of individuals receiving smoking cessation counselling, but also parameters such as BMI, carbon monoxide level, and pack-years of smoking This study is novel in utilizing the DASS-21 to assess psychological aspects of nicotine dependence, revealing anxiety is the most significant risk between the three that we assessed. Holistic and personalized approaches might be called for to enhance smoking cessation outcomes.

Keywords: Tobacco dependence, smoking cessation, Fagerström, DASS-21

Table 1. The relationship between DASS-21 scale scores and CO levels, BMI, Pack Year Smoking and Fagerström Test for Nicotine Dependence scores.

		CO	BMI	Pack-Year	Fagerström
Depression	**r**	-0.021	0.017	0.070	**0.145****
	p	0.678	0.712	0.123	**0.002**
	N	381	481	481	457
Anxiety	**r**	-0.010	-0.028	**0.094***	**0.158****
	p	0.848	0.537	**0.039**	**0.001**
	N	381	481	481	457
Stresss	**r**	0.056	-0.020	0.047	**0.111***
	p	0.272	0.657	0.307	**0.018**
	N	381	481	481	457

CO: Exhaled carbon monoxide level; **BMI:** Body Mass Index; **r:** Pearson correlation *p<0,05; **p<0,001

A Faster and Easier Analysis Method for HLAB27 Testing in Suspected Ankylosing Spondylitis: Flowcytometry

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Purpose

Ankylosing spondylitis (AS) is a chronic systemic inflammatory disease. Involvement of the spine and sacroiliac joints is particularly prominent. It is known that human leukocyte antigen B27 (HLA-B27) plays an important role in the pathogenesis of AS. Therefore, the HLA-B27 test is routinely used in the diagnosis of AS. The purpose is to reveal the frequency of HLAB27 in patients presenting with a preliminary diagnosis of AS, along with their demographic data, using flow cytometric (FC) analysis.

Material Method

HLAB27 analysis was performed for 176 AS pre-diagnosed patients who applied to the FC unit between January and December 2024. HLAB27 frequency was examined according to age ranges and gender. Clinical diagnosis, treatment and follow-up, and test results were evaluated.

Findings

In the HLAB27 FC analysis, 83 (47%) of the patients were positive, 45 (26%) were negative, and 48 (27%) were suspiciously positive. Of the total patients who applied, 95 (54%) were female and 81 (46%) were male. Of those who were HLAB27 positive, 42 (50%) were female

and 41 (49%) were male. Of the negatives, 30 (67%) were female and 15 (33%) were male. The suspicious ones were determined as 23 (48%) female and 25 (52%) male.

Conclusion

Most female patients applied and HLAB27 positivity was found at similar rates in both genders. Most of the negatives were found to be female patients. Suspicious positivity was more common in males. FC can provide rapid preliminary diagnosis within hours and cheaper than many other methods with HLAB27 analysis in patients with suspected AS. Peripheral blood sample is used in the analysis and the test can be easily repeated if necessary. FC also guides the use of advanced genetic testing methods, especially for suspicious HLAB27 results. It is seen that studies are needed in a larger patient population to reveal the frequency of HLA-B27 more clearly in AS patients.

Keywords: Ankylosing Spondylitis, HLAB27, Flowcytometry

Factors Affecting The Progression of Myopia in Children

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Oral Presentation – OP302

Purpose: To investigate the progression of myopia occurring in childhood in terms of age of onset, gender, and parental myopia history factors.

Methods: Seventy five children who were prescribed glasses due to myopia underwent at least three eye examinations within 1 year. Those who were myopic less than -0.75 diopters (D) and those with hyperopia in one eye at the initial examination were excluded from the study. They were classified according to the initial myopia level as follows: mild, -0.75 / -1.5 D, moderate -1.50 / -5.00 D and severe >-5.00 D. Myopia progression from the time of onset was examined in terms of age, gender and parental myopia history.

Results: Myopia progression was faster in children with younger age at onset (p=0.011). Annual progression for girls was on average 0.11 D faster than for boys (p=0.001). Progression rate was faster in moderate myopia than in other groups (p=0.002). Parental history of myopia was not a statistically significant factor. (p=0.678).

Conclusions: Younger age, female gender, and -1.5 D baseline myopia are factors associated with myopic progression. This study may inform the estimation of myopia progression rates, facilitating the planning of clinical trials for myopia control interventions.

Keywords: Myopia, Progression, Children

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Examination of Medical Specialization Theses on Child Neglect and Abuse

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Abstract

Introduction: Child neglect and abuse are significant forensic and health issues that must be recognized by physicians and are legally required to be reported. This study aimed to examine the specialization theses conducted on child neglect and abuse.

Materials and Methods: The study utilized data from the Thesis Center of the Higher Education Council. The theses were filtered by searching for the terms "child neglect" and "child abuse" in the full text of the theses. The filter for thesis type was applied as "medical specialization thesis."

Results: As a result of the filtering, 179 theses published between 1996 and 2024 were identified. Upon reviewing the contents of these theses, 11 theses that were deemed unrelated to the subject were excluded from the study. Among the theses, 23 were published in 2018, 14 in 2024, 14 in 2010, 13 in 2017, 11 in 2023, and 11 in 2022. Of the 168 theses included in the evaluation, it was found that 119 (70.8%) focused on the characteristics of individuals seeking help due to neglect/abuse, and on the evaluation of those who presented to various units for other reasons but were assessed for neglect/abuse. Thirty-five theses (20.8%) focused on healthcare professionals, 11 (6.5%) on parents, 4 (2.3%) on medical students, and 3 (1.7%) on teachers and teacher candidates, assessing their knowledge levels and attitudes. Some studies evaluated the attitudes of multiple groups. Forty theses (23.8%) were conducted in the field of psychiatry, 35 (20.8%) in forensic medicine, 32 (19.0%)

Oral Presentation – OP303

in family medicine, and 30 (17.8%) in child and adolescent psychiatry; the remaining theses were conducted in the fields of pediatric health and diseases, public health, internal medicine, dermatology, emergency medicine, physical medicine and rehabilitation, orthopedics, and pediatric surgery.

Conclusion: Increasing studies to assess the knowledge levels of medical students and healthcare professionals regarding child neglect and abuse, identifying the shortcomings in practice, and revising relevant training programs could contribute to the development of more effective educational programs. This would enable the better recognition, reporting, and management of child neglect and abuse, addressing any issues in the process.

Keywords: Child Neglect, Child Abuse, Medical Specialization Thesis

Introduction

Child abuse is defined as intentional and preventable behaviors by individuals responsible for the care of the child that negatively affect the child's physical, emotional, mental, or sexual development, harm the child's physical and mental health, or pose a risk of harm (1). Child abuse is classified into three main types: physical abuse, emotional abuse, and sexual abuse (2). Child neglect, on the other hand, refers to the failure of caregivers to meet the child's basic needs such as nutrition, shelter, clothing, education, health, dental care, and emotional support, which in turn adversely affects the child's physical and mental health as well as physical, emotional, social, and moral development (1).

Child abuse and neglect are considered criminal offenses under the Turkish Penal Code, and legal regulations impose mandatory reporting obligations on healthcare professionals, public officials, and the general public (2). The Turkish Penal Code stipulates that healthcare professionals who fail to report a suspected offense may be subject to imprisonment for up to one year (3).

Child abuse and neglect are significant medico-legal and public health issues that physicians are legally obligated to recognize and report. This study aims to examine medical specialty theses conducted on the topic of child abuse and neglect.

Materials and Methods

This study utilized data from the National Thesis Center of the Council of Higher Education of Turkey. The keywords “child neglect” and “child abuse” were searched across the full texts of theses. The search was filtered to include only “medical specialty theses.” The retrieved theses were grouped based on their publication years, content, and the departments in which the studies were conducted. Descriptive data were expressed as frequencies and percentages for categorical variables.

Results

Following the filtering process, a total of 179 theses published between 1996 and 2024 were identified. Upon reviewing the content, 11 theses were excluded for being unrelated to the topic. A total of 168 theses relevant to the subject were included in the study.

Of these theses, 23 were published in 2018, 14 in 2024, 14 in 2010, 13 in 2017, 11 in 2023, 11 in 2022, 10 in 2015, 9 in 2019, 9 in 2014, 9 in 2011, 8 in 2021, 8 in 2020, 6 in 2013, 6 in 2012, 5 in 2016, 3 in 2009, 2 in 2008, 2 in 2004, 2 in 2002, 1 in 2005, 1 in 2000, and 1 in 1996.

Upon examining the content of the 168 included theses, it was determined that 119 studies (70.8%) focused on assessing the characteristics of individuals presenting due to abuse/neglect or evaluating those presenting for other reasons in terms of possible abuse/neglect. Additionally, 35 theses (20.8%) evaluated the knowledge and attitudes of healthcare professionals, 11 (6.5%) focused on parents, 4 (2.3%) on medical students, and 3 (1.7%) on teachers and prospective teachers (Table 1). Some studies assessed the attitudes of more than one group.

Table 1: Thematic Distribution of Thesis Studies

Research Topic	**n (Number)**	**% (Percentage)**
Evaluation of cases presenting due to neglect/abuse and assessment of cases presenting for other reasons in terms of possible neglect/abuse	119	70.8
Knowledge levels and attitudes of healthcare professionals	35	20.8
Knowledge levels and attitudes of parents	11	6.5
Knowledge levels and attitudes of medical students	4	2.3
Knowledge levels and attitudes of teachers and prospective teachers	3	1.7

* Certain studies fall under multiple participant categories.

It was determined that 40 theses (23.8%) were conducted in the Department of Psychiatry, 35 (20.8%) in Forensic Medicine, 32 (19.0%) in Family Medicine, 30 (17.8%) in Child and Adolescent Psychiatry, 17 (10.1%) in Pediatrics, 4 (2.3%) in Public Health, 3 (1.7%) in Internal Medicine, 2 (1.1%) in Dermatology, 2 (1.1%) in Emergency Medicine, 1 (0.5%) in Physical Medicine and Rehabilitation, 1 (0.5%) in Orthopedics, and 1 (0.5%) in Pediatric Surgery (Table 2).

Table 2: Distribution of Thesis Studies by Academic Department

Academic Department	**n (Number)**	**% (Percentage)**
Psychiatry	40	23.8
Forensic Medicine	35	20.8
Family Medicine	32	19.0
Child and Adolescent Psychiatry	30	17.8
Pediatrics	17	10.1
Public Health	4	2.3
Internal Medicine	3	1.7
Dermatology	2	1.1
Emergency Medicine	2	1.1
Physical Medicine and Rehabilitation	1	0.5
Orthopedics	1	0.5
Pediatric Surgery	1	0.5

Conclusion

The findings of the reviewed studies indicate that there are perceived deficiencies in recognizing and reporting child neglect and abuse. Increasing the number of studies aimed at assessing the knowledge levels of medical students and healthcare professionals -groups with a high likelihood of encountering child neglect or abuse during their professional careers- may contribute to identifying practical shortcomings. This, in turn, can inform the revision of current educational programs and support the development of more effective training curricula. Enhancing education in this area may help improve the recognition and reporting of child neglect and abuse, and prevent disruptions in the management of such cases.

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Changes in New Systemic Inflammation Markers in Obese Individuals Who Lost Weight

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Oral Presentation – OP304

Aim: In our study, we investigated the changes in new systemic inflammation markers in obese individuals who lost weight.

Material and Method: This study is retrospective and the Leukocyte count/Albumin ratio (LAR), Neutrophil count/Albumin ratio (NAR), Neutrophil percentage/Albumin ratio (NPAR) values of obese individuals aged 18-65 who applied to Konya Beyhekim Training and Research Hospital Obesity Center between January 1, 2023 and January 1, 2025 were compared before and after weight loss and the basal metabolic rate and fat mass ratio values from TANİTA measurement data records were examined.

Results: A total of 114 participants were included in our study, 101 (87.8%) were female and 14 (12.2%) were male. The median age of the participants was 48 (37-53) years. While body mass index (BMI) ($p<0.001$), body weight ($p<0.001$), LAR ($p<0.001$), NAR ($p<0.002$), basal metabolic rate (BMR) ($p<0.001$), BMR/body weight (BMR score) ($p<0.001$), fat mass ratio ($p<0.001$), internal fat ratio ($p<0.001$) values were statistically significantly different before and after weight loss, there was no statistically significant difference in NPAR ($p=0.501$) value (Table 1). When we look at the general changes before and after weight loss, between NAR and LAR ($r= 0.879$; $p<0.001$), NPAR ($r=0.584$; $p<0.001$); A positive significant relationship was found between LAR and NPAR ($r=0.347$; $p<0.001$); between BMR and visceral fat ratio ($r=0.391$; $p<0.001$); between fat mass ratio and visceral fat ratio ($r=0.671$;

p<0.001); and a negative significant relationship was found between BMR score and fat mass ratio (r=-0.562; p<0.001), visceral fat ratio (r=-0.364; p<0.001).

Conclusion: While losing weight reduces systemic inflammation, NAR, LAR, NPAR can be used as new inflammation markers in determining inflammation in obese individuals.

Table 1: Comparison of participants' values at the beginning and after the study

	Median (IQR %25-75)	p
BMI1 (kg/m2)	36,90 (33,70-40,70)	<0,001
BMI2 (kg/m2)	34,90 (31,30-39,30)	
Body weight1 (kg)	97,20 (86,85-105,30)	<0,001
Body weight2 (kg)	90,95 (83,60-102,90)	
LAR1	157,75 (135,86-184,75)	<0,001
LAR2	151,13 (126,07-173,05)	
NPAR1	1,29 (1,18-1,44)	0,501
NPAR2	1,26 (1,19-1,38)	
NAR1	90,16 (74,11-109,91)	0,002
NAR2	82,97 (65,09-103,37)	
BMR score1	16,71 (15,82-15,03)	<0,001
BMR score2	17,04 (15,94-18,43)	
BMR1	1,60 (1,50-1,73)	<0,001
BMR2	1,57 (1,46-1,69)	
Fat mass ratio1	48,00 (42,00-51,00)	<0,001
Fat mass ratio2	45,00 (39,00-50,00)	
Internal fat ratio1	14,00 (11,0-17,00)	<0,001
Internal fat ratio2	12,00 (10,00-16,00)	

*Wilcoxon Signed Ranks Test, [1]: İnitial value, [2]: Next value, BMI: Body mass index, LAR: Leukocyte count/Albumin ratio, NPAR: Neutrophil percentage/Albumin ratio, NAR: Neutrophil count/Albumin ratio, BMR: Basal metabolic rate, BMR score: Basal metabolic rate/body weight

Keywords: Obesity, Leukocyte Count/Albumin Ratio, Neutrophil Count/Albumin Ratio, Neutrophil Percentage/Albumin Ratio

Are Family Physicians Burned Out? A Study on Occupational Burnout and Affecting Factors

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Objective:

Healthcare professionals, especially physicians, are susceptible to burnout syndrome due to factors such as an intense workload, emotional exhaustion, and continuous patient interactions. Burnout is typically evaluated across three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Family physicians, being the primary point of contact in healthcare services, experience substantial administrative and clinical pressures, making them vulnerable to burnout.

This study aims to assess the burnout levels of family physicians working in Tokat province and identify the factors influencing these levels. Additionally, it examines the relationship between burnout and variables such as working conditions, workload, and demographic characteristics.

Oral Presentation – OP309

Method:

This cross-sectional, questionnaire-based study targeted family physicians working in Tokat between January and March 2025. Data collection involved demographic information and the Maslach Burnout Inventory (MBI), which includes 22 items assessing three sub-dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. The survey

was administered electronically, and participation was voluntary, with an attempt to reach the entire population.

Descriptive statistics were used to summarize the general characteristics of the participants. Comparisons of quantitative variables across groups were performed using the Independent Samples t-test and One-Way Analysis of Variance (ANOVA). A p-value of less than 0.05 was considered statistically significant. Statistical analyses were conducted using SPSS 22.0 (Chicago, IL, USA).

Results:

A total of 57 family physicians participated in the study. Among the participants, 38.6% were aged between 30 and 40 years, 56.1% were female, 64.9% were married, 40.4% had 10 or more years of experience, and 35.1% were family medicine specialists. The mean emotional exhaustion score was 26.75 ± 6.82 (mean ± SD), indicating a moderate level of burnout. The mean depersonalization score was 12.09 ± 3.96 (mean ± SD), also reflecting a moderate level. The mean reduced personal accomplishment score was 23.25 ± 3.87(mean ± SD), suggesting a high level of burnout.

A statistically significant gender difference was observed, with male physicians reporting higher burnout levels than female physicians ($p = 0.027$). However, no significant differences were found across occupational groups (specialist family physicians, general practitioner family physicians, family medicine residents, and contracted family medicine residents), years of experience, marital status, or age.

Conclusion:

Family physicians, due to their frontline role in patient care and evolving healthcare policies, face increased workloads and a heightened risk of burnout. Understanding their burnout levels is crucial for developing effective health policies and designing interventions aimed at improving job satisfaction. This study provides valuable insights into the burnout experienced

by family physicians in Tokat and highlights the need for targeted strategies to mitigate this occupational hazard.

Keywords: Burnout, Family Physicians, Workload

Introduction

Burnout was first introduced in the medical literature in 1974 and is defined as a state of emotional, physical, and mental exhaustion caused by prolonged stress in one's professional life (1). In dictionary definitions, it is often described as "a condition of having lost strength or motivation" (2).

Burnout syndrome is particularly common among professionals who engage in frequent interpersonal interactions and are exposed to high emotional demands. According to the World Health Organization (WHO), burnout is characterized by "feelings of energy depletion or exhaustion, increased mental distance from one's job, or feelings of negativism or cynicism related to one's job, and reduced professional efficacy" (3). Burnout among physicians is now considered a significant public health concern. Physicians experience burnout at higher rates compared to other professions and report lower satisfaction with work-life balance (4,5). According to the 2024 Medscape Physician Burnout and Depression Report, family medicine ranks fifth among medical specialties with the highest burnout levels (5). Another study found that family physicians are 40% more likely to experience burnout than physicians in other specialties (6). Factors such as job dissatisfaction, occupational stress, time constraints, chaotic work environments, and limited professional autonomy are frequently cited as contributors to burnout among family physicians (7).

This study, conducted in the wake of revisions to the Family Medicine Practice Regulation in 2025, aims to evaluate burnout levels and related factors among family physicians working in Tokat Province, Türkiye.

Materials and Methods

This descriptive, cross-sectional study was conducted between February 1 and March 31, 2025, and included all family physicians actively practicing in Tokat Province. Participation was voluntary, and data were collected through a structured, web-based questionnaire. The questionnaire, developed based on a literature review, included 27 items, covering demographics and the Maslach Burnout Inventory (MBI) (4,6,15).Ethical approval was obtained from the Tokat Gaziosmanpaşa University Ethics Committee (Approval No: 25-MOBAEK-056).

Demographic variables included age, gender, marital status, years of professional experience, and job title. The MBI comprises 22 items scored on a 5-point Likert scale (0 = Never, 4 = Always), distributed across three subscales: Emotional Exhaustion (EE) – 9 items (range: 0–36), Depersonalization (DP) – 5 items (range: 0–20), Reduced Personal Accomplishment (RPA) – 8 items (range: 0–32). Higher EE and DP scores indicate higher burnout, whereas lower RPA scores (i.e., reduced personal accomplishment) suggest increased burnout in this domain. The reliability of the MBI was confirmed with a Cronbach's alpha of 0.837. Subscale reliability scores were 0.83 for EE, 0.72 for RPA, and 0.65 for DP. EE reflects emotional depletion and fatigue, DP measures interpersonal disengagement, and RPA indicates self-evaluation regarding work-related achievements

Results

Subscale scores were analyzed by demographic characteristics. No significant differences in EE, DP, or RPA scores were observed across age or marital status ($p > 0.05$). However, gender was significantly associated with RPA, with male physicians reporting lower personal

accomplishment than female physicians (p = 0.027). There were no significant gender differences in EE or DP.

Although no statistically significant differences were found among experience groups, physicians with 0–5 years of experience reported relatively higher EE and DP scores. Among occupational subgroups, general practitioners had the highest EE and DP scores, while residents reported the lowest RPA scores (Table 1).

Variables / Groups	n (%)	Emotional Exhaustion (EE)	Depersonalization (DP)	Reduced Personal Accomplishment (RPA)
Age		Mean ± SD	Mean ± SD	Mean ± SD
20–30	19 (33,3%)	27,11 ± 7,49	12,89 ± 3,96	21,89 ± 4,18
30–40	22 (38,6%)	26,14 ± 4,70	11,45 ± 2,63	23,86 ± 3,33
40–50	12 (21,1%)	27,50 ± 9,46	12,42 ± 5,43	24,17 ± 4,22
50–60	4 (7,0%)	26,25 ± 6,55	10,75 ± 5,68	23,50 ± 3,87
Gender				
Female	32 (56,1%)	26,44 ± 6,28	11,94 ± 3,98	22,25 ± 3,72
Male	25 (43,9%)	27,16 ± 7,58	12,28 ± 4,02	24,52 ± 3,75 *
Marital Status				
Married	37 (64,9%)	27,68 ± 7,06	12,24 ± 4,30	23,05 ± 4,28
Single	20 (35,1%)	25,05 ± 6,18	11,80 ± 3,32	23,60 ± 3,05
Professional experince				
0–5 years	20 (35,1%)	27,50 ± 7,16	13,05 ± 3,91	21,70 ± 4,19
5–10 years	14 (24,6%)	24,00 ± 4,51	10,50 ± 2,38	24,43 ± 3,30
10 years and over	23 (40,4%)	27,78 ± 7,47	12,22 ± 4,57	23,87 ± 3,62
Occupational Groups				
General Practitioners	13 (22,8%)	28,54 ± 9,25	13,15 ± 5,40	23,92 ± 4,07
Family Medicine Specialist	8 (14,0%)	27,50 ± 5,37	13,13 ± 3,80	23,75 ± 2,05
Contracted Family Medicine Resident (CFMR)	16 (28,1%)	26,63 ± 5,30	11,38 ± 3,72	24,25 ± 3,17
Family Medicine Resident	20 (35,1%)	25,40 ± 6,78	11,55 ± 3,10	21,80 ± 4,56

A moderate, statistically significant positive correlation was found between EE and DP (r = 0.683; p < 0.001), suggesting that greater emotional exhaustion is associated with increased

depersonalization. Weak and statistically non-significant correlations were observed between EE and RPA ($p = 0.076$), and between DP and RPA ($p = 0.490$).

Discussion

This study explored the relationships between burnout and several demographic and occupational variables among family physicians. The finding that male physicians reported lower personal accomplishment aligns with previous literature suggesting that societal and workplace expectations may place additional pressure on male physicians, potentially affecting their self-evaluation and perceived success (13).

Although statistical significance was not observed across years of experience, early-career physicians reported higher EE and DP levels. This trend may be due to their limited clinical experience and underdeveloped coping mechanisms. Previous studies have also noted that young or early-career healthcare workers are particularly vulnerable to burnout (14).

The moderate correlation between EE and DP supports the theoretical model of burnout, in which emotional depletion leads to detachment and depersonalization in professional interactions (8,9). In contrast, the lack of significant correlation between RPA and the other subscales suggests that perceived personal accomplishment may be more influenced by individual factors such as intrinsic motivation, career expectations, and support systems

Conclusion

The results of this study indicate that male family physicians and early-career professionals may be at higher risk of burnout, particularly in the domain of reduced personal accomplishment. Monitoring burnout levels regularly and implementing early interventions could help mitigate the psychological burden on physicians.

Factors such as workplace dynamics, job satisfaction, policy changes, and personal life circumstances all influence burnout risk. Improving working conditions, managing workloads,

and offering accessible psychological support should be prioritized in health policy planning to protect the well-being of family physicians.

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Investigation of the Relationship between the Tendency to Oriorexia Neurosis and Health Anxiety and Generalised Anxiety Disorder in People Applying to Family Medicine Outpatient Clinic

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Introduction

Nutrition is the use of nutrients in adequate amounts and at the right time for growth, development, maintenance of life and protection of health. Adequate and balanced nutrition is an extremely important factor in improving and sustaining public health. Eating disorders, which are defined as changes in eating frequency and pattern in a way that affects health, cause many diseases today. One of these diseases is anxiety. Individuals with high levels of anxiety may develop overeating, restriction or other unhealthy eating habits to cope with stress. Orthorexia neurosis, which is an eating disorder and can be defined as an obsession about healthy eating, can also cause anxiety and disruption of a balanced and adequate diet. The aim of this study was to measure people's vulnerability for orthorexia neurosis and to determine its association with health anxiety and risk of generalized anxiety disorder.

Materials and Methods:

This cross-sectional and descriptive study was conducted between July and September 2024. The study included 415 people aged between 18 and 65 years who applied to the Family Medicine Outpatient Clinic of a university hospital and who did not have a diagnosed psychiatric disorder. Ethics committee approval of the study was obtained. A form inquiring

sociodemographic characteristics, Orthorexia Neurosis scale (Ortho-11), Health Anxiety (HA) Questionnaire and Generalized Anxiety Disorder (GAD-7) tests were used as data collection tools. The data were analyzed using SPSS 27.0 program.

Results:

Of the participants, 53% were female (n=220). The mean age was 33.8±10.9 years. The mean scale scores were 26.3±4.8 (12-41) for Ortho-11, 16.8±6.8 (1-38) for HA scale, and 6.5±4.7 (0-21) for the GAD-7 scale. A significant and negative correlation was found between age and Ortho-11 (r=-0.133, p=0.007), HA (r=-0.142, p= 0.004), and GAD-7 (r=-0.227, p<0.001). There was a significant and negative correlation between Ortho-11 and HA scale scores (r=-0.130, p=0.008). A significant and positive correlation (r=0.412, p<0.001) was found between the HA and the GAD-7 scale scores. There was no significant correlation between Ortho-11 score and the GAD-7 score (r=-0.055, p=0.263). It was found that Ortho-11 and GAD-7 scale scores did not show a significant difference in terms of gender (p=0.443 and p=0.062, respectively), but HA scale scores were significantly higher in women (p=0.002). Scale scores did not differ according to educational status (all p values>0.05). It was observed that all scale scores of the unmarried participants were significantly higher (p<0.001, p=0.003, p<0.001, respectively).

Conclusion:

It was found that the findings of orthorexia neurosis did not differ according to gender or educational status, and those who were not married were more sensitive to this issue. Although there are researhes showing a relationship between orthorexia neurosis and anxiety symptoms, no significant correlation was found between Ortho-11 and GAD-7 scale scores in our study. On the other hand, there was a significant relationship between Ortho-11 and HA inventory score and contrary to the general belief, the correlation was weak and negative. This was attributed to the fact that the sample was taken from the outpatient clinic of a tertiary hospital and randomization was not achieved. Larger and more representative samples and longitudinal

studies are needed to reveal the prevalence of orthorexia neurosis in the community and its relationship with anxiety more clearly.

Keywords: Orthorexia Neurosa, Health Anxiety, Anxiety

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Screening for Celiac Disease in High-Risk Groups: Diagnosis of Celiac Disease in Four Asymptomatic Siblings

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Oral Presentation – OP315

Celiac disease (CD) is a systemic autoimmune disease triggered by gluten intake in genetically susceptible individuals. Its prevalence is estimated to be approximately 1% in the population. It is a multifactorial disease, but genetic factors play a significant role in its etiology. The risk of developing CD is considerably high among first-degree relatives of celiac patients, particularly siblings, due to shared HLA genotypes and environmental triggers. Celiac disease can remain asymptomatic for years or be diagnosed even 10 years after the onset of the first symptom. In recent years, the clinical presentation of CD has changed significantly. Classic CD symptoms are observed in only a small proportion of patients, while in older children, symptoms are either minimal or present with atypical features. Gastrointestinal symptoms may be mild or nonspecific.

It has been reported that approximately half of the first-degree relatives of newly diagnosed celiac patients are completely asymptomatic. The European Society for Paediatric Gastroenterology, Hepatology, and Nutrition recommends screening tests for high-risk groups, such as first-degree relatives of celiac patients, especially siblings.

Early diagnosis of CD is crucial in preventing long-term complications such as osteoporosis, growth retardation, infertility, and malignancies. Therefore, the siblings of celiac patients should be screened for CD, and with early diagnosis and treatment, the complications caused by the disease should be completely prevented or minimized.

In our study, we diagnosed CD in 4 out of 5 asymptomatic siblings (80%) of an index celiac patient. Since we diagnosed CD in these 4 asymptomatic siblings through screening tests, we present this study to emphasize the necessity of conducting annual serological screening tests for CD in the siblings of celiac patients, even if they are asymptomatic.

Keywords: Celiac Disease, Screening, Siblings

Introduction

Celiac disease (CD) is a systemic autoimmune disorder characterized by varying degrees of small intestinal damage triggered by gluten ingestion in genetically predisposed individuals (1,2).

The prevalence of CD is estimated to be approximately 1% in the general population. However, its frequency varies depending on geographic region and genetic factors (1,3). In a study conducted on healthy school children in Turkey, the prevalence of CD was found to be 1 in 212 (4). CD is a multifactorial disease, with genetic factors playing a significant role in its etiology. First-degree relatives of celiac patients, especially siblings, have a markedly increased risk of developing CD due to shared Human Leukocyte Antigen (HLA) genotypes and common environmental triggers such as gut microbiota. Additionally, the risk of developing CD is also higher in second-degree relatives and individuals with Down syndrome, type 1 diabetes mellitus (DM), selective IgA deficiency, autoimmune thyroiditis, Turner syndrome, and Williams syndrome (5–8).

CD can remain asymptomatic for years or may be diagnosed even a decade after the initial appearance of symptoms. Symptoms often vary between infants and older children. In young children, diarrhea, loss of appetite, abdominal distension, and abdominal pain are commonly observed. If diagnosis is delayed, growth retardation, irritability, and severe malnutrition may develop. In older children, gastrointestinal (GI) symptoms such as diarrhea, nausea, vomiting,

abdominal pain, bloating, weight loss, and constipation may occur, depending on the amount of gluten consumed (9).

In recent years, the clinical manifestations of CD have changed significantly. Classic symptoms of CD are seen in only a small proportion of patients; in older children, symptoms may be minimal or present with atypical features. GI symptoms can be mild or non-specific (10,11).

The 2012 guideline by the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) recommends the tissue transglutaminase IgA (tTG-IgA) test along with total IgA as the first-line screening tests in suspected cases of CD. If IgA deficiency is detected, the tTG-IgG test should be performed. If CD-specific serological tests are positive, upper GI endoscopy with intestinal biopsy should be performed. A diagnosis of CD is confirmed if the histopathological findings are consistent with the disease (2).

According to the 2020 ESPGHAN guideline, CD diagnosis may be established without biopsy under certain conditions (12). If the tTG-IgA level exceeds 10 times the upper limit of normal, a second blood sample is obtained to test for endomysial antibodies (EMA). If EMA is also positive and the family consents, the diagnosis of CD can be made without a biopsy, according to the 2020 ESPGHAN recommendations (12).

It has been reported that nearly half of the first-degree relatives of newly diagnosed celiac patients are completely asymptomatic. ESPGHAN recommends screening high-risk groups—such as first-degree relatives of celiac patients, particularly siblings—for CD (2). Early diagnosis is of critical importance in preventing long-term complications of CD, including osteoporosis, growth retardation, infertility, and malignancy. Therefore, siblings of celiac patients should be screened for CD, even if asymptomatic, to ensure early diagnosis and treatment, thereby preventing or minimizing potential complications of the disease (1,13,14).

In our study, we diagnosed celiac disease in 4 out of 5 (80%) asymptomatic siblings of an index celiac patient. Since the diagnosis was established through screening in asymptomatic children,

we present this study to emphasize the importance of performing annual serological screening tests for CD in siblings of celiac patients, even if they have no symptoms.

Case Presentations

Index Case: An 8-year-9-month-old girl presented to the outpatient clinic with a complaint of failure to gain weight. On physical examination, her height was 133 cm and weight was 31 kg. Systemic examinations revealed no pathological findings (Table 1). Laboratory investigations showed a hemoglobin (Hgb) level of 9.8 g/dL. Due to a tissue transglutaminase IgA (tTG-IgA) level >200.0 U/L, she was referred to the pediatric gastroenterology clinic. An upper gastrointestinal endoscopy with small intestinal biopsy was performed, and histopathological examination revealed Marsh type 3b, confirming a diagnosis of celiac disease (CD) (Table 2). Her siblings were called in for screening.

Case 1: A 15-year-6-month-old male presented with no complaints (Table 1). Physical examination was unremarkable. Laboratory tests revealed Hgb 14 g/dL. As tTG-IgA was >200.0 U/L, a second blood sample was obtained for anti-endomysial antibody (EMA) testing, which returned positive. Based on the ESPGHAN 2020 guidelines, the patient was diagnosed with CD and a gluten-free diet (GFD) was initiated (Table 2).

Case 2: A 14-year-old male was asymptomatic (Table 1). Physical examination was normal. Laboratory findings showed Hgb 12.5 g/dL and a tTG-IgA level of 0.0 U/L (Table 2). Annual serologic screening for CD was planned.

Case 3: A 12-year-old girl had no complaints (Table 1). Physical examination revealed no abnormalities. Laboratory tests showed Hgb 11.9 g/dL and tTG-IgA >200.0 U/L. EMA was positive in a second blood sample. According to the ESPGHAN 2020 guidelines, a diagnosis of CD was established, and a GFD was initiated (Table 2).

Case 4: A 10-year-old girl was asymptomatic (Table 1). Physical examination was unremarkable. Laboratory investigations showed Hgb 13.1 g/dL, and tTG-IgA >200.0 U/mL. EMA was positive in a second sample. CD was diagnosed based on ESPGHAN 2020 guidelines, and a GFD was started (Table 2).

Case 5: A 4-year-8-month-old girl had no symptoms (Table 1). Physical examination was normal. Laboratory analysis revealed Hgb 11.8 g/dL and tTG-IgA 102.0 U/L. EMA was positive, and an upper GI endoscopy was performed. Four biopsies from the duodenum and two from the duodenal bulb were taken. Histopathological evaluation revealed Marsh type 3b, confirming the diagnosis of CD (Table 2). A GFD was initiated.

Table 1. Gender, Age, Height, and Weight of the Cases

Case	Gender	Age (years)	Height (cm)	Weight (kg)
Index	Female	8.9	133	31
Case 1	Male	15.6	167	52
Case 2	Male	14.0	159	47
Case 3	Female	12.0	149	42
Case 4	Female	10.0	145	28
Case 5	Female	4.8	106	18

Table 2. Laboratory Findings of the Index Case and Siblings

Case	Hgb (g/dL)	IgA (mg/dL)	tTG (U/L)	EMA	Diagnostic Method
Index	9.8	82	>200	Positive	Biopsy (Marsh 3b)
Case 1	14.0	180	>200	Positive	ESPGHAN 2020 Guidelines
Case 2	13.5	-	0.00	Negative	-
Case 3	11.9	121	>200	Positive	ESPGHAN 2020 Guidelines
Case 4	13.8	153	>200	Positive	ESPGHAN 2020 Guidelines
Case 5	11.8	62	102	Positive	Biopsy (Marsh 3b)

Discussion

Celiac disease (CD) is known to be more common among first-degree relatives due to genetic predisposition, and screening tests are therefore recommended for this group (1). In a study conducted in Türkiye, the prevalence of CD among siblings of celiac patients was reported to be 5.9% (15). A systematic review and meta-analysis reported a prevalence of 8.9% among siblings of CD patients (7). In another study by Sahin in Türkiye, the prevalence among siblings was found to be 3.9%, with a relative risk 8.3 times higher than that of the general population (5).

In our study, the index case was referred to our clinic with a complaint of failure to gain weight. Laboratory tests revealed a tTG-IgA level >200.0 U/L. An intestinal biopsy via endoscopy was performed, and histopathological examination revealed Marsh type 3b, confirming a diagnosis of CD. A gluten-free diet (GFD) was initiated. Five siblings of the index case, aged between 4.8 and 15.6 years and asymptomatic, were invited for CD screening (Table 1). One sibling had a tTG-IgA level of 0.0 U/L, while four others had positive tTG-IgA results. In three of these cases, the tTG-IgA level was more than ten times the upper limit of normal. A second blood sample was obtained from these patients, and EMA levels were found to be positive. These three cases were diagnosed with CD based on the ESPGHAN 2020 guidelines. For the sibling with a tTG-IgA level of 102.0 U/L, an intestinal biopsy was performed via endoscopy. Marsh type 3b was identified histopathologically, confirming CD diagnosis via biopsy. As a result, four asymptomatic siblings were diagnosed with CD through screening and initiated on a GFD.

Early diagnosis of CD is crucial for the prevention of long-term complications such as osteoporosis, growth retardation, infertility, and malignancy. Therefore, we recommend that siblings of patients with CD undergo annual serologic screening tests, even in the absence of clinical symptoms.

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Effects and Side Effects of Pulse Steroid Therapy in Neurological Diseases

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Objective

Pulse steroid therapy is widely used in the treatment of various neurological disorders, particularly for conditions with an inflammatory or immune-mediated component. High-dose corticosteroids can rapidly suppress inflammation and modulate immune responses, making them a crucial option in pediatric neurology. This study aims to evaluate the treatment response and early side effects of pulse steroid therapy in pediatric patients hospitalized for neurological conditions in our clinic.

Materials and Methods

This retrospective cross-sectional study included patients aged 1 month to 18 years who were hospitalized and treated with pulse steroid therapy at the Pediatric Department of Ankara City Hospital between March 1, 2024, and January 1, 2025. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 20 (IBM Corp., Armonk, NY, USA).

Results

A total of 22 patients were included in the study, comprising 11 females (50%) and 11 males (50%). The mean age was 160.63±40.08 months, with an average body weight of 52.63±19.36 kg and a mean height of 154.14±20.98 cm. Pulse steroid therapy was administered for

Oral Presentation – OP316

demyelinating diseases in 13 patients (59%), drug-resistant epilepsy in 7 patients (31.89%), and encephalitis in 2 patients (9.11%). Methylprednisolone was the sole steroid preparation used in all cases. The mean duration of steroid administration was 4±1.19 days, with a daily dose of 30 mg/kg (maximum 1 g).

During treatment, two patients (9.1%) developed prehypertension, which resolved without the need for medical intervention. Arrhythmia was observed in three patients (13.6%), with sinus bradycardia in two cases and QTc prolongation in one case. These rhythm disturbances resolved without additional treatment at the end of therapy. Hyperglycemia was detected in 12 patients (54.5%), but blood glucose levels returned to normal after treatment. No dermatological, gastrointestinal, endocrine, neurological, or psychiatric side effects were observed during treatment or in the early follow-up period.

Following the first pulse steroid cycle, 14 patients (63.6%) responded to therapy, while 8 patients (36.4%) required additional pulse steroid cycles or second-line treatments. No patient mortality was recorded during the study period.

Conclusion

High-dose steroid therapy is widely used across various diseases and continues to find new applications. However, despite its therapeutic benefits, it is associated with a range of side effects, from mild to severe. Studies on pulse steroid therapy and its side effects in pediatric patients remain limited. To better assess the efficacy and complications of pulse steroid therapy, multicenter randomized controlled trials in diverse patient groups are needed.

Keywords: Pediatrics, Neurological Diseases, Side Effects, Pulse Steroid Therapy

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Nutrition and Related Factors in University Hospital Healthcare Workers

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Abstract

Objective

Nutrition is the adequate intake and utilization of nutrients required for human growth, development, a healthy and productive long life. To ensure optimal protection of public health, it is essential to determine the professional knowledge and skills required by individuals working in the health sector. In this study, we aimed to evaluate the nutritional knowledge level of healthcare workers and the factors affecting this knowledge.

Materials and Methods

Our cross-sectional study was conducted between 01.12.2023 and 01.01.2024 among healthcare personnel working at Bolu Abant Izzet Baysal University Training and Research Hospital. A descriptive sociodemographic form and the "Nutrition Knowledge Level Scale for Adults" were used to collect data. The Nutrition Knowledge Level Scale for Adults consists of two subscales: "Basic Nutrition and Food-Health Knowledge" and "Food Preference," comprising a total of 32 items. Scores obtained from the scale are evaluated as poor, moderate, good, and very good. Minimum,

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maximum, mean, and standard deviation values were calculated. Comparisons of scale scores according to demographic variables were made using t-tests and ANOVA, and a p-value <0.05 was considered statistically significant.

Results

The study was completed with 252 participants. The mean age of the participants was 31.35±7.77 years. Of them, 69 (27.4%) were male, and 183 (72.6%) were female. 93 participants (36.9%) were physicians, while the majority consisted of other healthcare professionals. 104 individuals (41.3%) reported working in shifts. The average score for Basic Nutrition and Food-Health Knowledge was 49.35 (min: 20 – max: 64), while the average Food Preference score was 25.63 (min: 12 – max: 60). A total of 27.4% (n=69) were classified as having poor Food-Health Knowledge scores. A high percentage, 80.6% (n=203), were identified with poor Food Preference scores. The mean score for self-perceived correctness of daily food preferences was 5.96 ±1.83, and the perceived relationship between nutrition and health was 8.63±1.76. A total of 21.4% reported not using the hospital cafeteria mainly due to reasons such as poor hygiene and low-quality meals. There was a significant relationship between Basic Nutrition and Food-Health Knowledge scores and the perceived importance of the nutrition-health relationship ($p<0.05$). Shift workers had significantly lower Basic Nutrition and Food-Health Knowledge scores ($p<0.05$).

Conclusion

Individuals trained in the healthcare field and equipped with up-to-date knowledge play key roles in protecting and improving health, preventing diseases that threaten public health, and forming national policies aimed at these goals. We believe that healthcare workers should receive nutrition education, their food preferences should be evaluated, sustainable nutrition programs should be implemented in hospitals, and outcomes of these practices should be assessed to facilitate necessary improvements.

Introduction

Nutrition is the adequate intake and utilization of nutrients required for human growth, development, a healthy and productive long life [1]. Healthy eating is defined as meeting all the nutritional needs of an individual according to age, gender, and physiological status, with a diet that is low in fat, high in fiber, and rich in fruits and vegetables [2]. The goal of healthy nutrition is to ensure adequate and balanced dietary intake [3].

According to WHO data, 40–50% of deaths in developing countries and 70–80% in developed countries are due to unhealthy lifestyles. This clearly reveals the importance of developing a healthy lifestyle [4]. Healthcare workers have significant roles and responsibilities in the development and maintenance of healthy lifestyle behaviors and in setting an example for society. Therefore, healthcare professionals should first regulate their own lifestyle habits [5].

Primary factors in the formation of dietary habits include personal food choices, family eating patterns, parental modeling, media, and societal norms. Personal factors such as beliefs, behaviors, knowledge, and self-esteem, along with social-environmental factors like family, friends, and close surroundings, also influence dietary behavior [6].

Achieving a healthy society requires not only healthcare services but also intersectoral coordination, proper health education for individuals, and the establishment of behavior change. In this study, we aimed to evaluate the nutritional knowledge level of healthcare workers and the factors affecting this knowledge.

Materials and Methods

This cross-sectional study was conducted between 01.12.2023 and 01.01.2024 at Bolu Abant Izzet Baysal University Training and Research Hospital among healthcare staff. A descriptive sociodemographic form and the “Nutrition Knowledge Level Scale for Adults “ were used. The Nutrition Knowledge Level Scale for Adults was developed and validated by Batmaz and Güneş [7]. It consists of two subscales: Basic Nutrition and Food-Health Knowledge and Food Preference, totaling 32 items. The scale uses a 5-point Likert rating: for correct items, responses

are scored from 0 (Strongly Disagree) to 4 (Strongly Agree), and reverse scoring is used for incorrect items. The maximum score for the basic nutrition subscale is 80, and for the food preference subscale, 48.

Participants also rated the perceived relationship between nutrition and health and the accuracy of their daily food choices on a Numeric Analog Scale (NAS) from 0 to 10. “Nutrition Knowledge Level Scale for Adults “ scores were categorized as follows:
- Basic nutrition: <45 = poor, 45–55 = moderate, 56–65 = good, >65 = very good
- Food preference: <30 = poor, 30–36 = moderate, 37–42 = good, >42 = very good

Descriptive statistics (minimum, maximum, mean, and standard deviation) were calculated. Chi-square, t-tests, and ANOVA were used for comparisons, with $p<0.05$ considered statistically significant.

Results

The study was conducted with 252 healthcare workers. The average age of the participants was 31.35±7.77. Among the participants, 27.4% (n=69) were male, and 72.6% (n=183) were female. A total of 36.9% (n=93) were physicians. 41.3% (n=104) of the participants worked in shifts. 32.5% (n=82) stated that they lived with their family or spouse and children. 21.4% (n=54) of the participants reported not using the hospital cafeteria. The reasons included hygiene problems (42.6%), poor quality food (33.3%), insufficient portions (7.4%), long queues (5.6%), and bad smell (1.9%).

The mean score for Basic Nutrition and Food-Health Knowledge was 49.35 (min: 20, max: 64), and for Food Preference it was 25.63 (min: 12, max: 60). The average self-perceived daily food choice score was 5.96 ± 1.83, and the perceived importance of the nutrition-health relationship was 8.63 ± 1.76.

The “Basic Nutrition and Food-Health Knowledge” scores indicated that 27.4% (n=69) had poor knowledge, 47.6% (n=120) moderate, 24.2% (n=61) good, and 0.8% (n=2) very good. For

"Food Preference", 80.6% (n=203) were poor, 13.1% (n=33) moderate, 5.6% (n=14) good, and 0.8% (n=2) very good.

There was a statistically significant relationship between Basic Nutrition and Food-Health Knowledge scores and working shift status (p=0.032), profession (p=0.004), and perceived importance of nutrition-health relationship (p<0.05). Shift workers had significantly lower basic nutrition and food-health knowledge scores. No significant relationship was found between food preference scores and variables such as gender, age, marital status, living arrangement, or cafeteria use.

Table 1 : Sociodemographic characteristics of the participants

		n	%
Gender	Male	69	27.4
	Woman	183	72.6
Marital status	With his partner	125	49.6
	Single	127	50.4
Job	Physician	93	36.9
	Nurse	77	30.6
	Other	82	32.6
History of chronic disease	There is	44	17.5
	None	208	82.5
Working order	Continuous daylight	148	58.7
	Conditions change day and night	104	41.3

Table 2: Evaluations Regarding the Nutrition Knowledge Level for Adults Scale

		Basic nutrition and food-health information				p	Food preference				p
		Poor	Moderate	Good	Very good		Poor	Moderate	Good	Very good	
Working order	Continuous daylight	41	78	27	2	p <0.05	121	25	2	0	p <0.05
	Conditions change day and night	28	56	20	0		82	19	3	0	
Job	Physician	22	48	22	1	p >0.05	75	17	1	0	p >0.05
	Nurse	22	46	9	0		64	12	1	0	
	Other	25	49	16	1		64	15	3	0	

Conclusion

In conclusion, healthcare professionals need continuous education and institutional support to maintain healthy dietary habits and be role models for the general population. Hospitals should provide reliable and nutritious food services, particularly tailored for shift workers, and consider implementing sustainable institutional nutrition programs. Periodic evaluations should be carried out to monitor improvements and challenges in healthcare workers' nutrition.

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Adult and Healthcare Worker Immunization: A One-Year Observation from a Tertiary Hospital in Türkiye

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Objective

Immunization is one of the most effective methods for preventing infectious diseases and protecting public health. Adult immunization programs not only protect individuals but also help prevent epidemics by supporting community immunity. These practices are especially important for high-risk groups such as immunocompromised individuals, the elderly, and healthcare professionals. Regular vaccination of healthcare workers plays a key role in both their own protection and the safety of the patients they serve. This study aimed to evaluate the overall distribution of adult vaccination practices and healthcare worker immunization data at Erzurum City Hospital during 2024.

Materials and Methods

This retrospective descriptive study was conducted on the vaccination records of individuals who applied to Erzurum City Hospital Vaccine Outpatient Clinic between January 2024 and January 2025. Vaccination data of individuals aged between 18 and 88 years were obtained using the Ministry of Health Vaccine Tracking System. Demographic information such as vaccine types, age and gender, and vaccination records of healthcare workers were analyzed separately.

Results

A total of 19,867 adult vaccine doses were administered during the study period. The most frequently administered vaccine was Tetanus-Diphtheria (TD) with 9,078 doses (45.7%), followed by Hepatitis B with 6,888 doses (34.7%) and Rabies with 2,580 doses (13.0%). Other vaccines included Measles-Mumps-Rubella (MMR) (662 doses, 3.3%), Hepatitis A (370 doses, 1.9%), Seasonal Influenza (149 doses, 0.7%), Conjugated Pneumococcal (PCV13) (48 doses, 0.2%), Pentavalent (36 doses, 0.2%), Varicella (34 doses, 0.2%), and Meningococcal ACWY (22 doses, 0.1%). During the same period, 904 healthcare workers were vaccinated. Among them, 55.4% (n=501) were male and 44.6% (n=403) were female. The highest vaccination rate was seen in the 30–39 age group (40.8%), followed by the 18–29 (31.2%), 40–49 (17.3%), and 50+ (10.7%) age groups. The most commonly administered vaccine among healthcare workers was Hepatitis B (262 doses, 29.0%), followed by MMR (206 doses, 22.8%), TD (147 doses, 16.3%), Seasonal Influenza (138 doses, 15.3%), Hepatitis A (133 doses, 14.7%), and Varicella (18 doses, 2.0%) .

Conclusion

In this study, it was found that the most commonly administered vaccine in the adult population is Tetanus vaccine, which is administered within the scope of prophylaxis after possible trauma due to the fact that we are a tertiary healthcare institution, followed by Hepatitis B vaccine, which is widely used in infectious disease screening. Immunization data for healthcare workers reveal the impact of occupational exposure-based immunization policies, with Hepatitis B and Seasonal Influenza vaccines being particularly prominent. These findings reveal that adult immunization is a strategic health service that not only provides individual protection but also strengthens public health. Primary healthcare services led by family physicians constitute the first link in this immunization chain and ensure its sustainability. Accordingly, it is of great importance to update and, if necessary, revise vaccination programs in a flexible and evidence-

based manner according to both the changing health needs of the society and the dynamics of the health service level where they are implemented.

Keywords: Vaccine, Immunization, Healthcare Workers

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Evaluation of the Application to Family Physicians and Satisfaction with Family Physicians of Patients with Green Area Triage Code in the Emergency Department

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Objective

As in the whole world, there is excessive density in emergency departments in our country. This situation constitutes a public health problem because it causes a decrease in the quality of health services. In our study, it was aimed to evaluate the applications of patients with green area triage code to the family physician before application, to determine the reasons for not applying and to determine their satisfaction with the services they received from family physicians.

Materials and Methods

Our study was conducted with green area triage coded patients over 18 years of age who applied to the Adult Emergency Department of Atatürk University Research Hospital in Turkey between 21 February - 21 May 2024. The study included 430 participants and data were collected by face-to-face questionnaire method. A personal information form was used for data on the descriptive characteristics of the participants, family physicians, current complaints and reasons for not applying to family medicine, and the

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EUROPEP (European Patients Evaluate General/Family Practice) scale was used to determine their satisfaction with the family physician. Statistical significance level $p<0.05$ was accepted.

Results

In our study, 54.2% (n=233) of the participants were female. The mean age of the participants was 30.02±12.1 years. While 81.4% (n=350) of the participants applied to the emergency department to be 'examined', 6.5% (n=28) preferred the family physician and 4.2% (n=18) preferred other outpatient clinics as the first place of application. In addition, 64.2% (n=276) considered the current complaint as an emergency, while 58.8% (n=253) participants stated that they would prefer a family physician in a similar situation.

In our study, when the most common reasons for preferring the emergency service instead of the family physician were analysed, 40% (n=172) stated 'Emergency service is closer to work/home', 28.6% (n=123) stated 'I think the medical treatment is better in the emergency service' and 27% (n=116) stated 'The working hours of the family physician do not fit my work'. There was a statistically significant difference between the time of admission and the reasons 'Emergency service is closer to work/home' ($p<0.001$) and 'The working hours of family medicine do not suit my work ($p<0.001$). There was also a statistically significant difference between the time of presentation and the reasons 'I think medical treatment is better in the emergency department' ($p=0,008$) and 'I do not trust my family doctor' ($p=0,044$) .

The rate of total satisfaction with the EUROPEP scale was 63.3%, and the mean score of total satisfaction level was calculated as 3.75±0.77 out of 5. When the responses of the participants to the EUROPEP scale were analysed, the highest mean scores were calculated as 'Keeping your records and information confidential' (4.33±0.84), 'Listening to you' (4.12±0.93) and 'Doing his job precisely' (4.09±0.93), 96), while the lowest mean scores were for the questions 'Being able to reach your doctor by phone' (3.04±1.26), 'Being able to reach the family health centre by phone' (3.31±1.23) and 'The time you spend in the waiting room' (3.41±1.27) .

Conclusion

Overcrowding in emergency departments is a universal and continuously increasing problem. Easy accessibility, quality and continuous service delivery in primary health care can significantly reduce emergency department utilisation. Investing in relationships between patients and family physicians, raising awareness of family medicine, and eliminating factors that prevent people from utilising primary health care services (e.g. transport) may be useful in reducing the patient load of the emergency department by reducing unnecessary admissions to the emergency department.

Keywords: Emergency Service, Family Practice, Patient Satisfaction, Green Code

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Professional Identity and Associated Factors Among Research Assistants in the Family Medicine Department of Atatürk University

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Introduction and Objective

Family medicine, with its unique scope and broad field of practice, is an area where professional identity confusion can sometimes arise. This study was conducted as a cross-sectional and descriptive study to evaluate the job satisfaction levels and career perceptions of family medicine residents.

Materials and Methods

A total of 61 volunteer residents from the Family Medicine Department of Atatürk University participated in this study. Ethical approval was obtained before the study. Data on the demographic characteristics, professional experiences, and job satisfaction levels of the participants were collected through an online survey prepared using Google Forms. The survey included sociodemographic data, the Family Medicine Identity Scale (FMIS), the Job Satisfaction Scale (JSS), and the Work-Related Emotional Burnout Scale (WEBS). The collected data were analyzed using SPSS.

Results

Out of the 65 family medicine residents in the department, 61 (94%) participated in the study, with 59% (n=36) being female. The mean age of the participants was 28.7±2.3 years. Regarding residency duration, 19.7% (n=12) had 0-1 year of experience, 31.1% (n=19) had 1-2 years, and 49.2% (n=30) had 2-3 years.

A total of 26.2% (n=16) of the participants stated that they had previously resigned from another medical specialty program.

The mean FMIS score was 75.6±1.3, the mean JSS score was 3.4±0.1, and the mean WEBS score was 2.71±0.1.

Male participants had significantly higher JSS scores (3.72±0.55) than female participants (3.10±0.64) ($p<0.001$). Female participants had higher WEBS scores (2.95±0.66) compared to males (2.36±0.76) ($p=0.002$).

There was no significant difference in JSS scores between those who had resigned from another specialty and those who had not ($p=0.421$). However, those who had resigned had significantly lower WEBS scores (2.25±0.77) compared to those who had not (2.87±0.69) ($p=0.004$).

A negative, weak correlation was found between age and WEBS scores ($r=-0.318$, $p=0.012$), as well as between years in the profession and WEBS scores ($r=-0.278$, $p=0.030$). However, there was no significant correlation between age or years in the profession and FMIS scores ($p>0.05$).

The median FMIS score for females was 71.5±7.2, whereas for males, it was 76.6±17, showing a significantly higher score for males ($p=0.014$). However, there was no significant difference in FMIS scores between those who had resigned from another specialty and those who had not ($p=0.737$).

A strong negative correlation was found between JSS and WEBS (r=-0.720, p<0.01), while a strong positive correlation was observed between JSS and FMIS (r=0.635, p<0.01). Additionally, a moderate negative correlation was found between WEBS and FMIS (r=-0.452, p<0.01).

Conclusion

This study provides important insights into the factors affecting the job satisfaction levels and emotional burnout of family medicine residents. Gender-related differences were observed, with males reporting higher job satisfaction and females experiencing higher burnout levels. Additionally, residents who had resigned from another specialty showed significant differences in burnout levels but not in job satisfaction. These findings highlight the need for a deeper evaluation of the professional experiences and emotional burdens of family medicine residents and the development of strategies to enhance job satisfaction.

Keywords: Family Medicine, Burnout, Physician Identity, Job Satisfaction

Perspectives of Medical Students on Family Medicine Specialty and Its Future, Assessment of Their Knowledge Levels About Family Medicine

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Objective

The aim of this study is to evaluate the perspectives of medical students on the family medicine specialty and its future, to assess their level of knowledge regarding family medicine, and to take measures and make more effective regulations concerning the future of family medicine.

Methods

A total of 205 students from the 1st through 6th years of Selçuk University Faculty of Medicine during the 2024-2025 academic year were included in the study. A questionnaire consisting of 25 questions was administered to the students.

Results

The mean age of the participants was 22.11 ± 2.62 years. Among the participants, 41.0% were male and 59.0% were female. The rate of students intending to pursue a specialty after graduation was 96.6%, while the rate of those wishing to specialize in family medicine was 19%. The most common reason for preferring family medicine was the perception that the workload is lower compared to other specialties.

Conclusion

Primary healthcare services are crucial both globally and in our country, with family medicine at their core. To achieve the desired number of family medicine specialists, rational and realistic strategies must be implemented. Policies should focus on making primary care a more attractive career choice for students while addressing the factors that deter them from pursuing it.

Keywords: Family Medicine, Medical Students, Specialty Training, Primary Care

Assessment of Knowledge, Attitudes, and Consumption Patterns of Functional Foods Among Consumers and Family Medicine Residents in Erzurum, Turkey

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Introduction

Functional foods, enriched with bioactive compounds like probiotics, prebiotics, omega-3, and antioxidants, offer health benefits beyond basic nutrition. These foods have gained global popularity due to their potential to reduce chronic disease risks such as cardiovascular diseases, diabetes, and obesity. The global functional food market is expected to grow by 5.7% annually.

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Aim and Scope of the Study

This study investigates the knowledge, attitudes, and consumption patterns of functional foods among consumers and contracted Family Medicine Assistants (SAHU) in Erzurum, Turkey. It identifies the most and least consumed products, assesses SAHU Assistants' willingness to recommend them, and compares knowledge and perceptions between consumers and healthcare professionals.

Materials and Methods

A cross-sectional survey was conducted with 60 participants (30 consumers and all 30 SAHU Assistants) at Atatürk University. The questionnaire, adapted from Roininen and Tuorila's (1999) Swedish version, included three sections: demographic information, a Functional Food Scale, and a Health Scale. Cronbach Alpha assessed scale reliability, and independent t-tests compared responses.

Findings and Discussion

The findings indicated that 40% of consumers and 36.7% of SAHU Assistants were aware of functional foods. Probiotic yogurt was the most consumed product, with 56.7% of consumers and 50% of SAHU Assistants regularly consuming it, attributed to its proven benefits for gut health, immune support, and widespread availability. Conversely, cholesterol-lowering margarine had the lowest consumption rate, with only 6.7% of consumers and no SAHU Assistants consuming it, likely due to taste concerns and skepticism about its cholesterol-reducing efficacy.

Significant differences emerged regarding the willingness to recommend functional foods. SAHU Assistants were more inclined to recommend probiotic yogurt (60%) compared to other products, while they were less likely to suggest cholesterol-lowering margarine (6.7%). This highlights the need for increased awareness and education about lesser-known functional foods. Additionally, only 46.7% of SAHU Assistants had sufficient knowledge about probiotic yogurt, with even fewer possessing adequate knowledge of other functional food products.

These results align with previous studies indicating that healthcare professionals tend to have higher knowledge and trust in familiar functional foods, such as probiotic yogurt, while remaining skeptical about products with limited evidence or marketing support. Pérez-Cueto et al. (2012) emphasized that healthcare professionals are more likely to recommend functional foods when they have sufficient knowledge and a positive perception of their benefits.

A significant difference was also found in perceived personal benefits, with SAHU Assistants reporting higher trust and perceived benefits compared to consumers ($p=0.032$). This suggests that enhancing awareness and providing scientific evidence on lesser-known functional foods may increase acceptance among both healthcare professionals and consumers

Conclusion and Recommendations

The study highlights the need for increasing awareness and knowledge about functional foods among both consumers and healthcare professionals. While probiotic yogurt is widely

consumed and recommended, other functional foods such as cholesterol-lowering margarine require more promotion and education. Policymakers should introduce targeted educational programs for healthcare professionals and implement awareness campaigns to enhance consumer trust in functional foods.

Keywords: Functional Foods, Consumer Attitudes, Healthcare Professionals, Family Medicine Residents

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Bacterial Infections and Antibiotic Resistance Profile in Palliative Care Patients: A Study Based on Clinical Cases

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Introduction

Palliative care patients often require prolonged hospitalizations due to serious chronic illnesses. Among these conditions, cancer is the most prominent, followed by heart failure, chronic obstructive pulmonary disease (COPD), Alzheimer's disease, and cerebrovascular diseases (1). Prolonged hospital stays are a significant factor that increases the risk of infections. Additionally, the prevalence of immunosuppression and invasive procedures in this patient group further elevates the risk of developing infections (2). Bacterial infections that develop in this context represent a major clinical issue, as they disrupt patient comfort and significantly impair quality of life. Identifying potential infectious agents and their antibiotic resistance profiles play a critical role in the selection of appropriate empirical antibiotic therapy (3). In this study, bacterial infections and antibiotic resistance profiles were evaluated based on clinical samples obtained from palliative care patients.

Material and Methods

In this retrospective cross-sectional study, clinical samples sent to the microbiology laboratory from patients hospitalized in the Palliative Care Unit of Gaziosmanpasa University Hospital between January 2024 and December 2024 were evaluated.

All patients who underwent culture analysis during the specified period were included in the study. Clinical samples were assessed based on their types, isolated microorganisms, and antibiotic resistance profiles.

Microbiological Analysis of Clinical Samples

For blood cultures, an automated blood culture system (Render BC128, Render Biotech Co. Ltd., China) was used. Blood culture bottles that signaled positive were removed from the device and, as with other specimens (urine, sputum, wound), subcultured onto blood agar and Eosin Methylene Blue (EMB) agar, then incubated at 37°C for 18–24 hours. Urine samples were evaluated based on colony count, the type, and the number of microorganisms grown. Only microorganisms considered to be true pathogens were included in the study. Identification of the isolated microorganisms and antibiotic susceptibility testing were performed using the VITEK® 2 Compact system (BioMérieux, France) via the microdilution method. Susceptibility results were interpreted according to the current EUCAST criteria.

Results

A total of 95 patients' culture data were analyzed in this study. The median age of the patients was 72 years (range: 29–93), and 44% of the patients were female.
Of the analyzed culture samples, 48.78% were urine cultures, 21.46% were blood cultures, 20.49% were sputum cultures, and 9.27% were wound cultures.
The most common pathogens identified in urinary tract infections were *Klebsiella* spp. and *Enterococcus* spp. In respiratory tract infections, the most frequently isolated pathogen was *Klebsiella* spp., while *Escherichia coli* was the most common pathogen in wound infections.
The most effective antimicrobial agents against *Klebsiella spp.* isolates were colistin (5%), tigecycline (5%), and cefazidime-avibactam (20%). The lowest resistance rates in *Escherichia coli* isolates were observed against colistin and tigecycline (0%), imipenem (7.6%), meropenem (7.7%), and cefazidime-avibactam (7.6%).

For *Pseudomonas* spp. isolates, the most effective agents were colistin (0%) and tigecycline (0%), whereas the resistance rate for cefazidime-avibactam was found to be 57.1%. The most effective antibiotics against *Enterococcus faecalis* isolates were vancomycin (0%), imipenem (0%), and cefazidime-avibactam (0%).

Table 1. Distribution of Isolates with Growth Detected According to Clinical Samples

Sample Type	Rate(%)	Most Frequently Isolated Bacteria	Frequency (%)
Urine Culture	48.78%	Klebsiella spp.	32.0%
		Enterococcus spp.	15.0%
Blood Culture	21.46%	Enterococcus faecalis	33.3%
Sputum Culture	20.49%	Klebsiella spp.	30.0%
Wound Culture	9.27%	Escherichia coli	35.2%

Table 2. Antibiotic Resistance Rates of Most Frequently Isolated Strains

Antibiotic	Klebsiella (n=20)	E.coli (n=13)	Pseudomonas (n=7)	Enterococcus (n=13)	Proteus (n=4)
Ampicillin	95.0%	46.2%	-	46.2%	50.0%
Cefuroxime	55.0%	84.6%	-	-	50.0%
Ciprofloxacin	55.0%	84.6%	71.4%	-	50.0%
Piperacillin-tazobactam	60.0%	38.5%	28.6%	-	25.0%
Cefepime	55.0%	61.5%	100.0%	-	25.0%
Ceftriaxone	55.0%	84.6%	28.6%	7.7%	25.0%
Imipenem	25.0%	7.6%	14.2%	0.0%	-
Meropenem	50.0%	7.7%	57.1%	-	-
Gentamicin	35.0%	23.1%	-	92.3%	-
Colistin	5.0%	0.0%	0.0%	0.0%	-
Tigecycline	5.0%	0.0%	0.0%	7.7%	-

Ceftazidime-avibactam	20.0%	7.6%	57.1%	0.0%	-
Vancomycin	-	-	-	0.0%	-
High-level Gentamicin	-	-	-	92.3%	-

Discussion

In this study, bacterial pathogens isolated from clinical samples obtained from patients hospitalized in the palliative care unit and their corresponding antibiotic resistance profiles were evaluated. The data obtained are valuable for contributing to the decision-making processes regarding empirical antibiotic therapy in the palliative patient group.

One of the most striking findings was the remarkably low resistance rates to critical antibiotics such as colistin and imipenem, particularly in *Klebsiella* spp., *Escherichia coli*, and *Pseudomonas* spp. isolates. Colistin resistance was observed at very low levels across all isolates, ranging from 0% to 5%. Resistance to imipenem was found to be 7.6% in *E. coli* isolates and 25% in *Klebsiella* spp. isolates. These results suggest that these broad-spectrum antibiotics can still be considered effective treatment options for palliative patients.

A study conducted on palliative care patients emphasized the effectiveness of colistin and ceftazidime-avibactam, and similarly, low resistance rates against these agents were observed in our study (4).

Another important finding from the study was that resistance rates against many commonly used antibiotics (such as ampicillin, cefuroxime, ciprofloxacin, ceftriaxone) were found to be over 50%, especially in *Klebsiella* spp. and *E. Coli* isolates. This suggests that empirical treatment choices in palliative patients should be made carefully, based on local resistance data. A study conducted on cancer patients in a palliative care unit in our country reported high

resistance to quinolones, similar to our findings, but no resistance to colistin was observed (5). Similarly, a retrospective study conducted in Brazil reported resistance rates above 60% against third-generation cephalosporins and quinolones in palliative care patients (6).

In a study conducted in palliative service patients, it was reported that the most common infections were respiratory and urinary tract infections (7). In our study, the most common infection was found to be urinary tract infection. Although this study was conducted in Norway with data obtained from 257 patients, we observe that the common infections in patients with similar diagnoses show similarities.

In a study conducted in Turkey, urinary system infections were reported as the most common nosocomial infections in a palliative care center, with a rate of 58.6%, and *Klebsiella* spp. was identified as the predominant pathogen in these cases (8). Similarly, in our study, *Klebsiella* spp. accounted for 32% of the urinary tract isolates. This parallel with our data highlights that *Klebsiella* spp. remains a persistent threat in palliative care patients.

In an evaluation conducted in the Intensive Care Unit, the antibiotic resistance rates for *Klebsiella* spp. isolates were found to be 34% for carbapenems and 34% for colistin. In comparison to the colistin resistance rates observed in our study, this study reported higher resistance rates, which is noteworthy as it involved a much larger number of patients over a longer period of time (9).

Palliative care patients are more susceptible to infections due to both their age and comorbidity profiles. Therefore, having knowledge about potential pathogens and resistance patterns before the development of infections is of great importance for both treatment success and patient comfort. Preventing the unnecessary or ineffective use of antibiotics is a critical step in the treatment of this patient group.

In conclusion, palliative care aims to improve patients' symptoms and enhance their quality of life. This study contributes to developing practical solutions by documenting infections and

causative microorganisms in palliative care patients. It provides resistance data that can contribute to antibiotic management and demonstrates that colistin and carbapenems still retain their effectiveness in this patient group.

Keywords: Palliative Service, Antibiotic Resistance, Infection

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Determinants and Awareness of Health Literacy: What Affects It in Our Patients?

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Oral Presentation – OP331

Objective: Health literacy can be defined as the ability to understand, evaluate, and use medical information. It is a comprehensive concept that requires individuals to be knowledgeable about their illnesses, take appropriate actions regarding their health, and navigate the healthcare system effectively. Low levels of health literacy are associated with poorer health outcomes, reduced use of preventive healthcare services, increased hospital admission rates, frequent visits to multiple healthcare facilities for the same condition, and higher healthcare costs. Sociocultural characteristics, education, and the healthcare system are among the primary factors influencing a population's health literacy level. These factors interact with health literacy, its outcomes, and associated costs. This study aims to assess the level of health literacy among patients, identify the factors influencing it, and raise awareness on the issue.

Materials and Method: This cross-sectional study was conducted on a voluntary basis. Individuals aged 18 and older who consecutively presented to our department over a three-month period were included in the study. Participants were administered a 42-item questionnaire developed through a literature review, along with the 12-item Short Form Health Literacy Scale (HLS-SF12), which uses a four-point Likert scale. Higher scores indicate better health literacy. Statistical analyses were performed using the SPSS software package.

Results: A total of 2427 patients participated, of whom 50.2% (n=124) were female, with a mean age of 36.9±16.3 years. Among all participants, 35.6% (n=88) had at least one chronic disease. The mean index score on the Health Literacy Scale was found to be 31.42±7.99. Health literacy levels decreased with increasing age and number of children. Employed individuals had significantly higher Health Literacy Scale – Short Form Index scores compared to unemployed individuals. Similarly, participants without chronic diseases had significantly higher health literacy levels than those with chronic conditions.

Conclusion: Analyzing the factors influencing health literacy revealed significant associations between health literacy and variables such as age, marital status, number of children, education level, occupational status, and monthly income. Given the rising prevalence of chronic diseases, uncontrolled increases in healthcare expenditures, and negative health outcomes, it is crucial to thoroughly understand the factors affecting health literacy. Developing strategies to enhance health literacy by considering these aspects is essential for improving public health outcomes.

Keywords: Health Literacy, Education, Health

Can the CRP/Albumin Ratio Be Used as an Inflammatory Marker in Palliative Care?

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Purpose: According to the definition of the World Health Organization, palliative care is an approach to increase the quality of life of patients and their relatives who are faced with a life-threatening illness, and aims at early detection and treatment of physical, psychosocial and spiritual problems, especially pain (1). CRP/Albumin ratio (CAR) is a parameter that has recently been used and there are not many studies on it (2). In the inflammatory process, the serum CRP level increases, while the albumin level decreases. CAR; It is determined by dividing the CRP by the level of albumin (mg/g). Studies have shown that CAR is a parameter that can be used to determine the prognosis of the disease, to show the effectiveness of diagnosis and treatment in inflammatory and autoimmune disease, cancer, cardiovascular diseases, severe sleep apnea and sepsis (3). CAR; In inflammatory conditions, it is more useful than CRP or albumin. In previous studies conducted in different patient groups, especially cancer, it has been shown that the prognosis is worse and mortality increases in patients who are above a certain predictive value. Some studies have shown that systemic inflammatory response is associated with poor prognosis with various solid tumors. The physiological response of leukocytes to systemic inflammation is an increase in the number of neutrophils and a decrease in the number of lymphocytes (4). Studies have shown that tumor cells can collect neutrophils into the tumor stroma through specific chemokines (5). Subsequently, neutrophils show pro-tumorigenesis effects by inhibiting apoptosis and promoting angiogenesis and metastasis (6). Studies have shown that NLR can be a prognostic factor in cardiovascular diseases, autoimmune and

inflammatory diseases, cancers and many other diseases (4,7). Mean platelet volume (MPV) is one of the indicators of platelet function. When there is an increase in platelet production, MPV also increases (8,9). Platelets with a larger-than normal volume have been shown to be more reactive and an important marker in predicting atherosclerosis, including coronary artery disease (10). In many studies, MPV is thought to be used as a prognostic factor in patients with cardiovascular disease (11). PLR, which is determined by dividing the number of platelets by the number of lymphocytes, is thought to be a useful potential prognostic biomarker in predicting inflammation and mortality. Activated platelets also mediate inflammation by releasing pro-inflammatory chemokines and cytokines.It is thought that PLR, a new marker of inflammation, can be used as a marker of inflammation and poor prognosis in malignancies, occlusive peripheral artery diseases, atherothrombosis and atherosclerosis (12–14). In our study, neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), mean platelet volume (MPV) of patients hospitalized in the palliative care service with various diagnoses were calculated and it was determined whether there was a relationship between CAR; The aim of this study was to evaluate the use of CAR as a marker of inflammation.

Materials and Methods: The study is a retrospective, cross-sectional, descriptive study. Population of the study 128 patients hospitalized with various diagnoses in the Palliative Care Center Clinic of Tuzla State Hospital between 01.06.2024 and 01.08.2024 were included. Age, gender, comorbid diseases, BMI (Body Mass Index), Hemogram, Albumin, Procalcitonin,CRP values of the included patients were recorded. The results were compared using the IBM SPSS Statistics 26 program. Those with a procalcitonin serum level below 0.1 ng/ml were considered PCT negative. CRP serum levels below 5 mg/dL were considered CRP negative.

Results: The participants consisted of 64 females and 64 males with a mean age of 73.67 years.NLR average 4.63; The PLR average was 210.02; MPV average 10.08; The CAR average is 393.47; His BMI was 24.22; The mean albumin level was 2.96. 10% of the patients were CRP negative and 64.1% were PCT negative. Only 10 patients had negative both CRP and PCT

values. Hypoalbuminemia was present in 77.3% of the patients. 44.5% of the patients were followed up with dementia, 37.5% with cerebrovascular disease, 23.4% with malignancy, and 39.8% with hypertension. PCT was negative in 64.1% of the patients. Only 10 patients were negative for both CRP and PCT. When we compared CAR and NLR, PLR, MPV values, CAR was found to be statistically higher ($p<0.05$). NLR, CAR, Albumin values with PCT negativity.When we compared it, a significant difference was found ($p<0.05$). There was no significant correlation between PCT negativity and MPV and PLR, CRP. A statistically significant correlation was found between CRP negativity and NLR, PLR, PCT, albumin, CAR ($p<0.05$). There was no significant relationship between CRP negativity and MPV. There was a significant correlation between hypoalbuminemia and CAR, CRP, PCT values. There was a significant correlation between PCT and NLR, PLR, MPV, CRP, Albumin ($p<0.05$). When we looked at the comorbid diseases of the patients: There was a significant relationship between NLR and Parkinson's ($p=0.04$). There was a significant correlation between malignancy, NLR and albumin ($p<0.05$). The relationship between the diagnosis of chronic cystemic heart disease and MPV was found to be significant ($p=0.008$). There was no correlation between CRP negativity and PCT negativity. There was a significant correlation between CAR and age and PCT ($p<0.05$). There was a significant correlation between PLR and NLR and MPV. When we compared the ages of the patients with NLR, PLR, MPV values, a statistically significant difference was found ($p<0.05$).

Conclusion: The fact that NLR, MPV and PLR, which are more frequently used inflammation markers in recent years, have a significant relationship with CAR shows that CAR can be used as a marker of inflammation. Our study on the relationship between MPV and Chronic Ischemic Heart Disease, in which we have seen similar studies, was also revealed. Although NLR has been shown to be a prognostic factor in malignancy in similar studies, studies on NLR values in patients diagnosed with Parkinson's disease are limited. Whether NLR can be seen as a marker in Parkinson's disease can be revealed with more detailed research. Albumin levels were statistically lower in patients with malignancy. This indicates that caution should be exercised

in patients diagnosed with malignancies about the complications that may be caused by hypoalbuminemia.

Keywords: Palliative Care, Inflammatory Marker,CRP/Albumin Ratio

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Evaluation of the Topics, Methods, and Publication Status of Specialty Theses in Family Medicine at Atatürk University Faculty of Medicine

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Introduction

The aim of this study is to examine the specialty theses completed in the Department of Family Medicine at Atatürk University Faculty of Medicine in terms of topic distribution, study type, sample size, statistical methods, ethical approval, and publication status. By analyzing the current situation, this study aims to provide insights and recommendations for future thesis studies.

Oral Presentation – OP341

Materials and Methods

The study included all specialty theses completed in the Department of Family Medicine at Atatürk University Faculty of Medicine between 2015 and 2024 and published in the National Thesis Center of the Council of Higher Education (YÖK). A pre-designed data collection form was used for each thesis. The data collection form recorded the year of the thesis, the academic title of the advisor, the thesis title and main topic (categorized into specific themes), study type, sample size, sample group, ethical approval information, and whether the thesis was published.

Results

Between 2015 and 2024, a total of 80 theses were published. Of these, 70% (n=56) were authored by women. Seventy-seven theses were completed by full-time family medicine

residents, two by clinical hypnosis master's students, and one by a Contracted Family Medicine Specialty Training student. The lowest number of theses was published in 2020 (n=3), while the highest number was in 2024 (n=14).

Ethical approval was stated in all studies. Three theses were supported as projects: two by Atatürk University Scientific Research Office and one by TÜBİTAK. Only one thesis was designed as a retrospective study.

The theses had an average length of 97±23 pages. The studies involved a total of 20,257 participants, with an average of 256.4±253.7 participants per study (minimum 12, maximum 1,816). Among the participants, 43.8% (n=35) were patients, while the remainder were healthy volunteers. In theses involving patients, sample groups primarily included individuals with chronic diseases such as diabetes, hypertension, and obesity. Studies with healthy volunteers recruited participants from various groups, with parents in 7 theses and pregnant women in 7 theses being the most common.

A total of 35 theses were conducted at the Family Health Center affiliated with the Department of Family Medicine, while 4 theses were conducted at Family Health Centers under the Provincial Health Directorate. Additionally, the sample group for 14 studies consisted of patients from various outpatient clinics of Atatürk University Research Hospital, while 8 theses included patients from the Atatürk University Acupuncture and Traditional Medicine Application and Research Center.

When categorized thematically, 13 theses focused on women's and children's health, 13 on treatment methods and effectiveness, 12 on family medicine and family health, and 12 on education and awareness.

Regarding study design, 61.3% (n=49) were descriptive cross-sectional studies, 20% (n=16) were randomized controlled trials, and 6.3% (n=5) were scale validity and reliability studies.

As for data collection methods, 86% (n=69) of theses used scales, followed by anthropometric measurements in 10% (n=8) and laboratory findings in 8.8% (n=7).

Regarding thesis supervision, 42.5% (n=34) were advised by associate professors, while 41.3% (n=33) were advised by assistant professors. Only 25% (n=20) of the theses were published as articles, with 7 in TR Index journals, 6 in Science Citation Index journals, and 2 in other national journals.

Conclusion

The majority of the theses completed in the Department of Family Medicine at Atatürk University Faculty of Medicine consist of clinical studies. While the presence of ethical approvals and research project funding is a positive aspect, increasing project support would be a beneficial step. Additionally, greater encouragement for publishing theses as articles is needed. Increasing the number of studies conducted in family health centers under the Provincial Health Directorate could help utilize the research potential in this field more effectively. Diversifying theses in terms of topics and methodologies would be an important step in contributing to future research.

Keywords: Specialty Theses, Family Medicine

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Distribution and Evaluation of Symptoms Accompanying Vertigo According to Disease Types

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Oral Presentation – OP344

Aim: Vertigo is the illusion of rotation that occurs after multiple pathological or physiological processes in the vestibular system. Although there are different reasons in the etiology of vertigo, the determination of the symptoms experienced by the patients is important in terms of the difficulties the patient encounters in their daily lives. Our aim in this study is to determine the accompanying symptoms in patients diagnosed with vertigo and to evaluate their distribution according to etiology.

Materials and Method: The prospective observational study included 50 patients aged 18-65 who applied to the outpatient clinics of the Health Sciences University Gulhane Training and Research Hospital Ear, Nose and Throat (ENT) Clinic between 01.03.2024 and 30.05.2024, and who were diagnosed with vertigo by ENT physicians and volunteered to participate in the study. The sociodemographic characteristics, vertigo-related symptoms and clinical features related to the disease were recorded. The data collection form was applied by face-to-face interview method. The obtained data were analyzed using IBM SPSS 24.0 statistical program.

Results: The mean age (±SD) of the 50 patients included in the study was 45.7±13. The female patient rate was 60%, while the male patient rate was 40%. 30% of the patients were single, and

44% were university graduates. The rate of patients who smoked was 34%, and the rate of patients who consumed alcohol was 10%. The rate of patients with chronic diseases was 56%, while hypertension was the most common (24%). BPPV was found in 74% of the patients, vestibular neuritis in 14%, and Meniere's disease in 12%. Among the symptoms accompanying vertigo, the most common were a sense of spinning (92%), a sense of imbalance (88%), and a sense of dizziness (74%) in order of frequency. Hearing loss was statistically significantly more common in patients with Meniere's disease than in those with BPPV ($p<0.001$). Fatigue was found to be statistically significantly higher in patients with BPPV and Meniere's disease than in those with vestibular neuritis ($p=0.02$).

Conclusion: In our study, it was observed that the detection of symptoms accompanying vertigo is important in the differential diagnosis of vertigo and in determining its etiology. It is important to perform the necessary examinations in terms of vertigo etiology in primary care and relevant clinics and to consider frequently seen conditions in the first stage of diagnosis. Family physicians' recognition of the disease, knowing the accompanying symptoms and detection of existing chronic diseases are important for the management of patients with vertigo, and when necessary, communicating with Ear, Nose and Throat specialists can be very beneficial in terms of disease management.

Keywords: Vertigo, Symptom, Etiology

Relationship Between Diabetic Foot Amputations and Bacterial Species

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Oral Presentation – OP357

Purpose: Approximately 80% of nontraumatic lower extremity amputations are performed for diabetic foot wounds. When a diabetic foot wound becomes infected, the risk of minor amputation has been shown to increase by 50% compared to patients with uninfected diabetic foot wounds. In many cases, amputation becomes unavoidable to control progressive infection. The aim of the study was to investigate the relationship between the type and number of bacteria grown in wound cultures of patients with diabetic foot wounds and amputations.

Method: Patients who underwent surgery because of diabetic foot wounds between 2016-2022 were screened. Patients were examined according to gender, surgical technique, fasting blood sugar, white blood cell count, hemoglobin value, CRP, ESR values, and the type and number of bacteria grown in their cultures. Amputations performed below and above the knee were considered major amputations. Abscess drainage/debridement and/or graft operations were classified as non-amputation surgeries. The relationship between the type and number of bacteria grown with the surgical interventions performed was examined.

Result: Data of 311 patients who underwent surgery for diabetic foot wounds were obtained. Of the patients, 250 (80.4%) were male and 61 (9.6%) were female. Amputation was performed

in 228 (73.3%) patients. Non-amputation surgeries such as drainage, debridement and/or skin graft applications were performed in 83 (26.7%) patients. Of the patients who underwent amputation, 190 (83.33%) were male and 38 (16.66%) were female. Amputation was performed in 76% of male patients, while amputation was performed in 62.3% of female patients. Of the 34 (6.65%) patients who underwent major amputation; 9 (26.47%) were female and 25 (73.5%) were male. While 14.75% of female patients who applied with diabetic foot wounds underwent major amputation, this rate was 10% for male patients. Forefoot and toe amputation procedures were performed on 194 (37.9%) patients. Of these patients, 147 (28.8%) underwent single toe amputation, 14 (2.7%) underwent two toe amputation, three (0.6%) underwent three toe amputation, and 26 (55%) underwent forefoot amputation. The mean preoperative fasting blood sugar of the patients was 193.59±30.76 (median: 169 min-max: 65-509), the mean white blood cell count was 11.81±5.57 (median: 10.43 min-max: 2.72-37.34), the mean hemoglobin was 11.72±2.9 (median: 11.7 min-max: 6.7-17.4), the mean ESR was 76.42±30.76 (median: 79 min-max: 2-153), and the mean CRP was 114.31±96.20 (median: 91.65 min-max: 3.43-442). Microbiology culture results of a total of 285 patients were available. The surgical procedures applied to the patients and the types of bacteria grown in the microbiology culture are given in Table 1. The surgical procedures applied to the patients Procedures and the number of bacterial types grown are given in Table 2.

Conclusion: 80.4% of patients who underwent surgery due to diabetic foot wounds were male. However, major amputation was applied to female patients at a higher rate. It was observed that although the patients had diabetic foot wounds requiring surgical intervention, no microbiological agents were detected at a rate of 18.94%. It was determined that the most frequently isolated bacterial species for patients who underwent amputation, those who did not, and for all patient groups was staphylococci, especially Staphylococcus Aureus. It was observed that approximately 84% of patients with enterococci and streptococci growth required amputation. It was determined that as the number of bacterial species grown in the wounds increased, amputation rates increased as multiple bacterial infections occurred.

Table 1: Surgical procedures applied to patients and types of bacteria grown in microbiology cultures

	Major Amputation n:29	Forefoot / three finger amputations n:29	One/two finger amputations n:152	Amputation Total n: 210	Amputation Not Applied n:75	Total n:285
Pseudomonas Aerigunosa	4(%12,9)	4(%13,8)	9(%5,92)	17 (%8,09) (%80,9)*	4(%5,33) (%19,04)*	21(%7,36)
Acinetobacter	3(%9.67)	3(%10,34)	3(%1,97)	9 (%4,28) (%60)*	6(%8) (%40)*	15(%5,26)
Stapylococcus Aureus	4(%12,9)	6(%20,68)	24(%15,78)	34(%10,19) (%75,55)*	11(%14,66) (%24,45)*	45(%15,78)
Stapylococcus	1(%3,23)	3(%10,34)	14(%9,21)	18(%8,57) (%60)*	12(%16) (%40)*	30(%10,52)
E. Coli	6(%19,35)	5(%17,24)	14(%9,21)	25(%11,90) (%75,75)*	8(%10,66) (%24,25)*	33(%11,58)
Enterococcus	6(%19,35)	1(%3,45)	19(%12,5)	26(%12,38) (%83.87)*	5(%6,66) (%16,13)*	31 (%10,87)
Streptococcus	3(%9.67)	3(%10,34)	22(%14,47)	28(%13,33) (%84.84)*	5(%6,66) (%15,16)*	33(%11,58)
Corynebacterium	3(%9.67)	2(%6,89)	15(%9,87)	20(%9,52) (%76,92)*	6(%8) (%23,08)*	26(%9,12)
Proteus	2(%6,45)	2(%6,89)	13(%8,55)	17(%8,09) (%80,95)*	4(%5,33) (%19,05)*	21(%7,36)
Klebsiella	0	1(%3,45)	10(6,57)	11(%5,23) (%78,57)*	3(%4) (%21,43)*	14(%4,91)

* Percentages are line percentages. The example shows that 80.9% of patients with pseudomonas growth underwent amputation.

Table 2. Surgical procedures performed and the number of bacterial species grown in microbiology cultures

	Major Amputation n:29	Forefoot / three finger amputations n:29	One / two finger amputations n:152	Amputation total n: 210	Amputation Not Applied n:75	Total n: 285
No bacterial growth	3(%10,35)	3(%10,35)	29(%19,7)	35(%16,66) (%64,81)*	19(%25,33) (%35,18)*	54(% 18,94)

Growth of a Single Species of Bacteria	12(%41,47)	15(%51,72)	66(%43,42)	96(%47.71) (%70,6)*	40(%53,33) (%29,4)*	136(%47,71)
Growth of Two Species of Bacteria	12(%41,47)	9(%31,03)	49(%32.23)	67(%31,90) (%81,70)*	15(%20) (%18,3)*	82(%28,77)
Growth of Three Species of Bacteria	2(%6,89)	2(%6,89)	8(%5,26)	12(%5,71) (%92,30)*	1(%1,33) (%7,70)*	13(%4,56)
Total	29	29	152	210	75	285

* * Percentages are line percentages. Amputation was performed in 92.30% of patients whose sample cultures grew three types of bacteria.

Keywords: Diabetic Foot Wound, Infection, Bacterial Species, Amputation

HBsAg, Anti-HBs, Anti-HCV, and Anti-HIV Seroprevalence in a University Hospital Family Medicine Outpatient Clinic

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Oral Presentation – OP357

Objective: Viral hepatitis and human immunodeficiency virus (HIV) infection are significant public health issues worldwide, including in our country. This study aimed to determine the seropositivity of hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (Anti-HBs), hepatitis C virus antibody (Anti-HCV), and human immunodeficiency virus antibody (Anti-HIV) in individuals who presented to the Family Medicine outpatient clinic of our hospital for various reasons.

Materials and Methods: This study was initiated after approval by the Tokat Gaziosmanpaşa University Clinical Research Ethics Committee. It is a retrospective and cross-sectional study. Patients who visited the Family Medicine outpatient clinic of our hospital between January 2019 and January 2025 for various reasons were included in the study. The HBsAg, anti-HBs, anti-HCV, and anti-HIV values from the first visit of each patient within the specified timeframe were obtained from medical records. For each test, only a single test result per patient was included in the study. Serum samples with anti-HBs levels ≥10 IU/ml were classified as positive.

Results: A total of 6,054 patients visited the Family Medicine outpatient clinic during the study period, of whom 3,279 were female and 2,775 were male. The mean age of the patients was 32.109 ± 19.643 years (min: 1, max: 94). The seropositivity rates were 36.9% for anti-HBs,

1.2% for HBsAg, and 0.21% for anti-HCV. No anti-HIV-positive cases were detected. Among the anti-HBs-positive patients, 58.1% were female and 41.8% were male. HBsAg-positive cases comprised 50.6% males and 49.3% females. Among anti-HCV-positive patients, 76.9% were female and 23.07% were male.

Conclusion: In our country, studies on viral hepatitis and HIV seropositivity often focus on blood donors or specific patient groups, which may not accurately reflect seropositivity rates in the general population. Therefore, studies encompassing the general population are needed. This study aimed to determine the seropositivity rates of HBsAg, anti-HBs, anti-HCV, and anti-HIV among individuals visiting the Family Medicine outpatient clinic of our hospital for various reasons. Large-scale studies are needed on this topic. Determining viral hepatitis and HIV seropositivity rates in our country will contribute not only to diagnosis and treatment but also to the development of prevention and control strategies.

Keywords: Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immunodeficiency Virus (HIV), Seroprevalence

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Association of Abnormal Cervical Cytology Samples and Premalignant/Malignant Cervical Lesions with High-Risk HPV Types at Adana Yüreğir State Hospital

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Oral Presentation – OP358

Introduction

Cervical cancer is one of the most common cancers in women and a leading cause of cancer-related mortality. Globally, approximately 250,000 women die from cervical cancer each year. Although it is most frequently observed between the ages of 50 and 59, in Turkey, 65% of invasive cervical cancers occur in women aged 40–60 years. Approximately 70% of cervical cancers are squamous cell carcinomas, and epidemiological studies worldwide have detected human papillomavirus (HPV) in 99.7% of cervical cancer cases. Additionally, adenocarcinoma accounts for 25% of cases.

HPV is the most prevalent sexually transmitted infection worldwide. Infected individuals typically clear the virus within 2–3 years through immune response; however, in some cases, persistent HPV infection leads to cervical intraepithelial lesions, cervical cancer, and genital warts. While the presence of HPV is necessary for cervical cancer development, it is not sufficient on its own. Other risk factors are thought to either increase HPV exposure rates or accelerate carcinogenesis by promoting viral persistence.

To date, over 200 HPV types have been identified, with 17 classified as high-risk (oncogenic or cancer-associated) types, including HPV 16, 18, 26, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 69, 73, and 82. Low-risk (non-oncogenic, commonly found) types include HPV 6, 11, 40,

42, 43, 44, 54, 61, 72, and 81. The introduction of the Papanicolaou (Pap) smear test for cervical cytological screening has significantly contributed to the reduction in cervical cancer-related mortality and is recognized as the most cost-effective cancer screening method.

However, cervical cytology has notable limitations, including false-positive and false-negative results. Cervical cancer screening can be performed using the Pap smear alone or in combination with HPV co-testing. While Pap smear screening (liquid-based or conventional) is recommended every three years for all women aged 21–65, HPV co-testing—where HPV testing is added to cytology—can extend the screening interval to five years.

Materials and Methods

Pap smear test reports, HPV-DNA results, and colposcopic biopsy pathology findings of sexually active female patients aged 30 and above who visited the gynecology outpatient clinic of our hospital were retrospectively analyzed. Data were obtained from electronic medical records and pathology archives. Patient age and racial differences (categorized as Syrian migrant population and Turkish) were recorded.

Cervical cytology was evaluated by pathology specialists using a light microscope and classified according to the 2014 Bethesda System into the following categories:

- Negative for intraepithelial lesion and malignancy (NILM)
- Squamous cell abnormalities
- Glandular cell abnormalities

Squamous cell abnormalities were further classified as follows:

- Atypical squamous cells of undetermined significance (ASC-US)
- Atypical squamous cells, cannot exclude high-grade squamous intraepithelial lesion (ASC-H)
- Low-grade squamous intraepithelial lesion (LSIL)

- High-grade squamous intraepithelial lesion (HSIL)
- Squamous cell carcinoma (SCC)

Glandular cell abnormalities were classified as adenocarcinoma.

Patients were divided into the following age groups: <25, 25–34, 35–44, 45–54, and ≥55 years. Screening test results from patient records were reviewed to identify individuals positive for high-risk HPV types. High-risk HPV types were categorized into seven groups:

- HPV type 16
- HPV type 18
- HPV type 16–18
- Other oncogenic types
- HPV type 16 + other oncogenic types
- HPV type 18 + other oncogenic types
- HPV type 16–18 + other oncogenic types

Patient smoking history and body mass index (BMI) were also retrieved from hospital records. Pathology data from colposcopic biopsy reports were extracted from archived records in the hospital's automation system. Cervical biopsy results were classified as follows: inadequate, benign, CIN (1, 1–2, 2, 2–3, 3), squamous cell carcinoma, and adenocarcinoma.

Statistical analyses were performed using SPSS 25.0 statistical software. Categorical variables were summarized as frequencies and percentages. The chi-square test was used to compare categorical variables between groups. A 2 × 2 chi-square test was applied when both dependent and independent variables had two categories. Specifically, Pearson's chi-square test was used when the expected count in all cells was ≥25, Yates' chi-square test was applied when the expected count was between 5 and 25, and Fisher's exact test was used when the expected count was <5. For multi-category chi-square tests, Pearson's chi-square analysis was performed.

Results

In the last year, among 2,109 patients aged 30–65 who visited the gynecology outpatient clinic of Adana Yüreğir State Hospital, Pap smear tests were performed alongside HPV testing for screening purposes. HPV DNA positivity was detected in 6.7% (147 patients) of all cases. The mean age of the patients was 39.7±7.2 years, with a minimum age of 30 and a maximum age of 62. The age distribution was predominantly concentrated in the 25–34 (28%), 35–44 (45%), and 45–54 (21%) groups.

Among high-risk HPV DNA-positive cases, the most frequent cytological diagnosis was NILM (Negative for Intraepithelial Malignancy and Neoplasia) in 37.4% of cases. Among cases with abnormal cytological findings, the most commonly observed diagnosis was ASCUS (25.9%), followed by LSIL (21.1%) and HSIL (10.2%). Based on high-risk HPV DNA typing, HPV type 16 was detected alone in 22.4% (n=33) of cases, whereas HPV type 18 was found alone in 2% (n=3). Other oncogenic HPV types were detected in 59.9% (n=88) of cases. HPV type 16 positivity along with other oncogenic types was observed in 10.9% (n=16), while the combination of HPV type 16 and 18 was seen in 1.4% (n=2). (Table 1)

The relationship between high-risk HPV types and cervical cytology results was analyzed using the chi-square test. According to the analysis, no statistically significant association was found between the classification of HPV type 16, type 18, and other oncogenic HPV types and cervical Pap smear results ($X2$ (24, n =147) = 47.913, p =0.003). However, the frequency of HSIL (High-Grade Squamous Intraepithelial Lesion) was 18.2% in cases with HPV type 16 alone, whereas it increased to 25% in cases where HPV type 16 was accompanied by other oncogenic HPV types. In cases where only other oncogenic HPV types were present, the HSIL rate was 4.5%.

The association between HPV type 16 positivity and the presence of cervical intraepithelial lesions was analyzed using the chi-square test. The analysis revealed a statistically significant relationship between HPV type 16 positivity and the presence of cervical intraepithelial lesions

detected in Pap smear results (X2 (1, n =147) = 10.4a, p < 0.001). Cervical intraepithelial lesions were found in 70.9% of women with HPV type 16 positivity, whereas the rate was 43.5% in HPV type 16-negative women. The risk of developing cervical intraepithelial lesions was 3.16 times higher in women with HPV type 16 positivity (odds ratio: 3.169, 95% CI: 1.55–6.46) (Table 2).

The relationship between smoking status and HPV type 16 positivity in women was analyzed using the chi-square test. The results showed a statistically significant association between oncogenic HPV positivity and smoking (X2 (1, n =147) = 12.412, p < 0.001). HPV type 16 was positive in 58% of smoking women, compared to 26.8% in non-smokers. The risk of HPV type 16 positivity was 3.77 times higher in smokers (odds ratio: 3.771, 95% CI: 1.83–7.74).

Discussion

HPV types 16 and 18, classified as high-risk types, pose the greatest risk for developing CIN 3 or more severe lesions and are responsible for 25% of low-grade lesions, 50–60% of high-grade lesions, and 70% of all cervical cancers. In our study, HPV type 16 was positive in 37.4% of cases, while HPV type 18 was detected in only 6.8% of cases. However, the less common HPV types 69, 68, and 56 were found in 15% (n=22), 19% (n=28), and 16.3% (n=24) of cases, respectively, which were higher than the prevalence of HPV type 18.

The high proportion of the Syrian migrant population in our hospital, along with the frequent occurrence of first pregnancies in adolescents under 18 and early initiation of sexual activity, may contribute to the higher prevalence of other oncogenic HPV types. Notably, 23.6% of patients undergoing HPV screening and cervical Pap smear testing were Syrian women, and the proportion of high-risk HPV-positive cases among the Syrian migrant population was found to be 33.4%. As the number of Syrian migrants in our country continues to increase, further studies on HPV DNA and HPV-related lesions in this population are needed.

Although our study did not find a statistically significant association between HPV type 16 positivity and premalignant or malignant cervical lesions, consistent with the literature, HPV type 16 positivity was observed in 66.7% of cases with CIN 2-3, 71% of cases with CIN 3, and 83.3% of cases with SCC. Additionally, no statistically significant association was found between HPV type 16 positivity and high-grade cervical abnormal cytology results. However, in cases with HPV type 16 positivity alone, the HSIL rate was 18.2%, whereas this rate increased to 25% when other oncogenic HPV types were also present.

As demonstrated in many studies, smoking increases the risk of cervical intraepithelial lesions and cervical squamous cell carcinoma. Our study also confirmed that smoking increases the risk of HPV type 16 positivity.

Cervical intraepithelial neoplasia (CIN) is a premalignant condition of the uterine cervix that refers to squamous abnormalities. Glandular cervical neoplasia includes adenocarcinoma in situ and adenocarcinoma. Based on colposcopic biopsy results obtained from high-risk HPV-positive patients screened at the gynecology outpatient clinic of Yüreğir State Hospital, six cases of cervical squamous cell carcinoma and one case of cervical adenocarcinoma were identified.

Table 1: High-Risk HPV Types and Their Relationship with Cervical Cytology Results

			ILMN	ASCUS	ASCH	LGSIL	HGSIL		x2	sd	p
HPV_group	HPV Type 16	n	4	7	4	12	6	33	47,913	24	0,003
		%	12,1%	21,2%	12,1%	36,4%	18,2%	100,0%			
	HPV 18	n	0	1	1	1	0	3			
		%	0,0%	33,3%	33,3%	33,3%	0,0%	100,0%			
	HPV Type 16-18	n	1	0	0	0	1	2			
		%	50,0%	0,0%	0,0%	0,0%	50,0%	100,0%			
	Other	n	43	24	3	14	4	88			
		%	48,9%	27,3%	3,4%	15,9%	4,5%	100,0%			
	HPV Type	n	3	5	0	4	4	16			
		%	18,8%	31,3%	0,0%	25,0%	25,0%	100,0%			

	16-Other										
	HPV Type 18 - Other	n	0	1	0	0	0	1			
		%	0,0%	100,0%	0,0%	0,0%	0,0%	100,0%			
	HPV Type 16-18-Other	n	4	0	0	0	0	4			
		%	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%			
Total		n	55	38	8	31	15	147			
		%	37,4%	25,9%	5,4%	21,1%	10,2%	100,0%			

Table 2. Relationship Between HPV Type 16 Positivity and Cervical Intraepithelial Lesion

HPV Screening Tests			Presence of Cervical Intraepithelial Lesion		Total	x2	sd	p	OR
			Negatif	Pozitif					
HPV Type 16	Var	n	16	39	55	10.42	1	<0.001*	3.169
		%	29,1%	70,9%	100,0%				
	Yok	n	52	40	92				
		%	56,5%	43,5%	100,0%				
Total		n	68	79	147				
		%	46,3%	53,7%	100,0%				

Keywords: HPV, Cytology, Malignant, Premalignant, Oncogenic

Are We Accurately Identifying Catheter Infections in Palliative Care? A Perspective on Catheter-Related Bloodstream Infections

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Abstract

Objective: Catheter-associated bloodstream infections are frequently seen in hospitals. While central venous catheters facilitate clinical practice, their potential role as an important source of infection should not be ignored. In patients with central venous catheters, CLABSI (Central Line-Associated Bloodstream Infection) should be considered when pathogenic microorganisms are detected in the bloodstream without another source of infection. The diagnosis of CRBSI (Catheter-Associated Bloodstream Infection) requires more specific microbiological evidence than CLABSI. The presence of systemic infection symptoms such as fever, chills, and hypotension is also required for the diagnosis of CRBSI.

Material and Methods: In this study, catheter-associated bloodstream infections of patients hospitalized in the palliative service in the last 1 year were classified retrospectively according to the definitions of colonization, CLABSI, and CRBSI. The CLABSI and CRBSI frequencies of the patients, the agents grown in catheter cultures, the antibiotic treatments given, and their clinical courses were examined. Descriptive findings were evaluated with mean, standard deviation, range and percentage distributions. Data were analyzed with SPSS 26.0 program.

Oral Presentation – OP359

Results: When the results of 24 catheter blood cultures taken from the patients were examined, it was seen that 13 of them were positive. The microorganisms frequently detected in catheter cultures were coagulase negative staphylococci (38.4%) and Candida species (23%). Of the 24 patients in whom catheter cultures were taken, 2 were evaluated as CRBSI, 2 as CLABSI and 1 as colonization. In 4 patients who had the same agent growth in simultaneous blood and catheter cultures and were evaluated as CLABSI and CRBSI, progression and death were observed in the 14-day clinical course.

Conclusion: In our study, it was observed that the frequency of catheter-related bloodstream infections in palliative care patients was similar to intensive care units and had a high mortality rate. Being able to accurately evaluate different diagnostic criteria for catheter-related bloodstream infections in palliative care patients will be a critical step in making early diagnosis, improving prognosis, and reducing high mortality rates.

Keywords; Palliative Care, Catheter Infections, Catheter-Related Bloodstream Infection (CRBSI), Central Line-Associated Bloodstream Infection (CLABSI)

Introduction

Central venous catheters (CVC) are commonly used instruments in clinical practice and are utilized for various purposes, including intravenous drug and fluid therapies, as well as hemodynamic monitoring. Approximately 6% of hospitalized patients require a CVC. Infections represent one of the most significant complications associated with CVC use. While bloodstream infections (BSI) rank fourth among hospital-acquired infections, catheter-related bloodstream infections (CRBSI) account for 85% of these BSIs. Therefore, recognizing, treating, and taking necessary precautions against CRBSI is of critical importance. Risk factors for the development of CRBSI include immunosuppression, malnutrition, and advanced age — conditions commonly observed in patients receiving palliative care. Three major definitions of

catheter-associated infections have been described in the literature: catheter colonization, Central Line-Associated Bloodstream Infection (CLABSI), and catheter-related bloodstream infection (CRBSI).

Catheter colonization is characterized by the growth of microorganisms on the surface or within the lumen of the catheter in the absence of clinical symptoms. The diagnosis is made when ≥15 CFU/mL of bacteria or fungi are cultured from the catheter tip or from the catheter itself using a semi-quantitative method, or when $\geq 10^3$ CFU/mL of microorganisms are detected using a quantitative method from cultures obtained from the catheter lumen. However, for a diagnosis of catheter colonization, the same microorganism must not be present in peripheral blood cultures.

Central line-associated bloodstream infection (CLABSI) should be considered in patients with a central venous catheter when a pathogenic microorganism is detected in the bloodstream without any other identifiable source of infection. Three main criteria are taken into account in establishing the diagnosis. The first is the presence of systemic signs of infection such as fever (>38°C), chills, or hypotension. The second criterion is that the central venous catheter must have been in place for at least 48 hours prior to the detection of the pathogen in blood cultures. The third criterion requires that the patient has a central venous catheter in place, but the existing infection cannot be explained by another source. The definition of CLABSI is a surveillance-based classification, and because bloodstream infections may occasionally be due to undetected secondary infections (e.g., pancreatitis, mucositis, etc.), this definition may overestimate the actual incidence of catheter-related bloodstream infections (CRBSI). Terminology used to describe intravascular catheter-associated infections can be confusing. Although catheter-related bloodstream infection (CRBSI) and central line-associated bloodstream infection (CLABSI) differ in meaning, they are often used interchangeably.

The diagnosis of catheter-related bloodstream infection (CRBSI) requires more specific microbiological evidence compared to CLABSI. Similar to CLABSI, the presence of systemic signs of infection such as fever, chills, or hypotension is necessary for the diagnosis. In terms

of laboratory findings, the isolation of the same microorganism from blood cultures drawn simultaneously from the central catheter lumen and peripheral veins supports the diagnosis. Additionally, a higher colony count or a shorter time to positivity in cultures from the catheter lumen further strengthens the diagnosis. Another important laboratory criterion is the growth of ≥15 CFU/mL of microorganisms from a culture of the catheter tip, with a match to the organism found in peripheral blood cultures.

Approximately 250,000 catheter-related bloodstream infections (CRBSI) occur annually in the United States, with mortality rates ranging between 12% and 27%. Previous studies have shown that 85% of CRBSI are associated with central venous catheters, with the most common causative agents being coagulase-negative staphylococci (CoNS) in 30–60% of cases, Staphylococcus aureus in 15–25%, and gram-negative bacteria in 15–30%. When CRBSI is suspected, the catheter should be removed, and antibiotic therapy should be initiated based on culture results. Evaluations in the literature using National Healthcare Safety Network (NHSN) definitions have revealed low inter-rater reliability.

In our study, we aim to determine the frequency and clinical outcomes of catheter-related bloodstream infections in the palliative care unit, as well as to emphasize the necessity of accurate diagnosis of catheter-related infections.

Methods

This study is a retrospective observational descriptive study. A total of 24 patients hospitalized in the Palliative Care Unit of İzmir City Hospital between January 10, 2024, and January 10, 2025, who had a central venous catheter and from whom simultaneous blood and catheter cultures were obtained, were included in the study. Patients who had another source of infection, did not have a central venous catheter, did not have simultaneous blood and catheter cultures obtained, or had insufficient file data were excluded from the study. Demographic data, admission diagnoses, clinical findings (fever, hypotension, shock, etc.), laboratory values (WBC, C-reactive protein [CRP], procalcitonin), culture results (blood and catheter), antibiotic

usage, and the presence of additional infections were obtained retrospectively from patient files and the hospital information system.

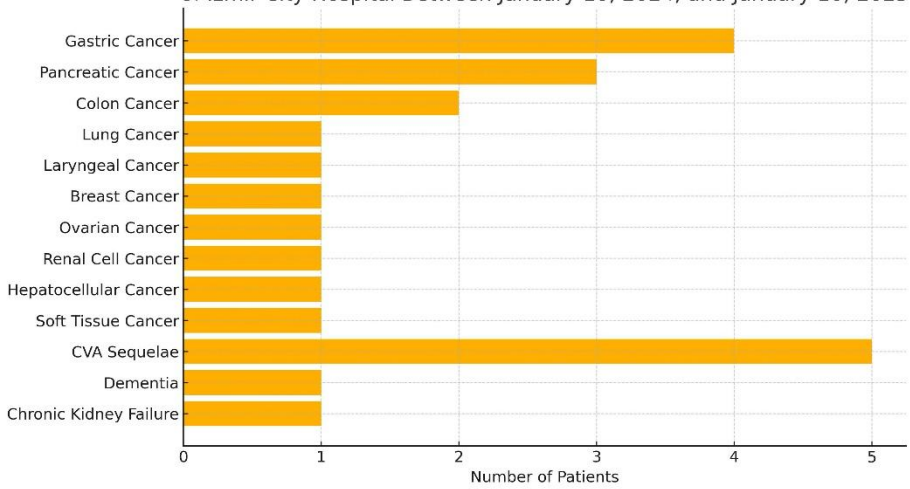
The diagnoses of CLABSI, CRBSI, and catheter colonization were made in accordance with the 2009 update of the Infectious Diseases Society of America (IDSA) guidelines. Descriptive findings were evaluated using means, standard deviations, ranges, and percentage distributions. Categorical variables were presented as frequencies (n) and percentages (%). Data were analyzed using SPSS version 26.0.

Results

The mean age of the 24 patients analyzed was 64.6 years. The admission diagnoses of the patients are presented in Figure 1. Accordingly, 5 patients were diagnosed with cerebrovascular accident (CVA), 4 with gastric cancer, 3 with pancreatic cancer, and 2 with colon cancer. The remaining patients each had different diagnoses, including lung, laryngeal, breast, ovarian, bladder, renal cell, hepatocellular, and soft tissue cancers, as well as dementia and chronic kidney failure.

The microorganisms isolated from the patients' catheter cultures are presented in Table 1. Growth was detected in 13 (54.2%) of the catheter cultures obtained from the patients. The microorganisms isolated were: coagulase-negative staphylococci in 5 patients (38.4%)—including Staphylococcus hominis (n=3), Staphylococcus haemolyticus (n=1), and Staphylococcus epidermidis (n=1); Candida species in 3 patients (23%); Klebsiella pneumoniae in 2 patients (15.4%); Corynebacterium striatum in 1 patient (7.7%); Staphylococcus aureus in 1 patient (7.7%); and Pseudomonas aeruginosa in 1 patient (7.7%).

Figure 1. Diagnoses of Patients Hospitalized in the Palliative Care Unit of İzmir City Hospital Between January 10, 2024, and January 10, 2025



According to the diagnostic criteria for CRBSI, among the 13 patients with positive catheter cultures, only 5 (38.4%) also had growth detected in simultaneously obtained blood cultures. However, in one of these cases, the isolated organism in the blood culture was part of the skin flora (Staphylococcus epidermidis), and since it was detected in only a single blood culture and the patient exhibited no clinical symptoms, it was classified as catheter colonization. In two patients (15.4%), although the blood culture was positive, the growth occurred prior to the catheter culture, and thus these cases did not meet the diagnostic criteria for CRBSI. Two patients were identified as fulfilling the CRBSI definition, and upon examination of their 14-day clinical course, both patients deteriorated and subsequently died. Two additional patients (15.4%) with simultaneous positive blood and catheter cultures were classified as having CLABSI. In both of these cases, the patients also experienced clinical deterioration and death within 14 days.

All six Staphylococcus strains isolated as causative agents of catheter infections were found to be susceptible to vancomycin, amikacin, and teicoplanin, while two were resistant to methicillin. All three Candida strains were susceptible to fluconazole and amphotericin B.

Among the two Klebsiella pneumoniae strains, one was susceptible to amikacin, and the other to ceftazidime-avibactam and imipenem. In three of the four patients classified as having CLABSI or CRBSI, the infection developed while they were already receiving antibiotics, leading to adjustments in their antimicrobial therapy. In the remaining patient, who was not on antibiotics, appropriate antimicrobial therapy was initiated based on culture results.

Discussion

In our study, it was observed that a significant proportion (54.2%) of catheter cultures obtained from patients hospitalized in the palliative care unit for various reasons yielded microbial growth, and in 8.3% of cases, simultaneous blood cultures showed significant growth. In a study conducted in the intensive care unit, 47% of catheter cultures showed growth, and 12% of these were associated with significant growth in simultaneous blood cultures. The rates identified in our study are similar to those reported in the literature, suggesting that the frequency of catheter-related infections in palliative care patients is comparable to that in intensive care patients.

In our study, the following pathogens were isolated from catheter cultures: coagulase-negative staphylococci in 5 patients (38.4%) — Staphylococcus hominis (n=3), Staphylococcus haemolyticus (n=1), and Staphylococcus epidermidis (n=1); Candida species in 3 patients (23%); Klebsiella pneumoniae in 2 patients (15.4%); Corynebacterium striatum in 1 patient (7.7%); Staphylococcus aureus in 1 patient (7.7%); and Pseudomonas aeruginosa in 1 patient (7.7%).

According to the 2017 report by the National Surveillance Network for Healthcare-Associated Infections (USHİESA), the most frequently reported CLABSI pathogens in Türkiye were Klebsiella (17.5%), coagulase-negative staphylococci (16.3%), Acinetobacter (14.4%), and Candida species (14.1%). The pathogens identified in our study were consistent with these national findings.

All six Staphylococcus strains isolated as catheter infection agents in our study were susceptible to vancomycin, amikacin, and teicoplanin. This is in line with findings from a study conducted

in the intensive care unit, where all nine Staphylococcus strains isolated as catheter infection agents were susceptible to vancomycin and teicoplanin.

Among the patients with simultaneous growth in catheter and peripheral blood cultures, those diagnosed with colonization, CLABSI, or CRBSI all experienced clinical deterioration and died within 14 days. According to the literature, reported mortality rates due to CLABSI in developing countries range from 41.8% to 62.5%. Although the number of patients included in our study was limited due to the palliative care unit at our hospital having been operational for only one year, the observed high mortality rates in patients diagnosed with CLABSI and CRBSI were consistent with the literature.

Conclusion

Although differences in definitions exist among various working groups aiming to standardize catheter-related infections, the diagnosis of catheter-related bloodstream infections (CRBSIs) in palliative care patients requires the combined use of clinical and microbiological indicators. Accurate assessment of different diagnostic criteria in palliative care patients is a critical step toward early diagnosis, improved prognosis, and reduction of high mortality rates. The high incidence and notable mortality rates of catheter-related bloodstream infections in palliative care patients highlight the need for stricter implementation of infection control measures. Developing infection prevention strategies targeting the most frequently isolated pathogens and selecting appropriate empirical antibiotic therapy are of significant importance.

Conflict of Interest

The authors declare no conflict of interest.

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Vaccination Rates and Awareness Among Patients with Diabetes Mellitus: A Cross-Sectional Study

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Introduction and Aim



The prevalence of diabetes mellitus is steadily increasing with lifestyle changes. According to the *10th Diabetes Atlas* published by the International Diabetes Federation (IDF), the number of individuals with diabetes worldwide was 537 million as of 2021. This figure is projected to rise by approximately 20% to 643 million by 2030 and by 46% to 783 million by 2045, compared to 2021. Given the increased susceptibility of patients with diabetes mellitus to infectious diseases, vaccination programs hold significant importance. Compared to the general population, individuals with diabetes have a higher risk of contracting infections, particularly influenza virus, pneumococcus, hepatitis B virus, and herpes zoster. This study aims to determine the vaccination rates for Influenza, Hepatitis B, Pneumococcus, and Herpes Zoster among patients diagnosed with diabetes mellitus and to raise awareness about the importance of vaccination.

Materials and Methods

This study included 50 voluntary patients aged 18 years and older who were diagnosed with diabetes mellitus and admitted to the Obesity-Diabetes outpatient clinic of Trakya University Faculty of Medicine Hospital. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) version 20.0 for Windows. The t-test and Mann-Whitney U test

were used for continuous variables, while the Fisher's exact test was applied for categorical variables. A p-value of <0.05 was considered statistically significant.

Results

Of the patients included in the study, 24 (48%) were male, and 26 (52%) were female. The mean age of the participants was 59.98 ± 14.28 years. The vaccination rates for Influenza, Hepatitis B, Pneumococcus, and Herpes Zoster were determined as 48%, 18%, 6%, and 4%, respectively.

Discussion and Conclusion

The literature presents varying vaccination rates among patients with diabetes mellitus. Moreno-Fernandez et al. (2019, *Prim Care Diabetes*) reported Influenza, Pneumococcus, and Hepatitis B vaccination rates of 55%, 18%, and 17%, respectively, in a study involving 300 type 1 diabetes mellitus patients. Almusalam et al. (2019, *Family Med Prim Care*) found Influenza and Pneumococcus vaccination rates of 48.8% and 2.8%, respectively, in a study conducted on 360 diabetic patients in a primary care setting. Satman et al. (2013, *Hum Vaccin Immunother*) reported an Influenza vaccination rate of 64.5% in a study of 200 patients with type 2 diabetes mellitus in Turkey. Clancy et al. (2012, *Irish Medical Journal*) determined that the Pneumococcus vaccination rate was 22% among 200 patients with type 2 diabetes mellitus. According to studies conducted in the United States, the Hepatitis B vaccination rate among diabetic patients was found to be 17.1% (2016, *NCHS Data Brief*). İlhan et al. (2019, *Haseki Medical Bulletin*) reported no patients receiving the Herpes Zoster vaccine in their study involving 268 geriatric patients in Turkey. The guidelines of the Turkish Society of Infectious Diseases and Clinical Microbiology (EKMUD) and the Turkish Society of Endocrinology and Metabolism (TEMD) recommend Herpes Zoster vaccination for diabetic patients over the age of 50 due to their increased risk of infections. The World Health Organization (WHO) stated in a 2003 meeting that vaccination rates should reach 75% worldwide, particularly among older adults and individuals with critical illnesses, and should further increase to 90% by 2015.

In our study, the vaccination rates for Influenza, Pneumococcus, Hepatitis B, and Herpes Zoster were determined as 48%, 6%, 18%, and 4%, respectively. When compared to the literature, these rates appear to be low. In conclusion, the vaccination status of patients with diabetes mellitus should be assessed during their visits to healthcare facilities. They should be informed about the potential risks of not being vaccinated, and reminders should be provided during follow-up visits. Further large-scale studies are needed to determine the vaccination rates among patients with diabetes mellitus and to develop strategies for improving vaccination coverage.

Keywords: Diabetes Mellitus, Vaccination, Awareness

Analysis of Medical Specialty Dissertations on Home Care Services

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Oral Presentation – OP361

Objective: The objective of this study is to examine specialty dissertation research on home care services by physicians educated in several medical specialties.

Materials and Methods: The study was conducted retrospectively. Medical specialty dissertations in Turkey between 2023 and 2024 with the topic of home care services were screened. The dissertations were screened from the database of the Council of Higher Education. No exclusion criteria were applied in the screening process. All recognized and validated medical specialty dissertations on home care services were selected for inclusion in the study.

Results: In accordance with the acceptance criteria of the study, 33 dissertations on home care services were conducted by physicians in Turkey in the years specified. It was determined that 28 of these dissertations were conducted by the departments of family medicine, 3 by public health, 1 by pediatrics, and 1 by mental health and diseases. Ankara (n=9), Istanbul (n=8) and Izmir (n=5) were the three cities with the highest number of such dissertations. The minimum number of patients in the dissertations was 72 and the maximum number of patients was 826. The research topics of 33 dissertations on home care services were also analyzed. When the most repeated topics of these dissertations on home care services are reviewed, the research topic of 7 of these 33 theses was the investigation of pressure ulcers in

patients receiving home care services. The subject of 6 dissertations was to investigate the burden of care in caregivers of patients receiving home care services. 6 dissertations were about blood glucose regulation in patients receiving home care services. 6 dissertations were about the nutritional status of patients receiving home care services.

Conclusion: It can be observed that the quantity of specialized medical dissertations on home care services, published in the previous 2 years in our country, is quite limited. Today, many factors, such as the increase in the elderly population in need of medical care with the increase in the possibilities of early diagnosis and treatment, the increase in the socioeconomic welfare level, and the developments in the field of medicine and technology, which allow a large part of health services to be provided at home, increase the importance of home care services. For this reason, all other medical disciplines, especially family medicine, should be more involved in home care services and should be aware of the importance of home care services.

Keywords: Dissertations, Family Medicine, Home Care Services.

Does Patient-Centered Care Competency in Palliative Care Nurses Affect the Quality of Palliative Care?

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Abstract

Objective: This study aims to examine the relationship between patient-centered care (PCC) competency of nurses providing palliative care and the quality of palliative care.

Materials and Methods: This cross-sectional and descriptive study was conducted in February and March 2025 with nurses actively working in palliative care units of university and state hospitals in Tokat, Turkey. Out of 44 nurses, 33 (75%) participated in the survey. Data were collected using the "Personal Information Form," the "Patient-Centered Care Competency Scale (PCCCS)," and the "Palliative Nursing Care Quality Scale (PNCQS)." For the comparison of mean scores between groups, Independent Samples t-test and One-Way ANOVA were used. A p-value of <0.05 was considered statistically significant.

Results: The mean age of the participants was 37.94 ± 10.04 years; 30.3% were male, and 69.7% were female. The subdimensions of the PCCCS—respecting patient perspectives, encouraging patient participation in care processes, ensuring patient comfort, and advocating for patient rights—had mean scores of 4.49±0.4, 4.44±0.47, 4.64±0.4, and 4.6±0.43 respectively. The total mean PCCCS score was 77±6.88. The mean total score for the PNCQS was 79.39±9.13.

Oral Presentation – OP363

Conclusion: The nurses in this study exhibited high levels of patient-centered care competency. Among its subdimensions, the highest score was in ensuring patient comfort, while the lowest was in encouraging patient participation in care processes. Likewise, high scores were observed in the quality of palliative care. Patient-centered care competency is an important factor affecting the quality of palliative care provided by nurses. Interventions to improve nurses' PCC competency should be promoted to enhance palliative care quality.

Keywords: Palliative Care Quality, Patient-Centered Care Competency, Palliative Care

Introduction

Palliative care is a field that improves the quality of life of patients and their families who are facing the challenges associated with life-threatening illnesses—whether physical, psychological, social, or spiritual. The aging population and the associated increase in chronic diseases have made the need for this type of care more prominent. Each year, approximately 57 million patients require palliative care, and the World Health Organization (WHO) predicts this number will double by 2060. In light of this growing need, the WHO considers improving healthcare professionals' access to training and enhancing care quality as an urgent priority (1). Palliative care emerged in the 1960s due to the inadequacy of care provided to terminal cancer patients. During that period, specialists focused only on patients who could be treated curatively, which made palliative care a necessary area of intervention (2). Dame Cicely Saunders, one of the founders of palliative care, emphasized that each patient is unique and should be assessed individually according to their personal history and cultural background (3). Today, patient-centered care (PCC) is regarded as a superior treatment approach compared to physician-centered care (4). Many medical authorities consider PCC a quality criterion in the delivery of healthcare services, and even see its integration with classical treatment methods as essential (5–7). At the core of PCC lies respect for patient values, beliefs, and preferences, and the prioritization of these elements in the clinical decision-making process (8). A good

healthcare professional is expected to assess the patient's values, individual preferences, and physical and psychological conditions, and to engage in shared decision-making with the patient and their family based on the current clinical status (9–11). Studies have shown that PCC increases patient satisfaction (12).

Nursing care is a primary responsibility of nurses, and various validated tools exist to measure the quality of such care (13). In the literature, a positive and significant relationship has been observed between nurses' PCC competency and the quality of palliative care (14).

Materials and Methods

This descriptive, cross-sectional study aimed to assess the effect of patient-centered care (PCC) competency in palliative care nurses on the quality of palliative care. The study population consisted of 44 actively working palliative care nurses in the Tokat province and its districts during February and March 2025. A total of 33 volunteer nurses participated in the study. Data were collected online via the head nurses of the respective units, following coordination with hospital administrations.

Three data collection tools were used: a Personal Information Form and two validated scales. **Personal Information Form:** This form was prepared in accordance with the literature and includes questions about gender, age, educational background, duration of work in the current unit, and total professional experience (15).

Patient-Centered Care Competency Scale (PCCCS): This 17-item scale developed by Hwang in 2015 (7) consists of four subscales and uses a 5-point Likert-type format ranging from "strongly disagree (1)" to "strongly agree (5)." The subscales are: respecting patient perspectives (6 items), encouraging patient participation in care processes (5 items), ensuring patient comfort (3 items), advocating for patient rights (3 items). The Turkish adaptation was carried out by Arslanoğlu and Kırılmaz in 2019, reporting a Cronbach's alpha of 0.85 (16).

Palliative Nursing Care Quality Scale (PNCQS): This 18-item scale, developed by Zulueta Egea in 2020, uses a 5-point Likert scale ranging from “never (1)” to “always (5).” It has no subdimensions, and scores range from 18 to 90. The Turkish validity and reliability study was conducted in 2023 by Mollaoğlu and Boy, with a Cronbach’s alpha of 0.92 (17,18). Our study was conducted in February and March 2025, and the survey was shared online through nurse managers**.** Ethical approval was obtained from the Tokat Gaziosmanpaşa University Non-Interventional Scientific Research Ethics Committee (Decision No: 85/2025). Permission was also obtained from the administrations of the hospitals involved. Informed consent was secured from all participants, and measures were taken to prevent duplicate responses. All collected data were checked for accuracy. Descriptive statistical analyses were performed to summarize the general characteristics of the study groups. Continuous variables are presented as mean ± standard deviation, while categorical variables are expressed as frequencies and percentages. For comparing the means of quantitative variables between groups, Independent Samples t-tests and One-Way ANOVA were used. A p-value less than 0.05 was considered statistically significant. Statistical analyses were conducted using SPSS version 22.0 (Chicago, IL, USA).

Results

A total of 33 nurses participated in the study, representing 75% of the study population. Of these, 23 were female (69.7%) and 10 were male (30.3%). The mean age of the participants was 37.94 ± 10.04 years. Regarding educational background, 5 nurses (15.2%) were high school graduates, 25 (75.8%) held a bachelor's degree, and 3 (9.1%) had a master’s degree. Twenty-three participants (69.7%) had more than 10 years of professional experience, and 24 nurses (72.7%) had been working in palliative care units for over 3 years. Thirteen nurses (39.4%) reported working more than 40 hours per week.

The mean scores for the subdimensions of the PCCCS were as follows: The correlation between the PCCCS and PNCQS scores is shown in Table 2. Statistically significant correlations were

found between the PNCQS total score and all subdimensions The correlation between the total PCCCS and PNCQS scores was found to be strong and positive ($r = 0.827$, $p < 0.001$).

Table 1. Overall Distribution of Scale Scores

Scale Subdimensions / Totals	Mean ± SD	Min	Max
Respecting patient perspectives	4,49±0,4	3,84	5
Promoting patient involvement in care processes	4,44±0,47	3,40	5
Providing for patient comfort	4,64±0,44	4,00	5
Advocating for patients	4,6±0,43	4,00	5
Total score of the patient-centered care competency scale	77±6,88	64,00	85
Total Score of the Quality of Palliative Nursing Care Quality Scale	79,39±9,13	63,00	90

Discussion

This study evaluated the effect of patient-centered care competency in palliative care nurses on the quality of palliative care in Tokat, Turkey. The findings indicated that nurses exhibited a high level of patient-centered care competency. Among the subdimensions, the highest score was achieved in ensuring patient comfort, while the lowest score was observed in encouraging patient participation in care processes. Similarly, the average scores for the Palliative Nursing Care Quality Scale were also high. No statistically significant difference was observed between male and female nurses, nor was there a significant change based on years of professional experience or time spent in the palliative care unit.

A strong positive correlation was identified between the patient-centered care competency score and the quality of palliative care, consistent with previous studies (14).

Table 2

Items		Total Score of the Quality of Palliative Nursing Care Quality Scale
Respecting patient perspectives	r	0,722 *
	p	<0,001
Promoting patient involvement in care processes	r	0,740 *
	p	<0,001
Providing for patient comfort	r	0,721 *
	p	<0,001
Advocating for patients	r	0,718 *
	p	<0,001
Total score of the patient-centered care competency scale	r	0,827 *
	p	<0,001

*Pearson correlation coefficient was used. *: Significant at the 0.05 level.*

Conclusion

In today's healthcare environment, nurses are expected to improve not only the physical needs of patients but also their psychological, social, and spiritual well-being. Patient-centered care competency is an important factor influencing the quality of palliative care provided by nurses. This study, consistent with the literature, demonstrated that nurses' patient-centered approach enhances palliative care quality. Training programs aimed at increasing nurses' competency in this area are essential for further improvement of palliative care quality.

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Approach to Adolescent Von Willebrand Patients in Obstetrics and Gynecology Practice

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Oral Presentation – OP364

Introduction and Aim

Von Willebrand disease (vWD) is an autosomal inherited bleeding diathesis caused by either a deficiency or dysfunction of von Willebrand factor (vWF). vWF is a protein that facilitates platelet adhesion to the subendothelial tissue and thrombus formation while also serving as a carrier for factor VIII. In vWD, due to impaired thrombus formation at the site of injury, minor traumas can result in bleeding from the skin and mucosal surfaces. vWD has various types, each with distinct clinical and laboratory characteristics depending on the nature of the vWF defect, and its genetic inheritance patterns vary accordingly.

vWD is one of the most common inherited bleeding disorders, with a population-based incidence of approximately 1%. It is typically characterized by mild to moderate mucocutaneous bleeding. Common symptoms include easy bruising, epistaxis, gingival bleeding, menorrhagia, postpartum hemorrhage, prolonged bleeding after superficial cuts, and gastrointestinal bleeding. The severity of bleeding depends on the level and functionality of vWF. Patients with very low vWF levels or significant dysfunction experience severe bleeding symptoms that manifest in early childhood, whereas milder cases may only become apparent during traumatic mucosal procedures (e.g., tonsillectomy, tooth extraction, curettage) or at menarche.

vWD in Women

The most significant concern for female patients with vWD is excessive uterine bleeding, with 65–80% experiencing menorrhagia. Menorrhagia can lead to secondary iron deficiency and impaired quality of life, making it a significant clinical issue. vWD is diagnosed in 10–20% of patients presenting to gynecology clinics for menorrhagia. In some cases, menstrual bleeding in vWD can be severe enough to require blood transfusion. Although a specialized pictorial blood assessment chart (PBAC) can be used to assess menorrhagia, in clinical practice, symptoms such as menstrual bleeding lasting more than eight days, the presence of clots, the need for more than ten large-sized sanitary pads per cycle, and persistent leakage onto clothing are used as indicators.

Laboratory Findings

The classical laboratory findings of vWD include:

1. Prolonged bleeding time
2. Decreased vWF antigen levels (vWF:Ag)
3. Reduced vWF ristocetin cofactor activity (RcoF)
4. Decreased factor VIII coagulant activity (FVIII:C)
5. Abnormal ristocetin-induced platelet aggregation (RIPA), either decreased or increased

Diagnosis can be readily established through patient history, physical examination, and laboratory tests. The definitive diagnosis of vWD requires the presence of three criteria:

1. The presence of mucocutaneous bleeding
2. Low vWF levels
3. At least one confirmed case of vWD in a family member

If no confirmed family history exists, a diagnosis requires at least two bleeding symptoms and low vWF levels measured at least twice at different times.

Treatment

The treatment of vWD varies depending on disease type, bleeding site, and severity and involves a combination of local hemostatic agents, antifibrinolytics, agents that increase vWF levels, hormonal therapies, and replacement therapy. The careful selection of non-replacement therapies can significantly reduce treatment costs.

1. Antifibrinolytics: In Turkey, the available antifibrinolytic agent is tranexamic acid (Transamin), which comes in 250 mg and 500 mg ampoules and capsules. It can be administered intravenously, orally, or topically. The single-dose regimen is 10 mg/kg intravenously or 20–25 mg/kg orally, administered three times a day. Tranexamic acid is most effective in controlling bleeding from the oral cavity, nasopharynx, uterus, and gastrointestinal tract.

2. Estrogen Therapy: Estrogen increases plasma vWF levels and is used in combination with progesterone in oral contraceptive regimens to control excessive menstrual bleeding in vWD patients. When used alongside antifibrinolytics, estrogen therapy reduces blood loss in 80–90% of cases.

3. Replacement Therapy: In cases of severe bleeding, replacement therapy with factor VIII/vWF concentrates containing high-molecular-weight multimers (e.g., Haemate-P), cryoprecipitate, or fresh frozen plasma is required.

4. Platelet Transfusion: In cases where bleeding remains uncontrolled despite adequate doses of factor VIII/vWF replacement therapy, platelet transfusion may be necessary.

Methods and Materials

The demographic data and laboratory results of 35 adolescent patients diagnosed with Von Willebrand disease (vWD) were retrospectively analyzed. These patients were referred to the

hematology clinic from the obstetrics and gynecology outpatient clinic due to excessive menstrual bleeding between January 2022 and December 2024.

Results

The mean age of the patients was 17.79±1.63 years, with an average weight of 58.63±9.41 kg and an average height of 162.14±5.31 cm. Hematological parameters were as follows:

- **WBC** ($\times 10^3$/mL): 7.82±1.60
- **Neutrophils** ($\times 10^3$/mL): 4.98±1.28
- **Lymphocytes** ($\times 10^3$/mL): 2.28±0.72
- **Platelets** ($\times 10^3$/mL): 284.69±140.01
- **PT** (sec): 12.99±5.98
- **PTT** (sec): 40.40±8.96
- **INR**: 1.01±0.16
- **Fibrinogen** (g/L): 2.11±0.74
- **RBC** ($\times 10^6$/mL): 8.11±1.36
- **Hemoglobin (Hb)** (g/dL): 8.11±1.36
- **Hematocrit (Hct)** (%): 24.94±4.08
- **MCV** (fL): 75.67±8.52

WBC, neutrophil, lymphocyte, and platelet counts were within normal ranges. However, hemoglobin (Hb), hematocrit (Hct), MCV (mean corpuscular volume), and RBC levels were low. PT (prothrombin time) remained within normal limits, while PTT (partial thromboplastin time) was prolonged. Fibrinogen and INR (international normalized ratio) levels were reduced.

Discussion

Abnormal uterine bleeding (AUB) is a common condition in adolescents and may result from structural, physiological, substance-related, or organic causes. However, ovulatory dysfunction

and bleeding disorders are among the most frequent causes of AUB in this age group. Early diagnosis of AUB is crucial to prevent life-threatening hemorrhages.

Among the patients referred to the hematology clinic, 81% were diagnosed with von Willebrand disease. This finding highlights the necessity of investigating underlying bleeding diatheses in adolescents presenting with AUB. vWD is a bleeding disorder that commonly manifests with an increased bleeding tendency and is a significant cause of AUB. Its accurate diagnosis is a critical step in management. Treatment options for vWD include oral contraceptives, tranexamic acid, factor replacement therapy in severe cases, and blood transfusions for hemoglobin levels ≤6.5 g/dL. Multidisciplinary follow-up involving hematology and obstetrics/gynecology is essential for optimal patient care.

Our findings underscore the importance of assessing hematologic parameters in adolescents diagnosed with AUB and considering underlying bleeding disorders, particularly von Willebrand disease, as a potential etiology. In clinical practice, bleeding diatheses are often overlooked.

Conclusion

By integrating hematological, clinical, and imaging data, clinicians can develop more personalized and effective treatment plans for adolescents with AUB.

In conclusion, evaluating hematological parameters in adolescents diagnosed with AUB is critical for the early diagnosis and prevention of life-threatening bleeding episodes. Recognizing underlying hematological disorders is a key step in optimizing patient management.

Keywords: Adolescent Menorrhagia, Anemia, von Willebrand Disease, Tranexamic Acid

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Preventive Medicine on Social Media: An Engagement Analysis of the #koruyucuhekimlik Hashtag on Instagram

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Introduction:

In the digital age, healthcare professionals actively utilize social media to raise awareness about preventive medicine. Instagram, with its potential to reach large audiences, has become an important platform for disseminating health-related messages. In this study, the engagement levels of posts shared with the hashtag #koruyucuhekimlik were statistically analyzed.

Materials and Methods:

In this study, 75 Instagram posts shared on March 15, 2025, using the hashtag #koruyucuhekimlik were analyzed. The posts were evaluated based on the professional background of the account holder, number of likes and comments, follower count, engagement rate, and the relevance and usefulness of the content in relation to the #koruyucuhekimlik hashtag. To avoid algorithmic bias and the influence of previously stored cookies, a new Instagram account was created specifically for the study, and all browsing history and cookies on the web browser used were cleared prior to data collection.

Results:

All Instagram posts associated with the hashtag #koruyucuhekimlik consisted solely of photographs. Among the content creators, 27 (36%) were female, 33 (44%) were male, and 15 (20%) were institutional accounts such as companies or associations. Of the total posts, 40 (53.3%) were shared by specialist physicians, 13 by veterinarians, and 5 by general practitioners. The specialties with the highest number of posts were internal medicine with 15 posts and pediatrics with 6 posts. Overall, posts were made by specialists representing 12 different medical fields. Despite the fact that preventive medicine is one of the primary responsibilities of first-line healthcare providers, no posts were found from primary care specialists such as public health or family medicine physicians. Only one general practitioner who identified as a family physician had shared a photo related to a preventive medicine congress. A thematic analysis of the post content revealed that 10 posts were related to promotions or announcements, 9 focused on various veterinary practices, 5 addressed nutrition and mineral/vitamin supplementation, another 5 emphasized healthy living and lifestyle changes, and only one post was related to vaccinations. Notably, although there was only one post shared by a dietitian, it received the highest engagement across the dataset, with 13,961 likes and 80 comments. Posts shared by specialist and general practitioners collectively received 11,203 likes and 46 comments. The average number of likes per post was 243.5 for physicians and 38.8 for veterinarians. Thematically, accompanying hashtags used alongside #koruyucuhekimlik included “health” (41 times), “nutrition and diet” (21 times), “veterinary” (20 times), “phytotherapy and integrative medicine” (16 times), and “psychology and psychiatry” (13 times).

Conclusion:

This study reveals the engagement levels of posts related to preventive medicine on Instagram. Posts shared by dietitians and physicians received relatively higher engagement. However, when searching the hashtag used in this study, it was observed that relevant and informative

content was difficult to access, indicating a lack of awareness around the topic. The effective use of social media by healthcare professionals is crucial for raising public awareness. Despite the central role of family physicians in delivering preventive health services, their representation on Instagram was found to be very limited. Family physicians should take a more active role on social media by producing higher-quality, more engaging content in both quantity and substance. Future research can enable more comprehensive strategies to be created by examining the impact of different types of content on interaction.

Keywords: Family Medicine, Presentive Medicine, Social Media

The Role of Family Physicians in Colposcopy: From Early Diagnosis to Management

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Oral Presentation – OP367

Objective:

This study aims to provide family physicians with comprehensive knowledge of colposcopy, enhancing their understanding of its indications and patient management protocols. Furthermore, it seeks to reinforce their role in screening and referral, ultimately contributing to the early diagnosis and prevention of cervical cancer.

Materials and Methods:

The study was conducted at the Gynecologic Oncology Clinic of Adana City Hospital, utilizing the technical equipment necessary for colposcopy procedures. Patients referred from primary healthcare centers based on screening results underwent colposcopy and colposcopic biopsy. The procedural methodology and patient outcomes were systematically reviewed.

Results:

In 2024, a total of 1,366 patients with positive Human Papillomavirus (HPV) test results were referred from primary healthcare centers to the Gynecologic Oncology Clinic of Adana City Hospital. Among them, 1,119 patients underwent colposcopy and colposcopic biopsy. Pathological examination revealed preinvasive lesions (Cervical Intraepithelial Neoplasia [CIN] 1 to CIN 3) in 486 cases, while only one patient was diagnosed with cervical cancer.

Conclusion:

Colposcopy is a diagnostic procedure utilizing a colposcope—a dissection microscope with

variable magnification lenses—to provide an illuminated and magnified view of the cervix, vagina, vulva, and anus. The primary objective of colposcopy is the early detection of precancerous and cancerous lesions, facilitating timely intervention. The colposcope functions as a stereoscopic binocular field microscope with a magnification range of 3.75 to 40 times. Colposcopic evaluation is based on identifying specific visual characteristics, such as alterations in contour, color, and vascular patterns, which differentiate malignant and premalignant epithelial changes. This allows for the precise identification of suspicious areas, enabling targeted biopsies under colposcopic guidance. Acetic acid and Lugol's iodine solutions are applied to enhance epithelial visibility.

Family physicians play a pivotal role in ensuring regular screenings and appropriate patient referrals. The early identification and timely referral of patients requiring colposcopic evaluation represent an effective strategy for cervical cancer prevention and improved clinical outcomes. Many patients referred from primary healthcare centers experience significant anxiety, often fearing a cancer diagnosis without fully understanding the nature of the procedure. However, our one-year data indicate that out of 1,366 referred patients, only one was diagnosed with cervical cancer, while nearly half exhibited preinvasive lesions. Literature reports suggest that most preinvasive lesions regress spontaneously, with a cancer progression rate of less than 1% for CIN 1, 5% for CIN 2, and 12% for CIN 3. Additionally, HPV is typically cleared within one to two years. Given these findings, it is crucial for primary healthcare providers to adopt an empathetic and educational approach when counseling and referring patients with positive screening results. Family physicians bear a significant responsibility in assessing the necessity of colposcopy, directing patients to specialized centers, and overseeing follow-up processes. This study underscores the importance of enhancing family physicians' expertise in colposcopy procedures, indications, and patient management strategies to optimize cervical cancer prevention and early diagnosis.

Keywords: Colposcopy, Family Physicians, HPV, Cervical Cancer Screening, Patient Management

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The Relationship Between Exercise Addiction and Attitudes Toward the Mediterranean Diet Among Individuals Aged 18-24 Who Attend Gyms

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Introduction

This study aims to determine exercise addiction levels and attitudes toward the Mediterranean diet among individuals who attend gyms. It also seeks to assess whether those with exercise addiction adhere to the Mediterranean diet and examine the effects of demographic factors such as age, gender, sports background, and income level.

Materials and Methods

This cross-sectional study was conducted among individuals aged 18-24 who regularly attend gyms affiliated with the Sports Branch of the Health, Culture, and Sports (SKS) Department at Ankara University. Ethical approval was obtained from the Ethics Committee for Undergraduate Student Research at Ankara University Faculty of Medicine. Data were collected between June 2024 and September 2024 from 140 voluntary participants through face-to-face surveys. The questionnaire included demographic characteristics, sports history, body image perception, weekly exercise duration, and income level. In addition, the Exercise Addiction Scale (EAS) and the Mediterranean Diet Adherence Scale (MEDAS) were administered. Data analysis was performed using the Statistical Package for Social Sciences (SPSS, Version 15.0, Chicago, IL), with the Chi-Square Test applied, and a significance level set at 0.05.

Oral Presentation – OP368

Results

Among the 140 participants, 60.7% were male and 39.3% were female, with a mean age of 21.08±2.16 years. The EAS categories were classified as follows: "normal," "low-risk," and "at-risk" groups were considered non-addicted, while "addicted" and "highly addicted" groups were classified as addicted. In total, 51.4% of participants were categorized as non-addicted, while 48.6% were classified as addicted. In terms of adherence to the Mediterranean diet, those with "acceptable adherence" and "strict adherence" were grouped as adherent, with 65% of participants categorized as non-adherent and 35% as adherent. When comparing EAS and MEDAS scores, 58.8% of exercise-addicted individuals were found to be non-adherent to the Mediterranean diet ($p=0.19$). No significant relationship was found between EAS scores and gender ($p=0.266$), though women (53.1%) were significantly more likely to adhere to the Mediterranean diet than men ($p=0.023$). Additionally, 59.3% of participants responded "Yes" to the question, "Do you like your body?" Among them, 48.2% exercised for 2.5-5 hours per week, which aligns with the World Health Organization's recommended weekly exercise duration. However, no significant relationship was found between weekly exercise duration and body image perception ($p=0.754$). Participants with a history of engaging in a sports discipline were significantly more likely to be exercise-addicted (61.6%, $p<0.001$). Furthermore, among individuals adhering more closely to the Mediterranean diet, 52.2% reported having an adequate budget for nutrition, yet no significant relationship was found between MEDAS scores and financial resources allocated for food ($p=0.24$).

Conclusion

Since no prior studies have specifically examined the relationship between exercise addiction and adherence to the Mediterranean diet, this research provides a novel investigation into this association. Further studies are recommended to explore this relationship in greater depth.

Keywords: Exercise Addiction, Mediterranean Diet, Excessive Exercise, Nutrition

Inflammatory Markers in Stage 1 Hypertensive Patients

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Oral Presentation – OP369

Background and Scope:

Hypertension (HT) is recognized as one of the most significant preventable causes of cardiovascular mortality worldwide. Hypertension and its complications (such as ischemic heart disease and stroke) contribute to approximately 9.4 million deaths annually, making it a serious public health concern. The need for easily measurable and cost-effective prognostic biomarkers for monitoring and managing hypertension-related morbidity is increasing.

Neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) are considered the most commonly used, practical potential biomarkers reflecting inflammation and immune system activation. NLR is a potential inflammatory marker associated with cardiovascular conditions and prognosis, while PLR is also considered an indicator of inflammation, platelet activation, and atherosclerosis. The red blood cell distribution width (RDW) to albumin ratio (RAR) is regarded as an important indicator of inflammatory response. Recent studies have highlighted that elevated RAR levels are gaining significance as a potential biomarker in predicting poor prognosis in cardiovascular diseases.

In this clinical study, we aimed to examine the differences in inflammatory parameters between Stage 1 hypertensive and normotensive patients. Based on these findings, we aimed to assess the necessity of close monitoring of complications in Stage 1 hypertensive patients by comparing NLR, PLR, and RAR levels between the normotensive group.

Materials and Methods:

This retrospective study included 57 Stage 1 hypertensive cases and 58 healthy controls. The epidemiological data (age, gender), neutrophil, lymphocyte, platelet, RDW, albumin, NLR, PLR, and RAR levels of the cases were recorded.

Data were retrieved from the hospital automation system, and the ratios were calculated as follows: NLR as the ratio of neutrophils to lymphocytes, PLR as the ratio of platelets to lymphocytes, and RAR as the ratio of RDW to albumin levels.

Blood pressure measurements were obtained using a mercury sphygmomanometer after a 5-minute rest, in a seated position, from the left arm, and recorded as the average of three consecutive measurements. Stage 1 HT was defined as blood pressure levels ranging between 140-159 mmHg and/or 90-99 mmHg.

Results:

The mean age of the included cases was 61.3±17.3 years, with 52 females and 63 males. In the Stage 1 hypertensive group, 28 (53.8%) were female, and 29 (46.2%) were male, whereas in the healthy control group, 24 (46.2%) were female, and 34 (54%) were male.

Compared to the control group, no significant difference was observed in neutrophil, lymphocyte, platelet, RDW, albumin, PLR, or RAR values in the Stage 1 hypertensive group. However, a significant difference was found in NLR levels between the Stage 1 hypertensive and healthy groups (4.30±4.03 vs. 2.28±1.74, p=0.000).

Conclusion:

In our study, the significant difference in NLR levels between Stage 1 hypertensive patients and the healthy group suggests that inflammatory complications may be more prevalent in Stage 1 hypertensive patients compared to healthy individuals. This finding emphasizes that NLR is a potential biomarker of inflammation and, consequently, endothelial damage-related cardiovascular mortality. These results suggest that NLR may serve as a simple and useful marker for identifying high-risk patients, guiding and managing targeted interventions.

Table 1: The epidemiological and laboratory findings of the Stage 1 hypertensive and the control (healthy) groups.

	Stage 1 Hypertensive Group (n:57)	Control (Healthy) Group (n: 58)	p value
Neutrophil count (/µL)	5129.4±2581.9	4142±2407.9	0.846
Lymphocyte count (/µL)	1686.4±848.7	1669.3±875.4	0.959
Platelet count (/µL)	248754±104628	238603±117802	0.190
RDW (%)	15.22±4.02	15.72±3.80	0.981
Albumin (g/L)	35.8±5.4	36.6±5.5	0.998
NLR	4.30±4.03	2.80±1.74	0.000
PLR	202.11±230.41	163.21±96.21	0.105
RAR	0.43±0.13	0.43±0.11	0.282

RDW: Red blood cell distribution width, NLR: Neutrophil-to-lymphocyte ratio, PLR: Platelet-to-lymphocyte ratio, RAR: RDW-to-albumin ratio
Results are presented as mean ± standard deviation.

Keywords: Hypertension, Neutrophil-to-Lymphocyte Ratio, Platelet-to-Lymphocyte Ratio, Red Blood Cell Distribution Width to Albumin Ratio

Resilience in the Age of AI: Exploring AI-Related Anxiety Among Remote Workers

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Objective

This study examines the relationship between artificial intelligence (AI)-related anxiety and psychological resilience among individuals working remotely or in a hybrid model. Furthermore, it investigates whether AI anxiety and resilience levels differ across sociodemographic variables such as gender, occupation, sector, country, and educational level.

Materials and Methods

Study Design and Participants: This cross-sectional study was conducted to examine the relationship between artificial intelligence (AI)-related anxiety and psychological resilience among remote and hybrid workers. A total of 67 participants, aged between 18 and 65, were recruited via online platforms. Inclusion criteria included fluency in English sufficient to complete the questionnaires and current employment in either a fully remote or hybrid work model. Participation was voluntary and anonymous.

Instruments: Artificial Intelligence Anxiety Scale (Wang & Wang, 2019):

A 21-item self-report measure assessing anxiety related to the advancement and integration of AI technologies. Items are rated on a 5-point Likert scale ranging from 1 (Strongly disagree) to

5 (Strongly agree). Higher scores indicate higher levels of AI-related anxiety. Brief Resilience Scale (BRS) (Smith et al., 2008): A 6-item self-report scale used to assess individuals' ability to recover from stress. Items include both positively and negatively worded statements. Responses are given on a 5-point Likert scale. Negatively worded items were reverse-coded prior to calculating total scores.

Sociodemographic Form: A structured form developed by the researchers to collect data on participants' age, gender, country of residence, native language, education level, occupation, work sector, and current work arrangement (fully remote or hybrid). **Procedure:** The survey was administered via Google Forms. Participants provided informed consent at the beginning of the questionnaire. Data collection was conducted in [month-year, e.g., March 2025] and required approximately 10–15 minutes to complete.

Data Analysis: Data were analyzed using Python and the statsmodels, scipy, and pandas libraries. Descriptive statistics were calculated for all variables. Pearson correlation analysis was used to assess the relationship between AI anxiety and psychological resilience. Independent samples t-tests and one-way ANOVAs were conducted to compare AI anxiety levels across sociodemographic groups. Logistic regression analysis was used to identify predictors of high AI anxiety, defined as scores above the sample median.

Results

Data from 67 participants were analyzed. A moderate-to-strong negative correlation was found between AI anxiety and psychological resilience ($r = -0.56$). According to logistic regression analysis, psychological resilience emerged as the only significant predictor of high AI anxiety ($\beta = -0.43$, $p = 0.016$). Independent samples t-test revealed that women reported significantly higher levels of AI anxiety compared to men ($p = 0.007$). AI anxiety ($p = 0.032$) and psychological resilience ($p = 0.011$) levels differed significantly across occupational groups. However, Tukey HSD post-hoc tests did not identify any pairwise differences with statistical

significance. No significant differences were observed with respect to country, education level, or sector groups.

Discussion

The findings of this study suggest that psychological resilience may act as a protective factor against AI-related anxiety. The higher levels of anxiety reported by women point to potential gender-based differences in how individuals perceive technological transformation. The influence of occupational roles on both anxiety and resilience may reflect perceived job security and adaptability to innovation. The lack of significant variation across countries and sectors implies that individual psychological traits may outweigh environmental factors in determining technology-related stress responses.

Conclusion

This study highlights the role of psychological resilience in mitigating anxiety related to the rise of AI technologies in digital work environments. The results suggest that psychosocial interventions to enhance resilience may effectively reduce the psychological burden of technological change. Future research with more diverse samples could further explore cultural and sectoral influences.

Keywords: Artificial Intelligence Anxiety, Psychological Resilience, Remote Work

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The Impact of the COVID-19 Pandemic on Early Cancer Screening Behavior in Bolu Province: A Comparative Analysis of the Pre-Pandemic, Pandemic, and Normalization Periods

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Oral Presentation – OP373

Introduction

Cancer screening tests help detect the disease at an early stage, thereby improving treatment success and reducing mortality rates. In Turkey, community-based screening programs for breast, cervical, and colorectal cancers are primarily conducted through primary healthcare services. However, the COVID-19 pandemic caused significant disruptions in all areas of the healthcare system, including preventive services. This has led to a decline in healthcare utilization, potentially reducing opportunities for early diagnosis and causing some cancer cases to go undetected.

Objective

This study evaluates the impact of the COVID-19 pandemic on cancer screening services in Bolu province. Based on data from 2017 to 2024, three periods were compared: pre-pandemic (2017–2019), pandemic (2020–2022), and normalization (2023–2024). Changes in screening rates, positive cases, and biopsy rates for HPV (smear), FOBT (Fecal Occult Blood Test), and mammography were analyzed to assess the impact of the pandemic and the subsequent normalization process on these services.

Methods

In this retrospective descriptive study, cancer screening tests conducted in Bolu province between 2017 and 2024 were examined based on data obtained from the Bolu Provincial Health Directorate. The target populations increased over the years, and in 2024 were as follows: 15,038 women aged 30–65 for HPV, 39,133 individuals (both women and men aged 50–70) for FOBT, and 30,689 women aged 40–69 for mammography. The data were categorized into three periods. The pandemic period was defined as commencing in March 2020 and extending through 2022, primarily due to ongoing healthcare system restructuring and widespread public concern regarding infection transmission. Data on the number of individuals screened were collected with the necessary institutional approvals, and differences between groups were evaluated using the Pearson Chi-square test. If significant results were found, Bonferroni-corrected post hoc tests were used to identify statistical differences between periods.

Results

When annual averages were considered for each period, screening numbers in Bolu province decreased during the pandemic compared to the pre-pandemic period: HPV by 35%, FOBT by 15%, and mammography by 16%. In the normalization period, screening increased compared to the pandemic: HPV by 75%, FOBT by 80%, and mammography by 45%. HPV (approximately 95% of the target population) and mammography (approximately 38%) reached levels comparable to those observed before the pandemic, while FOBT screening (from approximately 29% to 39% of the target population) exceeded pre-pandemic levels. The differences between the three screening types across the periods were statistically significant ($p < 0.001$), and Bonferroni-corrected post hoc tests showed significant differences between all period pairs ($p < 0.001$).

Conclusion

The COVID-19 pandemic led to significant disruptions in cancer screening programs. Even when screenings were performed, delays occurred in follow-up diagnostic procedures, likely hindering the early diagnosis of cancer cases. The rebound in screening rates during the normalization phase suggests strengthened field activities and increased public awareness.

The findings highlight the necessity of maintaining uninterrupted screening and preventive health services under all conditions, and emphasize the importance of effective emergency planning by health authorities to ensure service sustainability during public health crises.

Keywords: Cancer Screening, COVID-19, Pandemic, Early Diagnosis, Public Health

Follow-Up of Children Presenting to the Pediatric Neurology Clinic with Headache Complaints: Improving Quality of Life Through Collaboration with Family Medicine

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Oral Presentation – OP375

Objective: Headache is common in childhood and constitutes a significant proportion of outpatient clinic visits. This study aimed to define the demographic and clinical characteristics of patients presenting with headaches to a pediatric neurology clinic and to enhance the efficiency of follow-up and treatment processes through collaboration with primary care physicians.

Methods: In this retrospective study, medical records of patients presenting with headaches between October 2023 and December 2024 were reviewed. Headaches were classified according to the International Headache Society, ICHD-3 criteria.

Results: A total of 55 patients aged 3–17 years, with a mean age of 127.5 months (25–220 months), were included in the study. Of these, 40 (72.7%) were female and 15 (27.3%) were male. Neurological examinations and imaging results were normal in all patients. The average duration since headache onset was 17 months (range: 1–96 months) before the clinic visit. The mean headache duration was 4.7 hours (range: 1–48 hours), with an average frequency of 7.6 days per month (range: 1–30). Only six patients reported significant impairment in daily life. The prevalence of primary headaches was significantly higher in females than in males ($p<0.05$). The causes of headache were classified as probable migraine (41.8%), probable tension-type headache (38.1%), secondary headache (10.9%), and unclassified headache (9.1%). Among patients with secondary headaches, all experienced relief

following treatment for infections or chronic sinusitis. The most common triggering factors were sleep deprivation and excessive screen exposure (41.8%). Electroencephalography (EEG) was performed in 49 patients, revealing epileptiform abnormalities in three patients without clinical seizures. Vitamin B12 levels were <300 pg/mL in 18 patients, and B12 supplementation led to a ≥50% reduction in headaches in 11 of them. A total of 78.1% of patients were managed solely with SMART lifestyle recommendations and headache diaries. Among these, 36.3% showed a ≥50% reduction in headache frequency, while 31% became headache-free with improved lifestyle hygiene and avoidance of triggers. The most commonly used prophylactic treatment was flunarizine (66.6%), followed by citalopram (16.7%) and topiramate (16.7%), with flunarizine demonstrating significant headache reduction.

Conclusion: The most common causes of childhood headaches are migraine and tension-type headaches. In the absence of abnormalities in history or neurological examination, routine evaluation of headache patients can be effectively managed in collaboration with family medicine physicians. Lifestyle modifications and vitamin supplementation play a crucial role in headache management. In selected cases, prophylactic treatment improves quality of life.

Keywords: Childhood Headache, Pediatric Neurology, Family Medicine, Lifestyle Modification

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Telehealth in Primary Care: Patients' Attitudes in Family Health Centre

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Background

Telemedicine has become a key aspect of healthcare, allowing remote patient access and enabling physicians to provide consultations, diagnoses, and follow-ups. It improves rural access, reduces costs, shortens wait times, and enhances efficiency. In Türkiye, telemedicine is increasingly adopted in both public and private sectors. Although full implementation is pending due to infrastructural limitations, a June 2024 Ministry of Health directive mandates that primary care centers include at least one telemedicine-capable physician. The success of telemedicine hinges on both infrastructure and patients' attitudes. This cross-sectional study evaluates these attitudes to inform the planning and implementation of telemedicine services.

Oral Presentation – OP377

Method

The study population comprised literate patients aged 18 and above visiting the Kayseri Family Health Center. With no prior national studies, OpenEpi calculated a minimum sample size of 384 (assuming 50% low attitude prevalence, 5% error, and 95% confidence). The center was chosen by convenience sampling. A 38-item questionnaire, demographics, work and health status, healthcare utilization, and the Attitude Scale Towards the Use of Telemedicine Services was administered face-to-face from January to February 2025. The 18-item Likert scale (scores

18–90) indicates more positive attitudes with higher scores. Data were summarized using counts, percentages, means ± SD, and minimum and maximum values. The $\chi 2$, Student's t-test, and ANOVA were used for comparisons. Analyses used IBM SPSS Statistics 24.0, with $p<0.05$ considered significant.

Results

Four hundred twenty patients (mean age 30.59±12.67) participated; 75.5% were female, 65.7% were married, 71.0% had nuclear families, 50.0% had a university education, and 48.6% were employed. Among them, 6.0% (n=25) did not use an internet-enabled smartphone, tablet, or computer, while 33.3% (n=140) did not use mobile applications. A total of 3.1% (n=13) had a disabled or dependent person at home. The first point of healthcare contact for 62.9% (n=264) was Family Health Centers, and 81.2% (n=341) visited a family physician 1–4 times in the past six months.

The mean scale score was 58.06±14.88. Participants with primary education or lower scores significantly lower than those with a high school or higher education (p=0.000). Those who rated their economic status as good had higher scores than those who rated it as poor (p=0.030). Participants without a disabled household member had higher scores than those with one (p=0.006). Those working 30–40 hours per week had higher scores than those working over 40 hours (p=0.003). Participants who first sought care at tertiary hospitals had higher scores than those using primary or secondary care (p=0.031). Those who had not visited a family physician in the past six months had higher scores than those with five or more visits (p=0.045). Mobile health app users (p=0.043) and those with an internet-enabled device (p=0.007) had higher scores than non-users.

Conclusion

This study demonstrates that patient attitudes toward telemedicine vary significantly with education, economic status, device usage, and healthcare access patterns. Positive attitudes

were linked to higher education, better economic status, and digital tool usage. In family medicine, telemedicine is crucial, especially during restricted-access periods like pandemics, to maintain chronic care continuity. These findings inform telemedicine planning and implementation in primary care settings in Türkiye, guiding future strategies.

Keywords: Attitude, Patient, Primary Health Care, Telemedicine

Evaluation of Knowledge Levels of Family Medicine Residents of a University Hospital About Autism Spectrum Disorders

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Oral Presentation – OP379

Aim: Autism spectrum disorder (ASD) is one of the most common neurodevelopmental disorders in childhood; early diagnosis and treatment are positive prognostic factors (1-3). For this reason, it is very valuable for family physicians, who carry out healthy child follow-up in primary care in our country, to have sufficient knowledge on the subject, both in terms of early diagnosis and referral to appropriate support services and raising awareness of families (4). In this study, we aimed to evaluate the level of knowledge and awareness of family medicine residents about ASD.

Materials and Methods: This cross-sectional descriptive study was conducted on all 115 resident physicians studying in the department of family medicine at our university. All participants were administered the sociodemographic data form prepared by the researchers and the "Knowledge about childhood autism among health workers" which evaluates four different areas. SPSS 23.0 program was used in the analysis and $p<0.05$ was considered significant.

Findings: Among the participants, 51.3% were male and 54.8% were full-time family medicine residents. The mean scale score of the participants was 13.1±3.51. Scale scores of full-time family medicine residents and contracted family medicine residents were similar. The rate of

correct answers to the questions related to behavioral style was significantly higher in those who had previously received ASD-related education (p=0.004). It was observed that those who received education about ASD during family medicine residency answered more accurately about behavioral style (p=0.017) and characteristics of the disorder (p=0.05). Participants who were aware of the ASD surveillance program conducted by the Ministry of Health had higher social interaction (p=0.02), communication (p=0.037), behavioral style (p=0.022) and total scale scores (p=0.006). It was observed that those who took part in the evaluation process of the child diagnosed with ASD gave more correct answers in the communication domain (p=0.024). The total scale score (p=0.008), social interaction (p=0.025), communication (p=0.046) and behavioral style (p=0.002) scores of those who perceived adequate level of knowledge about ASD were significantly higher.

Results: The level of knowledge about ASD varies among family medicine residents. During residency, increasing educational trainings on ASD and raising awareness about the surveillance program may improve the level of knowledge of family physicians.

Keywords: Autism Spectrum Disorders, Family Medicine Residency Education

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Pulmonary Edema in the Intensive Care Unit: Diagnosis, Treatment, and Clinical Outcomes

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Oral Presentation – OP381

Objective:

Pulmonary edema is a critical clinical condition frequently encountered in intensive care units (ICUs) and significantly impacts mortality. This study aims to retrospectively evaluate the diagnosis, treatment, and clinical outcomes of patients with cardiogenic and non-cardiogenic pulmonary edema to discuss optimal management strategies.

Methods:

A retrospective analysis was conducted on 17 patients diagnosed with pulmonary edema and monitored in the General Intensive Care Unit of İzmir City Hospital over the past year. Patients were divided into two groups: cardiogenic (n=10) and non-cardiogenic (n=7). Admission symptoms, laboratory findings, imaging data, respiratory support methods applied, and treatment responses were recorded.

Results:

The clinical and demographic data of the patients are presented in Table 1. In the cardiogenic pulmonary edema group, early diuretic and vasodilator therapy achieved clinical stabilization, whereas the non-cardiogenic group exhibited a higher mortality rate (42% vs. 30%). Hypoxemia was more severe in non-cardiogenic cases, particularly those associated with ARDS, and the need for invasive mechanical ventilation was significantly greater($p<0.05$). Comorbidities were significantly associated with treatment resistance and poor prognosis.

Conclusion:

Etiological differentiation is crucial in managing pulmonary edema. While the cardiogenic group responded rapidly to medical therapy, aggressive treatment of the underlying cause and individualized respiratory support strategies may reduce mortality in non-cardiogenic edema. Standardizing ICU protocols, improving early diagnosis and treatment approaches, and strengthening preventive healthcare measures are recommended to prevent complications.

Table 1: Demographic and Clinical Characteristics of Patients with Pulmonary Edema

Parameter	**All Patients (n=17)**	**Cardiogenic PE (n=10)**	**Non-Cardiogenic PE (n=7)**
Age (years)	68 [58-80]	72 [65-80]	63 [52-71]
Male sex	11 (64.7%)	7 (70%)	4 (57.1%)
Comorbidities			
- Hypertension	13 (76.5%)	9 (90%)	4 (57.1%)
- Diabetes mellitus	7 (41.2%)	5 (50%)	2 (28.6%)
- COPD	4 (23.5%)	1 (10%)	3 (42.9%)
Presenting Symptoms			
- Dyspnea	17 (100%)	10 (100%)	7 (100%)
- Orthopnea	14 (82.4%)	9 (90%)	5 (71.4%)
Laboratory			
- BNP (pg/mL)	550 [420-1100]	850[600-1100]	420 [350-500]
- Troponin I (ng/mL)	1.0 [0.5-1.5]	1.5 [0.8-2.0]	0.8 [0.5-1.0]
Clinical Outcomes			
- ICU Length of Stay(days)	5 [3-9]	4[3-5]	7 [5-9]
- Mortality	6 (35.2%)	3 (50%)	3 (42.9%)

(Presented as median [interquartile range] or n [%]) COPD: Chronic obstructive pulmonary disease

Keywords: Pulmonary Edema, Intensive Care Unit, Cardiogenic Edema, Non-cardiogenic Edema, Mechanical Ventilation

E-Cigarette Use and Associated Factors Among Intern Doctors

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Abstract: The use of electronic cigarettes (e-cig) is increasing rapidly, particularly among young people. This study aims to evaluate the ratio, and characteristics of e-cig use among medical students to be considered role models in society.

Materials and Methods: This descriptive study was conducted with intern doctors at an university during 2024–2025 academic year (n=226). Data were collected using a 57-item questionnaire developed by the researchers based on literature review. Statistical analyses were performed using SPSS vers.22, and $p<0.05$ was considered statistically significant.

Results: Of the 134 interns who participated in the study (response rate: 59%), the mean age was 24±1.6 (range: 22–30) years, and 52.8% were male. Evaluation of tobacco product use revealed that 34% of participants had a history of cigarette smoking, while 18.9% reported previous use of hookah, cigars, or pipes.

It was identified that 32.1% of the interns had tried e-cig. Among those, 23.5% had quit within the past year, and 5.9% were current regular users. When reasons for e-cig-initiation were examined, 14.7% cited a recommendation, whereas 85.3% initiated use out of curiosity. The mean age at first e-cig use was 21±2 (range: 16–26) years.

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Regarding the presence of e-cig users in participants' close environment, 47.2% stated that no one in their immediate social circle used e-cig. In contrast, 1.9% reported maternal use, 0.9% paternal use, 8.5% by siblings, 26.4% by friends, 6.6% by partners, and 6.6% by other relatives. Notably, the e-cig experimentation rate was lower (16.1%) among those who had no e-cig users in their social circle. The most common reported source of e-cig awareness was social media (46.2%). With regard to preferences, 64.7% of the interns preferred flavored e-cig, 20.6% favored them due to lack of smoke/ odor, 55.9% preferred rechargeable/battery-operated devices, and 50% reported a preference for flavored varieties.

The proportion of those who reported using e-cig as a method for smoking cessation was 17.7%, among whom 67% indicated that it was ineffective. Among current e-cig users, the rate of dual use with conventional cigarettes was 74.3%.

Among the 31 individuals who disclosed the source of their e-cig, 58.8% had obtained them from tobacco shops or friends. Both of the regular e-cig users reported experiencing side effects and withdrawal symptoms.

Conclusion: E-cig use was higher among interns who smoked or had e-cig users in their close environment. As part of preventive strategies in family medicine, it is recommended that interventions targeting e-cig use among youth be included alongside conventional tobacco control efforts.

Keywords: Electronic Cigarette, Medical Student, İntern, Tobacco Use

The Effect of Metformin and PPI Use on Serum B12 Levels of Patients Applying to Family Health Center in the Last 10 Years

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Objective: The aim of our study was to evaluate the effect of metformin and proton pump inhibitor (PPI) use duration on serum vitamin B12 levels.

This study was conducted retrospectively on 1000 patients who applied to the Family Health Center and were followed up regularly in the last 10 years. The study evaluated the changes in vitamin B12 levels of patients using metformin and proton pump inhibitors. Patients who used metformin and/or PPI or never used it and whose serum B12 levels were measured at least twice between December 2023 and 2024 were included in the study.

Inclusion Criteria for the Study: Adult individuals aged 15 years and over, Those who have had a serum B12 test at least once in the last 10 years, Patients who use Metformin and/or PPI or have never used it, Those with chronic disease data. Exclusion Criteria: Patients known to use vitamin B12 supplements, Individuals who have undergone gastric bypass surgery

Demographic data, duration and dose of metformin and PPI use, and serum B12 levels of the patients included in the study were recorded. Changes in vitamin B12 levels as the duration of metformin and PPI use increased were evaluated by multivariate regression analysis. Statistical analyses were performed using SPSS 25.0 program and $p<0.05$ was considered statistically significant.

Findings

In our study, 534 of our patients had their B12 levels checked within the last year. 350 of our patients used B12 supplements after the first measurement, and 116 of our patients did not have a control B12 measurement in their system.

In our study, a certain decrease in B12 levels was observed with increasing age ($\chi^2 = 196.33$, $p < 0.001$). We found that B12 levels decreased with duration of metformin use among diabetes and metformin use by the end of 2024 ($p < 0.001$)A significant decrease in B12 levels was observed as the duration or dose of PPI use increased ($p < 0.05$). A significant decrease in B12 levels was observed as the duration or dose of PPI use increased ($p < 0.05$). Correlation tests between B12 levels measured at 1-year intervals and metformin and proton pump inhibitors revealed a negative correlation. (p=0.000093-p=0.00046)

Conclusion:

Our results show that long-term use of metformin and PPIs leads to significant decreases in vitamin B12 levels. Therefore, family physicians need to take a proactive approach to prevent B12 deficiency when prescribing these drugs.Family physicians can prevent neurological and hematological complications by recognizing the early symptoms of B12 deficiency.Therefore, B12 levels of patients prescribed metformin and PPI should be routinely monitored and supportive treatments should be applied to patients deemed necessary.

Keywords: PPI, Vitamin B12, Metformin, Family Medicine,

An Evaluation on Birth Control Education, Method Usage, and Tetanus Vaccination During Pregnancy

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Aim

The main objective of this study was to retrospectively evaluate contraceptive method preferences among women aged 15-49 years, the sociodemographic factors shaping these preferences, and their relationship with tetanus vaccination status.

Materials and Methods

This study was conducted retrospectively on 500 female patients who regularly applied to Duygu Özyurt Family Health Center and were followed up. In the study, the patients' age, education status, training they received at the family health center, number of pregnancies, number of live births, birth control methods they used and tetanus vaccinations were questioned.

Total of 500 women aged 15-49, who were registered and regularly followed up at the ASM, were included in the retrospective observational study using a random sampling method. A 95% confidence interval and a 5% margin of error were used to determine the sample.

Inclusion criteria were determined as volunteering to participate in the study, not having a psychiatric illness, being in the 15-49 age group, and not having any communication problems.

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Statistical analyses were performed using the SPSS 25.0 program, and $p < 0.05$ was considered statistically significant.

Findings

The most commonly used birth control method was withdrawal with 20.4% (n=104). Condoms were 16.2% (n=81), birth control pills 1.6% (n=9), IUD 5.8% (n=29), tubal ligation 3.4% (n=17). When the distribution of education given in ASM was examined, it was seen that our women were given nutrition (49.1%, n:245), breast self-examination (34.3%, n:171) , cervical cancer screening and HPV education (12%, n:60), dental health and oral hygiene education (4.6%, n:23) were given. The significance level of birth control methods according to age was determined as p : 0.000 and a significant difference was found between the two parameters. Especially in the 30-45 age groups, withdrawal and condom use were higher than in other age groups. (p: 0.04)

70.7% (n: 354) of the participants had never received a tetanus vaccine. 9.2% (n: 46) had received one dose, 14.2% (n: 71) had received two doses, and 5 participants had received five doses of tetanus vaccine. There is a positive correlation between the number of living children and the number of pregnancies and tetanus vaccination (r=0.28r = 0.28r=0.28 - r=0.24r = 0.24r=0.24) . As the number of living children and the number of pregnancies increases, the number of tetanus vaccinations increases.

Conclusion

This study reveals the widespread use of traditional contraceptive methods among women of childbearing age and the serious deficiency in tetanus vaccination. We, family physicians, need to provide more effective modern contraceptive counseling to women of childbearing age and create more vaccine awareness to reduce maternal mortality and neonatal tetanus incidence.

Keywords: Birth Control Education, Method Usage, Tetanus Vaccination, Pregnancy

Investigation of Sudden Hearing Loss in Adult Patients Presenting to an Ear Nose Throat Clinic with Ear Congestion Complaints

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Oral Presentation – OP387

Objective: Sudden sensorineural hearing loss is crucial otological condition that if treatment is not timely; it would be harmful effects on patients in long period(1, 2) Therefore, it is significantly important for family physicians to consider and suspect sudden hearing loss(2-4). In this study, the goal has been that family physicians to take into account and raising awareness about of the sudden hearing loss in patient who has presented with aural congestion.

Material-method: This study which has been designed as cross sectional-descriptive, is ongoing, in which has shared from gained datas of the 50 participants. This study has been planned that on patients who applying a second level ENT polyclinic in six months period. To all patients, the survey form which by researchers made of 16 questions, has directed. And then, by ent expert who took part in research team, has examined in terms of sudden hearing loss and routinely audiologic measurements has been registered. Analyses has made with SPSS (version 23.0) and $p<0,05$ has admitted significant.

Results: 54% of participants were male and the average age was 45±19(range:18-80). It was learned that 66% of participants were married, 36% of the participants had primary school education or below, 36% had university education or above, and the majority (78%) were unemployed. 32 % of participants had chronic diseases. Aural congestion has happened suddenly 50 % of participant and 8 % of (n=4) has applied to primary family physician before

second step. All patients who applied to family medicine were examined, treatment was started and ENT was recommended to 75% of them. When the treatment recommended by the family physician was examined, 50% were prescribed antibiotic drops and 50% were prescribed ear wax softening drops. It was recommended that 50% of the patients go to the ENT when they are not improvement and 50% when they are suitable. It was found that 32% of the patients applied within the first 3 days and 20% applied for more than 3 weeks. The average appliying time was 13 days (range: 1-60 days). It was observed that examined 40 % of has wax, 10 % of has tympanic membrane inflammation, 6 % of has oropharyngeal hyperemia and, 4 % of has lymphadenopathy in head neck region. In audiological examinations, sudden hearing loss was detected in 6% of the patients.

Conclusion: Even though most common cause of the ear congestion complaint is wax, sudden hearing loss is not to be underestimated. Although the number of patients applying to family medicine with complaints of ear congestion is low, it is pleasing that all of them are examined and the majority are recommended to an ENT specialist. However, it may be useful that in early period awareness studies on the importance of consultation.

Keywords: Sudden Hearin Loss, Ear Congestion, Ear Fullness, Family Medicine

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Refining Expertise in Endocrine Surgery: A 24-Month Prospective Experience from a Single Surgeon

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Objective And Aim:

Endocrine surgery is a rapidly evolving field that requires a combination of precise anatomical knowledge, multidisciplinary coordination, and high surgical volume to achieve optimal outcomes. In many training programs, opportunities for comprehensive exposure to endocrine procedures may be limited. Therefore, documenting and analyzing individual surgical experience is crucial for understanding learning curves, case complexity, and outcomes.

This study aims to share a comprehensive overview of a single surgeon's experience in endocrine surgery over a 24-month period between January 2023 and January 2025 in a tertiary care academic hospital.

Methods:

Data were collected prospectively from all patients admitted under the care of the author during the designated period at the Department of General Surgery, Tekirdağ Namık Kemal University. Surgical interventions were performed during one designated weekly operating theater day. Patient demographics, indications, operative details, and postoperative outcomes were systematically recorded and retrospectively analyzed.

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Results:

Thyroid Surgery: A total of 124 thyroidectomies were performed, including 33 lobectomies, 87 total thyroidectomies (5 with unilateral and 2 with bilateral modified radical neck dissections), and 4 completion thyroidectomies. Among the patients who underwent total thyroidectomy, 25 were diagnosed with papillary thyroid carcinoma, and 19 of these also had central neck dissection. Additionally, 4 patients with medullary thyroid carcinoma underwent total thyroidectomy and central neck dissection; 2 of them also received bilateral and 2 unilateral modified radical neck dissections. One patient required a reoperation with unilateral neck dissection following bilateral dissection and subsequently underwent permanent tracheostomy due to airway compromise.

Parathyroid Surgery: Twenty-eight parathyroidectomies were performed. One patient was diagnosed with parathyroid carcinoma and received adjuvant radiotherapy. Five patients had giant parathyroid adenomas, including one case associated with a non-recurrent laryngeal nerve, which was published in *Türkiye Klinikleri*. Three patients underwent subtotal (3.5-gland) parathyroidectomy, while six were treated with minimally invasive focused parathyroidectomy using incisions as small as 1.5 cm. In two patients, initial surgery guided by sestamibi scans and ultrasonography failed; however, both were successfully reoperated using four-dimensional parathyroid CT imaging for localization.

Adrenal Surgery: Thirteen adrenalectomies were carried out: six for pheochromocytoma, two for Cushing's syndrome, one for a non-functional incidentaloma, and four for paragangliomas. Nine of these were performed laparoscopically (7 right-sided, 2 left-sided), while four were treated via open surgery—all of which were paragangliomas (3 left, 1 right paravertebral). One patient with advanced-stage paraganglioma succumbed to the disease.

Pancreatic Neuroendocrine Tumors (PNETs): Three pancreatic neuroendocrine tumor surgeries were conducted: two insulinomas and one non-functioning PNET. Distal pancreatectomy was performed for the multifocal insulinoma, and enucleation was preferred

for the solitary lesion. A pylorus-preserving Whipple procedure was performed for a head-of-pancreas PNET causing mechanical jaundice. No perioperative complications were observed.

Conclusion:

The experience gained during this two-year tenure at a tertiary academic medical center underlines the necessity of focused clinical exposure and dedicated operative practice for developing proficiency in endocrine surgery. The spectrum of cases and complexity encountered contributed meaningfully to subspecialty expertise and supports the continued importance of hands-on surgical training in high-volume academic settings.

Keywords: Adrenalectomy, Learning Curve, Pancreatectomy, Parathyroidectomy, Thyroidectomy

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Evaluation of Antibiotic Prophylaxis Practices in Elective Surgeries: A Hospital-Based Study

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Objective:

Perioperative antibiotic prophylaxis is one of the key strategies for preventing surgical site infections (SSIs). However, inappropriate use of antibiotics remains the most common issue in this area. This study aimed to evaluate the compliance of perioperative antibiotic prophylaxis practices with both institutional guidelines and current literature in our hospital.

Materials and Methods:

A retrospective review was conducted on 345 patients who underwent elective surgeries under general anesthesia in the surgical departments of our hospital between January 1 and January 30, 2025. Patient records and anesthesia notes were examined to assess the appropriateness of prophylactic antibiotic use. Data were presented as frequencies and percentages.

Results:

Of the 345 patients included in the study, 237 (68.6%) were female and 108 (31.3%) were male, with a mean age of 60.47 years. All surgical procedures were elective. Inappropriate surgical prophylaxis was identified in 84.8% of the cases. The most common error was the unnecessarily prolonged use of antibiotics (47.9%). The timing of antibiotic initiation was appropriate in only

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15.2% of surgeries. The most frequently used antibiotic for perioperative prophylaxis was cefazolin, used in 88% of cases.

Conclusion:

Perioperative antibiotic prophylaxis remains an area prone to frequent clinical errors. The most prevalent issue in our hospital was the prolonged duration of prophylactic antibiotic administration. Emphasis should be placed on the fact that short-term prophylaxis is as effective as long-term use in preventing surgical site infections.

Keywords: Antibiotics, Prophylaxis, Surgical Site Infections

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Impact of Scabies on Health-Related Quality of Life: A Cross-Sectional Analysis

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Introduction and Aim:

Scabies is a highly prevalent parasitic skin disease and a significant public health issue, particularly in low socioeconomic settings. With an estimated global burden of 300 million cases scabies is among the top five dermatological conditions in several regions. Beyond its physical symptoms, scabies may lead to social stigma and psychological distress, negatively affecting patients' quality of life. This study aimed to evaluate the demographic profile of scabies patients and assess the disease's impact on their quality of life using the Dermatology Life Quality Index (DLQI).

Materials and Methods:

This prospective observational study was conducted at a family health center, patients with clinically diagnosed scabies of at least 2 weeks' duration were included. Diagnosis was based on the International Alliance for the Control of Scabies criteria. Patients with psychiatric comorbidities or incomplete DLQI forms (more than one unanswered item) were excluded. After obtaining informed consent, data were obtained through a structured questionnaire developed by the researchers to assess sociodemographic characteristics, along with the

standardized Dermatology Life Quality Index (DLQI) to evaluate quality of life. The Dermatology Life Quality Index (DLQI), a 10-item questionnaire assessing disease-related impact across daily life domains. Each item was scored from 0 (no impact) to 3 (very much), with total scores ranging from 0 to 30; higher scores indicated greater quality of life impairment. DLQI scores were also expressed as percentages for each subdomain. Data were recorded and analyzed using SPSS version 20. Frequencies, percentages, and mean DLQI scores were calculated. Comparisons between groups were performed using the Mann–Whitney U test, and Spearman's correlation was used for continuous variables. A p value of <0.05 was considered statistically significant.

Results:

This study included 43 patients. Of these, 58.1% were women, 65.1% were married and 79.1% were part of a nuclear family structure. The mean age of the study population was 41.67 ± 20.11 (min:12, max:89) years. 69.8% lived in households with three or more cohabitants. The participants lived with an average of 3.6±1.84 people per household. The average monthly income was 22,671±22,075 TL. The patients had been diagnosed with scabies for an average duration of 12.39±20.63 weeks, and 11.6% were illiterate. The overall impairment in quality of life (QoL) was "moderate" with a total DLQI score of 13.53±5.12. Spearman's correlation analysis revealed a significant negative association between age and DLQI scores (rho = −0.322, p = 0.011), suggesting that younger patients experienced greater quality of life impairment compared to older individuals.

Conclusion:

Our study highlights the significantly impaired quality of life (QoL) in scabies patients, with the disease having a prolonged duration in many cases. The findings demonstrate that scabies not only affects patients' physical health but also has a considerable impact on their social and psychological well-being. Additionally, younger individuals were found to experience greater QoL impairment compared to older participants. These results underscore the need for early

diagnosis and effective management strategies to alleviate the burden of scabies, particularly in vulnerable populations. Further research is warranted to explore the long-term effects of scabies on quality of life and to identify targeted interventions that can improve patient outcomes.

Keywords: Scabies, Quality of Life, Family Medicine

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Assessment of Health-Related Quality of Life in Diabetes Mellitus Patients: A Cross-Sectional Study from Osmaniye, Turkey

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Oral Presentation – OP392

Introduction:

Diabetes mellitus (DM) is a chronic metabolic disorder that significantly impacts the general quality of life (QoL), particularly the health-related quality of life (HRQoL). The condition's complications and the need for continuous management can lead to a deterioration in various aspects of daily living. Routine assessment of QoL is essential, as it enhances communication between healthcare providers and patients, facilitates the prediction of treatment responses, and supports informed clinical decision-making. Furthermore, QoL assessments provide valuable insights into an individual's ability to manage the disease and maintain long-term health and well-being.

Aims:

This study aims to assess the quality of life (QoL) and identify its socio-demographic and clinical determinants among diabetes mellitus (DM) patients attending family health center in the Osmaniye region of Turkey, a predominantly rural population. In addition, the study seeks to evaluate the role of family medicine and family health centers in the management of DM, highlighting their potential in improving patient outcomes through comprehensive care and ongoing monitoring of QoL in the diabetic population.

Materials and Methods:

This was a cross-sectional study conducted among patients diagnosed with diabetes mellitus (DM). Sociodemographic and clinical data were collected, and participants were provided with the SF-12 Health Survey, which consists of 12 questions assessing physical and mental health domains. The scoring of the SF-12 yields two summary measures: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). Scores above 50 indicate a better-than-average health-related quality of life, while scores below 50 suggest below-average health. Additionally, participants completed a sociodemographic health questionnaire, specifically developed by the researchers. All statistical analyses were performed using the Statistical Package for Social Sciences (SPSS, v.20).

Results

A total of 40 patients diagnosed with diabetes mellitus (DM) were enrolled in the study. The mean age of the patients was 58 ± 13.27 years (min:35, max:83 years); 42% were male, and 72.5% were married. The average duration of diabetes mellitus diagnosis was 10.68 ± 7.66 years. Of the participants, 20% were illiterate. Regarding the impact of diabetes mellitus on daily activities, 80% of patients reported restrictions in performing moderate activities such as lifting objects, sweeping, and engaging in light physical exercise, such as walking. Additionally, 70% of patients indicated that they generally felt unhappy and depressed. The SF-12 Health Survey yielded a mean Physical Component Summary (PCS-12) score of 34.71 ± 19.23 and a mean Mental Component Summary (MCS-12) score of 39.49 ± 2.51. No significant relationships were found between age and the SF-12 scores ($p = 0.802$), gender and the SF-12 scores ($p = 0.174$), marital status and the SF-12 scores ($p = 0.181$), duration of diabetes mellitus and the SF-12 scores ($p = 0.260$), or monthly income status and the SF-12 scores ($p = 0.332$).

Conclusion

This study assessed the quality of life (QoL) of individuals diagnosed with diabetes mellitus (DM), considering their sociodemographic and clinical characteristics. A significant proportion of participants reported limitations in performing moderate activities, such as lifting objects, sweeping, and engaging in light physical exercise, such as walking. Additionally, a majority of participants indicated that they generally felt unhappy and depressed. These findings suggest that the quality of life in DM patients is notably impaired, with low QoL scores observed irrespective of sociodemographic factors. Moreover, the results highlight the importance of family health centers and family physicians in the management of DM and the ongoing monitoring of patients' quality of life.

Keywords: Quality of Life, Diabetes Mellitus, Family Medicine

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Telehealth Approach to Fibromyalgia Pain Management: Preliminary Clinical Study Design and Expected Outcomes

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Objective:

This preliminary study aims to evaluate the effectiveness of telehealth applications in the management of fibromyalgia-related pain, focusing on patient accessibility, engagement, and satisfaction. Additionally, it seeks to explore the experiences of healthcare professionals involved in delivering remote care to this patient population. The study is intended to identify both the strengths and limitations of telehealth as a tool for chronic pain management in fibromyalgia.

Methods:

This prospective, mixed-methods clinical study will include 277 adult patients diagnosed with fibromyalgia according to the 2016 revised American College of Rheumatology (ACR) criteria. Participants will be recruited from primary healthcare centers and stratified by age and sex. Eligible participants will engage in an 8-week telehealth-based intervention program, consisting of weekly video consultations with a physician, lifestyle education modules, and remote symptom monitoring.

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Participants

A total of 277 adult patients (≥18 years) diagnosed with fibromyalgia based on the 2016 revised criteria of the American College of Rheumatology (ACR) will be enrolled from family health centers and primary care clinics. Inclusion criteria include the ability to use a smartphone or computer with internet access and willingness to participate in remote consultations. Exclusion criteria include severe psychiatric illness, cognitive impairment, or lack of access to necessary technology. A purposive sample of approximately 10–15 healthcare professionals delivering telehealth services will also be included in the qualitative component.

Quantitative Component:

Primary outcomes will include changes in pain intensity (measured by the Visual Analog Scale [VAS]) and functional status (assessed using the Fibromyalgia Impact Questionnaire-Revised [FIQR]) between baseline and week 8. Secondary outcomes include patient satisfaction (measured by the Client Satisfaction Questionnaire-8 [CSQ-8]) and digital access/literacy scores.

Descriptive statistics (mean, SD, median, IQR) will be used to summarize patient characteristics and baseline scores. Paired sample *t*-tests or Wilcoxon signed-rank tests (depending on data distribution) will be used to assess within-group changes from baseline to post-intervention. Multiple linear regression models will be applied to evaluate predictors of improvement in FIQR and VAS scores, adjusting for age, sex, digital literacy, and baseline symptom severity. A significance level of $p < 0.05$ will be considered statistically significant. All quantitative analyses will be conducted using SPSS.

Qualitative Component:

A purposive subsample of approximately 20 patients and 10 healthcare providers involved in the telehealth intervention will be invited for semi-structured interviews. Interviews will

explore themes such as perceived usefulness, technological barriers, communication quality, and emotional support. Thematic analysis will be conducted using NVivo software, following Braun and Clarke's six-phase framework.

Ethical Considerations:

The study protocol will be approved by the local ethics committee, and written informed consent will be obtained from all participants prior to enrollment. All telehealth sessions will be conducted on secure, GDPR-compliant platforms.

Expected Findings and Implications:

It is anticipated that the study will demonstrate improvements in patient access to care, reductions in perceived pain levels, and enhanced patient engagement due to regular remote consultations. Potential barriers may include technological difficulties, limited digital literacy—particularly among older patients—and the absence of physical examination. From the healthcare provider perspective, issues such as time management, rapport building, and data security are likely to emerge as important considerations. The findings of this pilot study are expected to inform the design of larger-scale randomized controlled trials and contribute to evidence-based telehealth implementation in fibromyalgia care.

Conclusion:

Telehealth represents a promising approach for the holistic and sustainable management of fibromyalgia pain. However, further efforts are needed to improve technological infrastructure, promote digital health literacy, and develop tailored guidelines for healthcare providers to optimize its integration into clinical practice.

Keywords: Telehealth, Fibromyalgia, Chronic Pain, Patient Engagement, Primary Care, Digital Health

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Effects of Facet Joint Radiofrequency Application on Low Back Pain

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Oral Presentation – OP399

Introduction

Low back pain is a common condition in society and negatively affects the quality of life. Low back pain originating from facet joints plays an important role in chronic low back pain. It is common between the ages of 50-60. When conservative methods such as medical treatment and physical therapy methods are insufficient, minimally invasive methods such as medial nerve blockade and radiofrequency (RF) ablation are preferred. In the literature, the effectiveness of RF application in low back pain originating from facet joints and patient satisfaction were found to be higher than other methods. This study evaluates the effects of RF application on low back pain.

Material and Method

The study included 40 patients who were diagnosed with chronic low back pain originating from facet joints and whose complaints did not improve despite conservative treatments and who applied to Adana City Education and Research Hospital between 2022-2023. The age, gender distribution and pain history of the patients were recorded. Before the application, pain intensity was measured using a visual analog scale (VAS). Patients underwent radiofrequency ablation in the direction of bilateral facet addition using a ‘’C’’ arm scope in the operating room.

After the procedure, VAS scores were measured again at 1, 3 and 6 months after the procedure and patient satisfaction surveys were applied. Data were analyzed using SPSS software.

Results

The mean age of our patients was 55.2 years (±9.4 years), 60% were female and 40% were male. The mean follow-up period was 6 months (±1.5 months), and the mean Body Mass Index (BMI) of the patients was 27.9. Before the procedure, the mean VAS score of the patients was 7.8 (±1.2), while after the procedure it was recorded as 3.2 (±1.0) at 1 month, 3.5 (±1.1) at 3 months and 4.0 (±1.2) at 6 months. These changes were found to be statistically significant ($p<0.001$). The most significant improvement was seen in the 1st and 3rd months; although there was a slight increase in the 6th month, overall satisfaction remained at a high level. 85% of the patients stated that they were satisfied with their procedures, and no complications were observed.

Conclusion

RF application to the medial nerve in the facet joint is taking its place in clinical practice as an important minimally invasive treatment option for low back pain. It can be safely preferred in the treatment of chronic low back pain as a method with high and long-term patient satisfaction. It is recommended that long-term results and comparative studies be conducted in future studies.

Keywords: Chronic low Back Pain, Facet Joint Radiofrequency, Medial Nerve

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The Importance of Serum Apelin-13, Apelin Receptor, Nitric Oxide and Nitric Oxide Synthase Levels in the Differentiation of Patients with ST Elevation and Non-ST Elevation Myocardial Infarction

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Background and Aim: Apelin, a peptide hormone, exerts its effects by binding to the angiotensin II protein J receptor (APJ). Apelin and its receptor APJ act as angiogenic factors not only in normal physiological processes but also in pathological conditions. It has been shown that apelin enhances angiogenesis in myocardial infarction (MI). When apelin binds to APJ on vascular smooth muscle cells, it induces vasoconstriction, whereas its binding to APJ on endothelial cell surfaces leads to an increase in endothelial nitric oxide synthase (eNOS). The diffused eNOS then enters vascular smooth muscle cells, resulting in vasodilation. In this study, we investigated the diagnostic significance of serum apelin-13, APJ, NO, and eNOS in ST-elevation MI (STEMI) and non-STEMI (NSTEMI).

Method: A total of 225 adults aged 40-80 years were included in the study, comprising STEMI (n=45), NSTEMI (n=45), unstable angina pectoris (USAP) (n=45), stable angina pectoris (SAP) (n=45), and healthy controls (n=45). Serum apelin-13, APJ, NO, and eNOS levels were measured using the ELISA method.

Results: The significantly decreased apelin-13 and APJ levels in acute NSTEMI and STEMI patients compared to healthy subjects ($p<0.001$, for all). Both NSTEMI and STEMI groups had remarkably lower concentrations of serum NO and eNOS activity than controls ($p<0.001$). The circulating levels of apelin-13, APJ, NO and eNOS obviously decreased in STEMI

(82.78±18.80, 579.0±87.30, 53.91±10.44 and 555.47±136.56, respectively) than in NSTEMI subjects (99.53±19.32, 666.02±97.58, 67.62±13.70 and 735.00±91.05, respectively) ($p<0.001$, $p=0.019$, $p=0.003$ and $p<0.001$, respectively). Altered levels of apelin-13 and APJ in circulating revealed a significant discrimination with high sensitivity and specificity between healthy with NSTEMI (AUC=0.900, Sensitivity=84.4%, Specificity=82.2% and AUC=0.928, Sensitivity=84.4%, Specificity=84.4%) and STEMI subjects (AUC=0.970, Sensitivity=88.9%, Specificity=86.7% and AUC=0.985, Sensitivity=95.6%, Specificity=91.1%). Moreover, there was a strong positive correlation between serum apelin-13 and APJ, NO and eNOS activity in STEMI patients ($r = 0.831$ for apelin-13 and APJ, $r = 0.823$ for apelin-13 and eNOS, $r = 0.761$ for apelin-13 and NO, $r = 0.970$ for APJ and eNOS, $r = 0.981$ for APJ and NO and $r = 0.971$ for eNOS and NO, $p<0.001$ for all).

Conclusion: The study results highlight a significant difference in the levels of apelin-13, APJ, NO, and eNOS between patients with acute NSTEMI, STEMI, and healthy individuals. Increased levels of serum apelin-13 and APJ might be used as a clinical biomarker for early recognition of NSTEMI and STEMI patients. Furthermore, the lower levels of serum NO and eNOS activity in both patient groups emphasize the disrupted endothelial function associated with these conditions. The strong positive correlation between serum apelin-13 and APJ with NO and eNOS activity in STEMI patients further supports the idea that apelin-13 signaling plays a crucial role in the pathophysiology of STEMI and could serve as an indicator of endothelial dysfunction or myocardial damage. These findings suggest that apelin-13 and APJ could serve as valuable diagnostic biomarkers for discriminating between these two forms of acute coronary syndrome. The strong diagnostic performance of these markers highlights their potential utility in clinical practice, particularly in early detection and risk stratification of patients with AMI. Multicenter larger scale studies are necessary before using clinical practice.

Keywords: ST Elevation Myocardial İnfarction, Non-ST Elevation Elevation Myocardial İnfarction, Apelin-13, Apelin Receptor, Nitric Oxide, Nitric Oxide Synthase

Elevated HbA1c and Its Association with Liver Stiffness in Type 2 Diabetes Mellitus: A Prospective Study Using Transient Elastography

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Introduction and Aim

Diabetes Mellitus (DM) is defined as an abnormal carbohydrate metabolism characterized by hyperglycemia. This condition arises due to decreased insulin secretion or insulin resistance in peripheral tissues, representing a metabolic and endocrine disorder (1,2,3). Body fat distribution plays a critical role in the development of diabetes; increased visceral adiposity, evaluated via waist circumference or waist-to-hip ratio, is a strong risk factor for the onset of diabetes (4,5,6). There is currently a lack of sufficient studies in the literature using FibroScan® to assess the relationship between increased hepatic steatosis, liver stiffness (LS) as a consequence of steatosis, poorly regulated diabetes, and elevated HbA1c levels. The study aimed to determine whether there is a correlation between elevated HbA1c levels and increased hepatic fibrosis.



Material and Methods

This prospective study was conducted between October 2024 and January 2025 and included total of 194 patients DM patients aged 18 to 65 who visited the internal medicine outpatient clinic and voluntarily underwent FibroScan® evaluation. Patients with ascites, pregnancy, or pacemakers were excluded. Demographic characteristics such as age and sex, duration of

diabetes, medications and duration of use, comorbidities, and biochemical parameters including HbA1c were recorded. LS measurements were performed using the FibroScan® Mini 430 device (Echosens, France). Measurements were independently evaluated by two internal medicine specialists with experience in hepatic elastography. A FibroScan assessment was considered valid when at least 10 valid measurements were obtained and the interquartile range (IQR) to median ratio was <0.3 (7,8). Liver stiffness values were recorded in kilopascals (kPa) (9). In this study, LS values above 8 kPa were considered indicative of significant hepatic fibrosis.

Results:

A total of 194 participants were included, comprising 89 females (45.88%) and 105 males (54.12%). The mean age of participants was 54.73 ± 7.87 years, and the mean duration of diabetes was 3.61 ± 2.15 years. No statistically significant differences were found between the patient groups with respect to age, sex, comorbidities, duration of DM, or smoking status. However, a statistically significant difference was observed in HbA1c levels. Additionally, low-density lipoprotein (LDL) and alanine aminotransferase (ALT) levels were also significantly different between groups.

Table 1. Demographic characteristics of the study groups

Variables	LS > 8 kPa	LS ≤ 8 kPa	p-value
Gender (F/M), n	12/20	161/174	0.532
Age (years)	60.38 ± 10.93	53.64 ± 14.36	0.001
Diabetes Mellitus (years)	3.3 ± 1.91	2.7 ± 1.65	0.036
Body Mass Index (kg/m²)	29.3 ± 5.8	26.14 ± 5.96	0.007
Systolic BP (mmHg)	128.45 ± 11.49	128.2 ± 11.36	0.839
Diastolic BP (mmHg)	89.92 ± 7.2	90.76 ± 5.42	0.793
Smoking, n (%)	13 (64.6%)	123 (54.5%)	0.153
Hypertension, n (%)	10 (59.2%)	142 (59.5%)	0.875

Table 2. Laboratory findings of the study groups

Variables	LS > 8 kPa	LS ≤ 8 kPa	p-value
Hemoglobin (g/dL)	12.07 ± 2.12	11.94 ± 2.06	0.728
Platelet count (10^3/µL)	270.72 ± 69.6	284.48 ± 101.1	0.423
Fasting Blood Glucose (mg/dL)	208.35 ± 56.68	147.77 ± 54.33	0.269
TSH (mIU/L)	2.04 ± 1.9	1.74 ± 1.23	0.461
BUN (mg/dL)	24.89 ± 4.78	24.74 ± 3.81	0.854
Creatinine (mg/dL)	0.8 ± 0.13	0.77 ± 0.18	0.176
Albumin (g/dL)	3.88 ± 0.54	3.8 ± 0.56	0.465
Total Protein (g/dL)	6.91 ± 0.71	6.88 ± 0.61	0.826
CRP (mg/L)	0.75 ± 0.75	1.06 ± 1.05	0.167
Sodium (mmol/L)	137.74 ± 4.07	136.2 ± 4.31	0.174
Potassium (mmol/L)	4.4 ± 0.69	4.53 ± 0.66	0.272
HbA1c (%)	9.67 ± 1.1	7.36 ± 1.48	0.003
Triglycerides (mg/dL)	201.91 ± 65.33	174.64 ± 56.34	0.881
LDL (mg/dL)	149.39 ± 24.54	124.36 ± 37.17	<0.001
ALT (U/L)	34.3 ± 10.01	16.9 ± 9.96	0.002

Table 3. Multivariate regression analysis

Variables	Odds Ratio	95% Confidence Interval	p-value
HbA1c (%)	1.130	1.084 – 1.212	0.005
LDL (mg/dL)	0.162	0.054 – 0.597	0.006

Conclusion:

Our study demonstrated a natural correlation between elevated blood glucose (reflected in increased HbA1c) and visceral fat accumulation, as assessed by FibroScan. Early glycemic control in patients may help reduce progression to hepatic fibrosis and cirrhosis, potentially decreasing morbidity and mortality.

Keywords: Fibroscan, HbA1c, Diabetes Mellitus

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Evaluation of Mammography Screening History in Female Patients Presenting with Breast-Related Symptoms to General Surgery Outpatient Clinics

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Abstract

Objective: The aim of this study was to evaluate the mammography screening history of female patients who applied to the general surgery clinic with a breast-related symptom and to examine the psychosocial factors affecting this behavior.

Material Method: This study was designed as a single-center, descriptive, and cross-sectional study. The participants' sociodemographic characteristics, chronic disease history, mammography status, and perceptions and attitudes towards mammography were evaluated. Data were collected through face-to-face interviews using structured questionnaires. The patients' perceived barriers to mammography were assessed using the *Perceived Barriers to Mammography Scale (SPBM)*. Data analysis was performed using SPSS version 27.0. A p-value of < 0.05 was considered statistically significant.

Results: 81.1% of the participants had previously had a mammography, while 18.9% had never had one. The rate of having a mammography screening was found to be significantly higher in women aged 50 and over than in those under 50 (p=0.049). Among women who had not had mammography, the subscale scores of lack of knowledge of fate and belief in fate were significantly higher than those of women who had screening (p=0.042, p=0.050, respectively). In addition, the subscale score of distrust in mammography was significantly higher in

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individuals without a breast cancer diagnosis (p=0.034). The subscale score of avoidance through denial was also significantly higher in the age group 50 and over (p=0.022).

Conclusion: Mammography behavior is associated with age, knowledge level, and personal beliefs. Psychosocial factors such as lack of knowledge and belief in fate may negatively affect screening behavior. Therefore, it is important for family physicians to inform women about mammography as part of preventive health services to reduce fear and avoidance behaviors and increase early diagnosis rates. Keywords: mammography, early diagnosis of cancer, family practice

Keywords: Mammography, Early Diagnosis of Cancer, Family Practice

Introduction

Breast cancer is one of the most commonly diagnosed types of cancer worldwide.[1] To detect breast cancer at an early stage, breast self-examination (BSE), clinical breast examination (CBE), and mammography are primarily utilized. These screening methods help reduce mortality rates associated with breast cancer.[2]

In Turkey, as part of the national breast cancer screening program, women are advised to perform monthly breast self-examinations, undergo annual clinical breast examinations, and receive mammography screening every two years between the ages of 40 and 69.[3] In contrast, in the United States, only mammography is recommended for breast cancer detection; annual mammograms are advised starting at age 45, and biennial mammograms from age 55 onwards.[4]

Several studies in the literature have identified barriers to breast cancer screening. These include limited access to screening services, cultural beliefs, personal concerns regarding the screening procedure, doubts about the efficacy of mammography, pain during the procedure, and fear of being diagnosed with breast cancer.[5]

Objective

The aim of this study is to evaluate the mammography history of female patients who present to a general surgery outpatient clinic with breast-related symptoms. The study seeks to determine the rate of prior mammography utilization in this patient population and to analyze the sociodemographic and clinical factors associated with screening behavior.

Additionally, the study aims to explore psychosocial factors that may influence the decision to undergo mammography. These barriers include lack of knowledge about mammography, emotional reactions such as fear and denial, fatalistic beliefs, and distrust toward the screening process. Understanding these factors is essential for developing effective educational and interventional strategies to increase participation in breast cancer screening.

Materials and Methods

This study was designed as a single-center, descriptive, and cross-sectional survey. It included a total of 53 female patients over the age of 40 who presented with a breast-related symptom to the General Surgery Outpatient Clinic of İzmir City Hospital between March 24 and March 28, 2025.

Sociodemographic characteristics, chronic disease histories, mammography utilization status, and perceptions and attitudes toward mammography were evaluated. Data were collected through face-to-face interviews using structured questionnaires.

Perceived barriers to mammography were assessed using the *Perceived Barriers to Mammography Scale* (PBMS). The Turkish validity and reliability study of the PBMS was conducted by Aker et al. in 2024.[6]

It was assumed that continuous variables followed a normal distribution, and parametric tests were used for statistical analyses. One-way ANOVA was applied to compare PBMS scores between two independent groups. The Pearson Chi-square test was used for comparisons of

categorical variables. A p-value of <0.05 was considered statistically significant. Data analysis was performed using SPSS version 27.0.

Results

The mean age of the 53 female participants was approximately 50 years; 52.8% were under the age of 50, while 47.2% were 50 years or older. Among the participants, 81.1% reported having undergone mammography at least once, whereas 18.9% had never had a mammogram. A statistically significant association was found between age group and mammography uptake ($p = 0.049$).

Table 1. Sociodemographic data of the participants

Category	Variable / Item	Frequency (n)	Percentage (%)
1. Age	Under 50	28	52.8
	Age 50 and above	25	47.2
2. Profession	Housewife	22	41.5
	Retired	11	20.8
	Other	13	24.5
	Teacher	2	3.8
	Officer	3	5.7
	Employee	1	1.9
	Free	1	1.9
3. Education	Not literate	2	3.8
	Primary school	11	20.8
	Middle school	3	5.7
	High school	19	35.8
	University	18	34
4. Chronic Disease Status	There is	21	39.6
	None	32	60.4
5. Types of Diseases	HT	6	11.3
	DM	5	9.4
	Breast cancer	5	9.4
	Hypothyroidism	2	3.8
	Migraine	2	3.8
	MS	1	1.9
	Asthma	1	1.9

	Other (BMI, rheumatism, etc.)	6	11.3 (total)
6. Mammography	He had it done	43	81.1
	He didn't make it	10	18.9

Among participants who had not undergone mammography, the subscale scores for *lack of knowledge* ($p = 0.042$) and *fatalistic beliefs* ($p = 0.050$) were significantly higher. Additionally, the *distrust in mammography screening* subscale score was found to be significantly higher among individuals without a breast cancer diagnosis ($p = 0.034$).

The *avoidance/defensiveness* score was also significantly higher in the group aged 50 years and older ($p = 0.022$).

A statistically significant positive correlation was found between most subscales of the Perceived Barriers to Mammography Scale (PBMS) and the total scale score. Overall, participants did not perceive mammography screening as a particularly distressing or difficult procedure.

Discussion

The mean age of the 53 female participants in this study was approximately 50 years; 52.8% were under the age of 50, while 47.2% were 50 years or older. Among the participants, 81.1% reported having previously undergone mammography, while 18.9% had never had a mammogram. A statistically significant relationship was found between age group and mammography uptake ($p = 0.049$). The rates observed in our study are consistent with the existing literature. For instance, in a study conducted at the Forbes Family Medicine Outpatient Clinic, the mammography rate was 15.7% among women aged 40–49, whereas it was 32.7% among women aged 50 and older. This difference was statistically significant ($p = 0.044$), indicating that the likelihood of undergoing mammography increases with age.[8]

Similarly, a study by Açıköz et al. found that women aged 50–59 had higher mammography rates compared to younger women.[9] These findings support the conclusion that age is an

important factor influencing mammography behavior and that women aged 50 and above are more likely to participate in breast cancer screening.

In our study, participants who had not undergone mammography had significantly higher scores on the *lack of knowledge* subscale (p = 0.042). In the literature, Sadler et al. (2007) reported that among African American women, the rate of regular monthly breast self-examination (BSE) was 32%. Elsie et al. (2010), in a study conducted primarily with unemployed women, found that while 66% performed BSE, 71% had no knowledge about mammography, and none had ever undergone the procedure.

Our findings also showed that participants who had not had mammography scored significantly higher on the *fatalistic beliefs* subscale (p = 0.050). Fatalism is another barrier that negatively affects women's health-related attitudes and their participation in cancer screening, particularly in early detection of breast cancer. A study conducted at Atatürk University found that women with higher levels of fatalistic beliefs were less likely to perform BSE or undergo clinical breast examinations (CBE). Additionally, mammography rates were lower among women with higher fatalistic perceptions.10

Conclusion

This study demonstrated that a significant proportion of women presenting to a general surgery outpatient clinic with breast-related symptoms had previously participated in mammography screening. However, screening rates were notably lower among women under the age of 50. Age was identified as a determining factor in mammography behavior.

Psychosocial factors such as lack of knowledge, fatalistic beliefs, and avoidance/defensiveness were associated with lower participation in mammography. Distrust toward screening was more common among individuals who had not been diagnosed with breast cancer. These findings suggest that, in addition to physical barriers, cognitive and emotional obstacles also play a significant role in screening avoidance.

The results highlight the need to increase women's knowledge about mammography, address misconceptions, and reduce fear and avoidance behaviors. Family physicians may play a crucial role in overcoming these barriers through individualized counseling. Community-based education and counseling services may further improve mammography screening rates and enhance opportunities for early detection.

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Assessment of Anaphylaxis Knowledge and Awareness Among Medical Faculty Students

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Abstract

Background: Anaphylaxis is a life-threatening, sudden-onset, severe allergic reaction that requires immediate intervention. For this reason, all healthcare professionals should be competent in correctly recognizing and managing anaphylaxis. Having a high level of knowledge, attitude and awareness about anaphylaxis among healthcare professionals will prevent undesirable outcomes from occurring after anaphylaxis.

Objective: The main purpose of the study is to evaluate the knowledge, attitude and awareness levels of students about anaphylaxis during their medical school education and their ability to correctly evaluate the clinical symptoms, diagnosis and treatment steps of anaphylaxis.

Materials and Methods: This study was designed as a descriptive, cross-sectional survey. An online questionnaire was administered by the researchers to third- and fifth-year medical students at the Faculty of Medicine. The survey was developed by the researchers based on a comprehensive review of the relevant literature. It consisted of 18 items, including open-ended questions, multiple-choice questions, and yes/no questions. Statistical analyses were conducted using the SPSS software package, with a significance level set at $p<0.05$.

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Results: A total of 75 students participated in the study, of whom 52.8% (n = 38) were third-year medical students. The mean age of the participants was 22.1 ± 1.7 years. Among all students, 84% reported having received theoretical training on anaphylaxis, and all participants identified anaphylaxis as a life-threatening reaction. Only 1% of the students had read the anaphylaxis guidelines, with a statistically significant difference observed in favor of fifth-year students (p = 0.03). The proportion of students who correctly evaluated all anaphylaxis diagnostic criteria was significantly higher among Term 5 students (p = 0.01). Additionally, 80% of the participants correctly identified adrenaline as the first-line treatment for anaphylaxis. A significantly greater number of Term 5 students correctly stated that intramuscular adrenaline should be administered, preferably into the vastus lateralis muscle (p = 0.00). Furthermore, 70.1% of the students had heard of the adrenaline autoinjector, with this rate being significantly higher in the Term 5 group. (p= 0.00)

Conclusion: This study has shown that the level of knowledge and awareness of anaphylaxis among medical school students is higher in Term 5 students. However, we believe that theoretical and practical training programs should be increased in order to increase the level of knowledge and awareness about anaphylaxis and to fully learn the diagnosis and treatment steps.

Keywords: Anaphylaxis, Medical Education, Student, Awareness

Introduction

Anaphylaxis is a life-threatening, sudden-onset, severe allergic reaction that requires urgent intervention. (1) Therefore, all healthcare professionals should be competent in correctly recognizing and managing anaphylaxis. The frequency of hospitalization due to anaphylaxis has been increasing over the years. (2) Food, drugs and venom are the most common triggers of anaphylactic reactions. (1) In anaphylaxis, skin, respiratory system, circulatory system,

gastrointestinal system and neurologic system may be involved. (1) Anaphylaxis may develop at home and in hospitals as well as in public places such as schools, parks and gardens. Therefore, all healthcare professionals should be competent in recognizing and managing anaphylaxis. Medical faculty education is the most important step in this process. In the literature, there are a limited number of studies evaluating the knowledge levels of medical students, healthcare professionals and nurses about anaphylaxis (3-6)

Once anaphylaxis has occurred, the main goal is to quickly make the correct diagnosis and treat it. Delays in diagnosis and treatment can result in death. Awareness of anaphylaxis has been increasing over the years. A high level of knowledge, attitude and awareness of healthcare workers about anaphylaxis will prevent the occurrence of undesirable outcomes after anaphylaxis. In previous studies conducted with physicians, it was observed that the level of knowledge of physicians about anaphylaxis was not at the desired level (3,7,8)

The main aim of the study was to determine the knowledge, attitude and awareness levels of students about anaphylaxis during their medical school education. The secondary objectives of our study were to evaluate the students' ability to correctly evaluate the clinical signs of anaphylaxis, diagnosis and treatment steps.

Material and Method

The study was designed as a descriptive, cross-sectional and survey study. An online questionnaire form was applied by the researchers to 3rd and 5th year students studying at the Faculty of Medicine. The survey form to be used was prepared by the researchers by scanning the literature. Consisting of 18 questions, the questionnaire form included open-ended questions, multiple-choice questions and yes/no type questions. Statistical evaluations were made using SPSS for Windows package program and $p<0.05$ was considered significant. The conformity of quantitative data to normal distribution was analyzed by Kolmogrov-Smirnov test. In addition to the frequency analysis of the data, Pearson Chi-square test was used for statistical analysis of categorical data.

Results

Of the 75 students included in the study, 52.8% (n=38) were Term 3 students. The mean age of the students was 22.1±1.7 years. 84% of the students stated that they received theoretical education about anaphylaxis. All students characterized anaphylaxis as a life-threatening reaction. 1% of the students stated that they read anaphylaxis guidelines and this rate was statistically significant in Term 5 students. (p=0.03) The rate of correctly evaluating all anaphylaxis criteria was statistically higher in Term 5 students. (p=0.01) 80% of the students stated that adrenaline was the first drug to be administered in anaphylaxis. The number of Term 5 students who stated that intramuscular adrenaline should preferably be injected into the vastus lateralis muscle was significantly higher. (p=0.00) While 70.1% of the students stated that they had heard of adrenaline autoinjectors before, this rate was significantly higher in Term 5 students. (p=0.00) Other data regarding the level of knowledge and attitudes of the participants towards the diagnosis and treatment of anaphylaxis are presented in Table-1.

Discussion

Anaphylaxis is a serious reaction that may result in mortality if not recognized and treated rapidly. (1) Therefore, it is important that all healthcare professionals have the necessary equipment to recognize and treat anaphylaxis. Previous studies have shown that the level of knowledge of physicians, medical students and nurses about anaphylaxis is not at the desired level (4-8).

In our study, all participants considered anaphylaxis as a life-threatening allergic reaction. The majority of the participants stated that exercise, stress, infection, non-steroidal anti-inflammatory drugs and alcohol can increase the severity of anaphylaxis, and that food, drugs and venom are the most common triggers of anaphylaxis. In a study conducted with 6th grade medical school students, none of the students could answer all the questions asked about anaphylaxis correctly and when the total scores of the students were scored over 100, the mean score was found to be 71.7±12.9. (4) These findings suggest that the level of knowledge of the participants included in our study regarding the diagnosis and causes of anaphylaxis is good,

but needs to be improved. In addition to evaluating the knowledge, attitudes and awareness of healthcare workers, it is also aimed to increase the level of awareness on the subject.

The first-line treatment in anaphylaxis is intramuscular adrenaline, rapid administration of treatment is vital. (1) While 32% of the participants stated that intramuscular adrenaline should be administered as the first-line intervention in case of anaphylaxis, this rate was significantly higher in Term 5 students. (p=0.026) 80% of the participants stated that the first drug to be administered in case of anaphylaxis is adrenaline. As the route of administration of adrenaline, 59 (78.7%) of the participants answered intramuscular (IM) and this rate was higher in Term 5 students (p=0.004). The proportion of participants who considered the muscle group to administer adrenaline IM as vastus lateralis muscle was 46.7%. In another study, 90.5% (n=144) of the students preferred adrenaline as the first drug to be administered in the treatment of anaphylaxis, 80.5% of the students stated the route of administration of adrenaline in anaphylaxis as IM, and 80.5% of the participants stated the outer side of the thigh as the site where adrenaline would be injected. (4) The results of this study are in parallel with our data and other studies have shown that the route of administration and dose of adrenaline are not known correctly among physicians and medical students (4,8-10).

Since the majority of anaphylaxis events occur outside the hospital, it is very important to provide patients with adrenaline auto-injectors and teach them how to use them. 70.7% of the participants had heard of adrenaline autoinjector before, but only 32% (n=42.7) stated that they knew how to use adrenaline autoinjector and this rate was higher than that of Term 5 students (p=0.000). In a study, it was observed that students who reported that they had received training on adrenaline autoinjector before gave more correct answers about prescribing AOE in case of anaphylaxis, adrenaline administration route, and adrenaline administration dose. (4)

In conclusion, in our study, we think that medical education is adequate in the diagnosis and treatment of anaphylaxis but needs to be further improved. Considering the increasing frequency of anaphylaxis in recent years, we think that awareness will increase by increasing the trainings on this subject.

Table-1: Participants' knowledge level and attitudes about anaphylaxis

	All Students (n=75)	Third Year Medical Students (n=38)	Fifth Year Medical Students (n=37)	p value
Have you received theoretical training about anaphylaxis before?				
Yes	63 (%84)	29(%72.5)	**34(%97.1)**	**0.004**
No	12(%16)	11(%27.5)	1(%2.9)	
Have you read the anaphylaxis guidelines before?				
Yes	7(%9,3)	1(%2.5)	**6(%17.1)**	**0.030**
No	68(%90,7)	39(%97.5)	29(%82.9)	
Have you encountered a patient with anaphylaxis?				
Yes	10(%13,3)	3(%7.5)	7(%20.0)	0.112
No	65(%86,7)	37(%92.5)	28(%80.0)	
Food, drug and venom are the most common triggers of anaphylaxis.				
Yes	74(%98,7)	39(%97.5)	35(%100)	0.346
No	0(%0)	0 (%0)	0(%0)	
I don't know	1(%1,3)	1(%2.5)	0(%)	
Exercise, stress, infection, nonsteroidal anti-inflammatory drugs, and alcohol can worsen the severity of anaphylaxis.				0.622
Yes	67(%75)	35(%87.5)	32(%91.4)	
No	1(%1,3)	1(%2.5)	0(%0)	
I don't know	7(%9,3)	4(%3.7)	3(%8.6)	
Which muscle is it recommended to apply adrenaline intramuscularly?				
Gastrocnemius muscle	6(%8)	3(%7.5)	3(%8.6)	
Gluteus maximus muscle	16(%21,3)	11(%27.5)	5(%14.3)	0.000
Vastus lateralis muscle	35(%46,7)	10(%25.0)	**25(%71.4)**	
I don't know	18(%24)	**16(%40.0)**	2(%5.7)	
Have you ever heard of an adrenaline auto-injector?				
Yes	53(%70,7)	20(%50.0)	**33(%94.3)**	0.000
No	22(%29,3)	20(%50.0)	2(%5.7)	
If you have heard of adrenaline auto injector, do you know how to use it?				
Yes	32(%42,7)	6(%30.0)	**26(%78.8)**	0.000
No	21(%28)	14(%70.0)	7(%21.2)	

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Analysis of the TUKMOS Clinical and Procedural Competency Assessment Results Entered by Family Medicine Residency Students Through the MTA-UZEM Specialty Training Management Module

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Abstract

This study presents an analysis of self-evaluation data collected from family medicine residency trainees on clinical and proc edural competencies defined by TUKMOS, using the Specialty Training Management Module (MTA-UZEM) developed by the Mini Medical Academy (MTA, minitipakademisi.com).

Data from 68 residents, both current and graduated, from the Department of Family Medicine at Mersin University Faculty of Medicine were included in the study. Throughout their specialty training, residents assess themselves in three different periods using the "TUK-TUKMOS Clinical and Procedural Competency Evaluation Module" available on MTA-UZEM. Residents enrolled in the Contract-Based Family Medicine Specialty Training Program (SAHU) complete this self-assessment within the first year of training, again during the third year, and finally in the fifth year. Full-time residents complete the assessments within the first six months of training, again at eighteen months, and finally at twenty-four months.

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In each of these three periods, residents evaluate themselves on clinical competencies, consisting of 75 main topics and 177 competency levels, based on their knowledge, skills, and attitudes. They rate each competency on a scale from 1 to 5 (1: very insufficient, 5: completely sufficient). Similarly, they evaluate themselves on 99 procedural competencies using the same scale.

The analysis identified five clinical competencies that residents most frequently rated themselves as "very insufficient": somatoform disorders, occupational diseases, valvular heart diseases, emphysema, and abnormal vaginal bleeding. Likewise, the five procedural competencies most frequently rated as "very insufficient" were: palpable mass, hirsutism, lymphadenopathy, convulsions, and intrauterine device (IUD) insertion and removal.

The primary objectives of the "TUK-TUKMOS Clinical and Procedural Competency Evaluation Module" on MTA-UZEM are as follows: to help residents understand the fundamental topics and competency/learning levels in the core curriculum of family medicine residency training; to determine how residents evaluate their own knowledge, skills, and attitudes, particularly at the beginning and throughout their training; and to facilitate the individualization of education and assessment activities based on the residents' self-identified deficiencies.

Keywords: family medicine residency training, TUKMOS clinical and procedural competencies

Background and Aim

Family Medicine residency training is planned and conducted within the framework of the definition, characteristics, and curriculum objectives of this medical specialty. The recognition of Family Medicine as a medical specialty and its historical development are based on the 1978 resolutions of the World Health Organization (WHO) and the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA).[1,2]

The characteristics of the discipline, developed and refined over time, have been defined as follows:

a. It serves as the first point of contact in the referral chain within the healthcare system, b. It is easily accessible, c. It provides integrated and coordinated care, d. It ensures continuity in its relationship with patients, e. It adopts a holistic (biopsychosocial) approach in patient care, f. While care is individualized, it is oriented toward the family and community, g. Confidentiality and closeness are fundamental in patient relationships, h. It prioritizes the benefit of the patient, i. It is sensitive to the efficient use of healthcare resources, j. It utilizes interview techniques and clinical decision-making processes unique to family medicine, k. It works as part of a team in accordance with the requirements of the services provided.[3]

The development of the Family Medicine Residency Curriculum is a fundamental requirement for ensuring the standardization and quality of specialty training nationwide. Delivering a high-quality primary healthcare service is only possible when these conditions are met.

Within this framework, the Family Medicine Commission of the Curriculum Development and Standardization System of the Medical Specialization Board (TUKMOS) began its efforts in 2010, resulting in the latest version (v.2.4) of the Family Medicine Residency Core Curriculum, which was updated and published in 2019.[3]

The curriculum defines the educational objectives and targets, the units and durations of rotations, the departments in which training will be conducted, educational methods, core competencies, clinical competencies, and procedural competencies.

Clinical competencies are grouped under a single category titled "disease management," comprising 75 items, each labeled with six levels of learning (Figure 1). Procedural competencies are organized into five groups encompassing 99 items, and each item is labeled with four levels of learning.

The “TUK-TUKMOS Clinical and Procedural Competencies Evaluation Submodule” within the Specialization Training Management Module (MTA-UZEM), developed by the Mini Medical Academy (MTA), is a structured module based on the “TUKMOS Core Curriculum for Family Medicine Residency Training.”[4] The primary goals of this module are to provide

residents with knowledge, awareness, and attitude regarding the curriculum content, training processes, and required competencies throughout their residency education. Additionally, it aims to support the management of both assessment-evaluation and educational planning activities during residency training.

This study presents a summary of the self-assessed competency levels of residents from the Department of Family Medicine at Mersin University Faculty of Medicine, using the “MTA-UZEM TUKMOS Module.”

Materials and Methods

Figure 2 displays the resident interface of the “TUK-TUKMOS Clinical and Procedural Competencies Evaluation Submodule” within the MTA-UZEM system. While residents can only view their own data, trainers have access to the competency and evaluation data of all residents.

Figure 3 shows a clinical competency evaluation table for a resident corresponding to the first evaluation period. Residents complete their self-assessment of competencies in three phases: within the first three months after starting their residency, upon completing one-third of their training period, and upon completing two-thirds of their training.

Figure 4 illustrates the score entry screen. In this sample screen, the resident is assigning a self-evaluation score between 1 and 5 for the learning level "K" (i.e., identifying and implementing the necessary primary, secondary, and tertiary preventive measures) under the clinical competency titled “Acute Rheumatic Fever.”

In this study, the self-assessment data of 78 full-time and part-time residents recorded over a seven-year period in the clinical and procedural competency categories within the module were analyzed.

Results

For each of the 78 residents, self-assigned scores ranging from 1 to 5 for each competency were summed on a per-competency basis, resulting in total scores ranging from 78 to 390 for each

clinical competency. Similarly, procedural competencies also received total scores within the 78–390 range. The average scores across the three evaluation periods were calculated. Based on these averages, the five lowest- and highest-rated competencies in both clinical and procedural categories were identified (Table 1, Table 2).

Additionally, the total scores given by residents to all clinical and procedural competencies were analyzed across the three different time periods. According to the results, the total scores assigned to all clinical competencies by the included residents in the first, second, and third evaluation periods were 13,268, 16,716, and 23,983, respectively (with a theoretical minimum–maximum score range of 5,850–29,250). For all procedural competencies, the total scores were 16,497, 20,314, and 28,285, respectively, across the same periods (with a theoretical minimum–maximum range of 7,772–38,610).

These findings indicate that, over time, residents perceive themselves as progressively more competent in terms of knowledge, skills, and attitudes across all clinical and procedural competencies throughout their residency training.

Discussion and Conclusion

In recent years, 360-degree evaluation, also known as multi-source feedback, has increasingly been utilized in medical and other healthcare-related education programs.[5] A key component of this evaluation model is the self-assessment of the learner across different domains throughout their training process. These self-assessment data facilitate the structuring of personalized training plans and assessment strategies.

In our study, it was observed that the average scores of the lowest-rated procedural competencies were lower than those of the lowest-rated clinical competencies. This indicates that, overall, residents perceive themselves as less competent in procedural areas than in clinical areas in terms of knowledge, skills, and experience.

On the other hand, it was also found that the average scores of the highest-rated procedural competencies were higher than those of the highest-rated clinical competencies. This suggests

that among the areas in which residents feel most competent, procedural competencies again outweigh clinical competencies.

Additionally, within the MTA-UZEM system, this submodule is integrated with the assessment and evaluation submodule. This integration allows both the resident's self-assessment scores and their performance data from formal evaluations (such as major exams and mini-tests) in each competency domain to be monitored. This serves as additional data reflecting the alignment between self-assessment and formal evaluation methods.

Family Medicine, by its definition, characteristics, and historical development, is a specialty that contributes to individual, family, and community health across all life stages—childhood, adolescence, adulthood, and old age—without differentiation by gender, complaints, or specific diseases. It aims to deliver primary healthcare services for the protection and promotion of health, as well as early diagnosis, treatment, follow-up, and rehabilitation of any health problems encountered in these phases. Therefore, the acquisition of the necessary knowledge, skills, and attitudes across this broad scope is essential for becoming a competent family physician.

Due to the comprehensive nature of Family Medicine, the clinical and procedural competencies defined in the core curriculum are of central importance in outlining the minimum knowledge, skills, and attitudes that must be acquired during residency training. All educational and assessment processes should be structured and documented based on these competencies. These data should be used not only in planning the general educational content, but also in tailoring individualized training pathways.

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Figure 1. Clinical and procedural competencies defined in the TUKMOS Core Curriculum for Family Medicine Residency Training (2019, v.2.4); competency groups and levels of learning.



Figure 2. Main screen view of the resident interface in the MTA-UZEM TUK-TUKMOS Clinical and Procedural Competencies Evaluation Submodule.

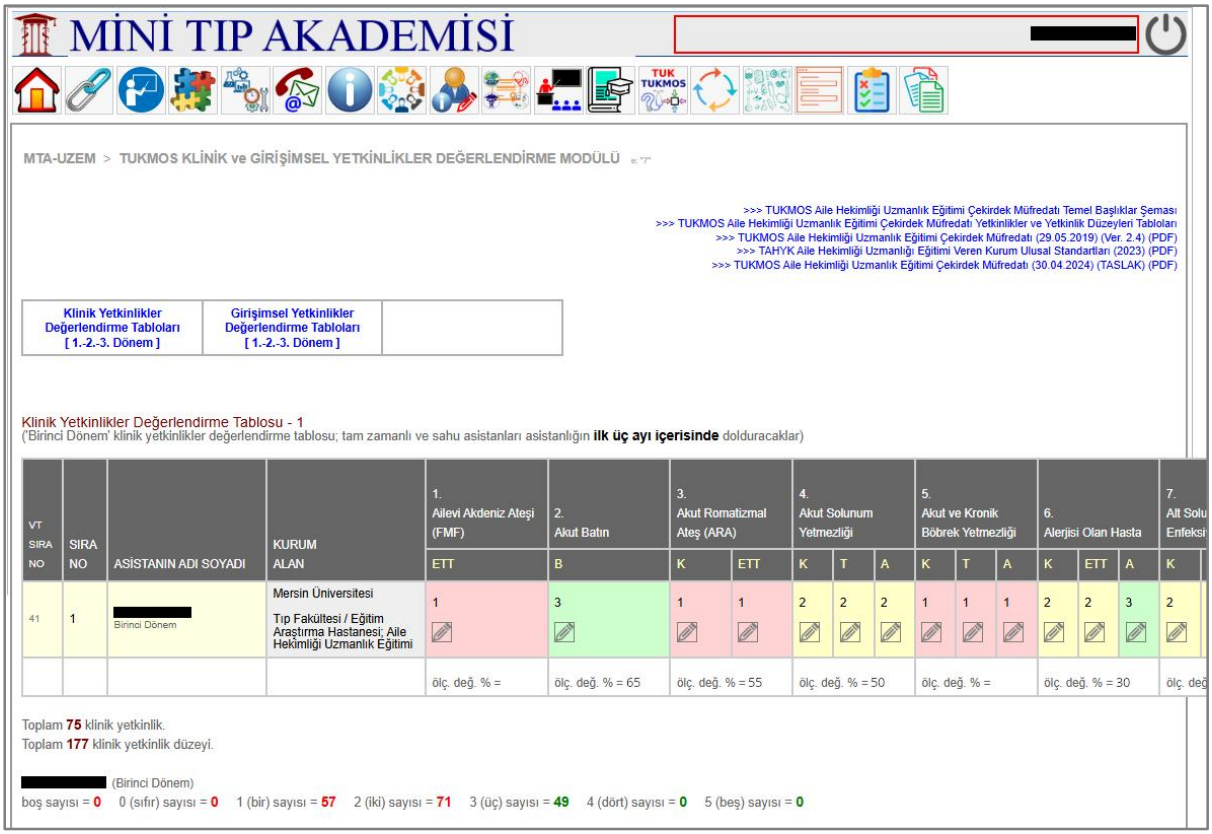

Figure 3. Clinical competency evaluation table for the first assessment period of a resident in the MTA-UZEM TUK-TUKMOS Clinical and Procedural Competencies Evaluation Submodule.

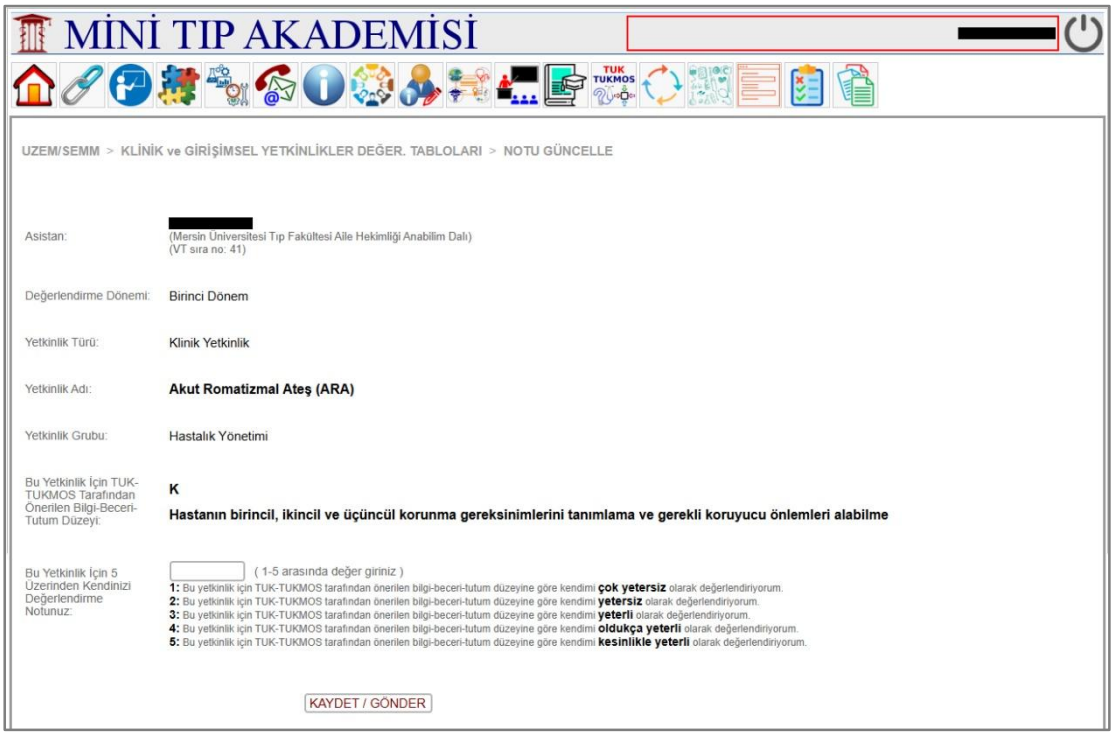

Figure 4. Sample score entry screen of a resident in the MTA-UZEM TUK-TUKMOS Clinical and Procedural Competencies Evaluation Submodule; score entry interface for the learning level "K" (identifying a patient's primary, secondary, and tertiary prevention needs and implementing appropriate preventive measures) under the clinical competency "Acute Rheumatic Fever."

Table 1. Residents' self-assessment results for clinical competency areas (scores rounded based on the average of three evaluation periods).

The five lowest-rated clinical competency areas and their total evaluation scores (ranging from 93 to 124)	The five highest-rated clinical competency areas and their total evaluation scores (ranging from 375 to 343)
Somatoform disorder (93) Occupational diseases (96) Valvular heart diseases (105) Emphysema (110) Abnormal vaginal bleeding (124)	Upper respiratory tract infection (375) Gastrointestinal system infection (372) Gastric and peptic ulcer (363) Skin and soft tissue infection (358) Patient with allergy (343)

Table 2. Residents' self-assessment results for procedural competency areas (scores rounded based on the average of three evaluation periods).

The five lowest-rated procedural competency areas and their total evaluation scores (ranging from 88 to 122)	The five highest-rated procedural competency areas and their total evaluation scores (ranging from 381 to 346)
Palpable mass (88) Hirsutism (99) Lymphadenopathy (102) Convulsion (109) Insertion and removal of IUD (122)	Sore throat (381) Ability to provide counseling (e.g., smoking cessation, nutrition, contraception, genetics) (374) Immunization (366) Identification of necessary individual screening tests (359) Pregnancy management (346)

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The "Mini Tests Module" Developed Within the Family Medicine Residency Training Management Module (MTA-UZEM)

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Abstract

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This study presents the development process, objectives, and usage features of the "Mini Tests Submodule" developed within the "Family Medicine Residency Training Management Module (MTA-UZEM)," which was introduced by the Mini Medical Academy (MTA, minitipakademisi.com).

The "Mini Tests Submodule" is one of the assessment submodules integrated into the MTA-UZEM system. Previously, a more comprehensive and large-scale assessment submodule titled "Exams/Tests" was developed and made available. The exams structured within this module were designed to include a high number of questions, covering multiple topics and areas, and encompassing both clinical and procedural competencies. However, managing the processes of designing, conducting, and linking the results of such extensive exams to the TUK-TUKMOS competencies proved to be complex and challenging. These large-scale exams could not be conducted frequently due to their size and complexity.

Therefore, a more practical, rapid, and frequently applicable assessment tool -the "Mini Tests Submodule"- was developed. Thanks to this submodule, mini tests can be administered following each educational activity. While the large, comprehensive exams could be conducted

a maximum of four to six times per year, the mini tests -each covering only one or two specific topics- can be administered after every training session. With the appropriate database configuration, these mini tests can be conducted up to one hundred times annually for each family medicine department. Additionally, up to one thousand mini tests can be administered per resident throughout their training period.

All test results can be stored, analyzed, and associated with the relevant TUKMOS competencies. Moreover, through the structured relational database and coding system, data sharing and integration between the three main modules of MTA-UZEM -the TUKMOS Competency Assessment Module, the Exams/Mini Tests Module, and the Resident Portfolio Module- enable a more efficient, measurable, and sustainable training and documentation process.

Keywords: Family Medicine Residency Training Management Module/Software, Assessment And Evaluation, Mini Tests Submodule, minitipakademisi.com, MTA-UZEM

Introduction and Objective

During the Family Medicine residency training process, two main resources serve as the primary references for both trainers and residents in planning educational content, instructional methods, and assessment activities. The first is the *"Family Medicine Residency Training Framework Program"* published by the Turkish Board of Family Medicine Competency under the Turkish Association of Family Physicians. The second is the *"Core Curriculum for Family Medicine Residency Training"*, published under the Curriculum Development and Standardization System of the Medical Specialization Board (TUKMOS).[1,2]

These efforts to standardize and define the framework of training reveal not only the intensity of the Family Medicine residency curriculum but also the challenges it poses for education and assessment activities. In addition to these challenges, the recent expansion of residency positions in Family Medicine Departments has further complicated the monitoring of educational progress, assessments, and thesis processes.

To ease the management of these processes for both trainers and residents, the Mini Medical Academy (MTA) has been developing the *Specialization Training Management Module (MTA-UZEM)* since 2016. The R&D team includes faculty members and residents from the Department of Family Medicine at Mersin University.[3]

This study presents data regarding the objectives, features, and development processes of the recently launched *"Mini Tests Module"* within the MTA-UZEM system.

Materials and Methods

The *"Assessment and Evaluation Module"*, launched on MTA-UZEM in 2019, enables the administration of online multiple-choice and written (classical) exams. The question bank and exam submodule within this system are used in both undergraduate and postgraduate medical education assessments. The database and user interfaces of the current exam module are structured to allow a maximum of 20 exams per year for each medical student or resident.

In the current implementation, the comprehensive exam module is used to administer 2 exams annually for residents and 12 exams annually for undergraduate medical students. However, with the newly developed *"Mini Tests Module"*, it has become possible to administer up to 100 exams per student per year. Additionally, this same infrastructure allows for up to 100 feedback surveys per student annually, in parallel with the exams.

Compared to the comprehensive exam module, this new module features a simplified and more practical interface, making it easier to create and deliver tests, surveys, and feedback forms. It also enables more detailed and comprehensive tracking and statistical analysis based on individual students and subject areas.

A key innovation in this module—distinguishing it from previous ones—is the ability to collect and process large volumes of data in user-based tables thanks to structural enhancements in the database.

Results

Thanks to the Mini Tests Module, it is now possible to administer a test covering the relevant topic(s) of a session, a feedback survey specific to that session, or other feedback forms following each lesson attended by residents. Furthermore, the integration between this module and the *TUKMOS Competency Evaluation Module* has made it easier to implement topic-based assessments for individual students or groups. In the TUKMOS competency evaluation tables, both the self-evaluation percentages of residents and their success rates in assessments related to each specific competency area can be monitored. This allows for the identification of unassessed or underassessed competencies and the planning of additional educational or assessment opportunities accordingly.

Figure 1 shows the modules within the MTA-UZEM platform. Both database and user interface integrations exist between these modules, enabling continuous tracking of all educational activities, documentation, statistics, and outcomes throughout the training process. At the end of the residency program, all outputs related to these processes are compiled and presented in the "Resident Portfolio" via the *Reports/Outputs Module*.

Figure 2 displays the resident interface of the Mini Tests Module. Tests are scheduled according to the educational plan/presentation calendar, and pre-structured tests appear on this screen. During a session—at the beginning, middle, or end—one or two tests related to the competencies of that session can be activated and administered. In some cases, both a test and a feedback survey are conducted in the same session. The mini test topics seen here correspond to the clinical and procedural competencies defined by TUKMOS. Topics used in both educational plans and test/exam content are selected from among these competencies. The results from these tests are directly reflected in the relevant competency entries in the TUKMOS table.

No separate question bank has been created for the mini tests; instead, questions are pulled from the shared question bank within the *Assessment Module*. Topic and question analyses are performed and reported using distinct algorithms embedded within the Mini Tests Module.

Figure 3 presents a summary of the clinical and procedural competencies and their learning levels defined in the *TUKMOS Core Curriculum for Family Medicine Residency Training*. There are a total of 174 competencies—75 clinical and 99 procedural. All educational plans, presentations, and assessment activities in MTA-UZEM are aligned, integrated, and associated with these competency headings and items.

Figure 4 shows a table from the educator interface of the TUKMOS Competency Evaluation Module. Each row contains data for an individual resident (names hidden for privacy). Blue percentages represent the resident's self-assessed competency level for a particular heading. Red percentages reflect the cumulative average success rate in exams or tests related to that competency. The primary goal here is not to assign grades or categorize residents as successful or unsuccessful; rather, it is to raise awareness among residents regarding competency domains and learning levels. A secondary goal is to identify individual or group deficiencies in the educational plan or assessment process at the resident level and update or manage the corresponding plans, activities, or presentations accordingly.

For example, in the visible section of the table, five residents have self-evaluated their competency for Familial Mediterranean Fever (blue percentages), but they have not participated in any assessment activity related to that competency—meaning they did not encounter a related question in any test or exam. This system allows for comprehensive monitoring of the process both in terms of self-assessments and objective evaluations.

Discussion and Conclusion

This submodule enables the implementation of mini tests following each educational activity. While comprehensive exams can only be administered four to six times per year at most, mini tests covering one or two topics can be conducted after every individual session. Thanks to the properly structured database, these mini tests can be administered up to 100 times per year for each department, and up to 1,000 times for each resident throughout their specialty training. The same infrastructure also allows for the implementation of feedback surveys, in addition to tests. Each department can apply up to 100 feedback surveys per year, separate from the tests.

Results from these tests can be analyzed by topic, question, user, and group, and linked to the corresponding TUKMOS competency. Furthermore, with the help of the relational database structure and integrated coding, data sharing and associations between the three main modules in MTA-UZEM—TUKMOS Competency Evaluation Module, Exams/Mini Tests Module, and the Resident Portfolio Module—enhance the overall training process, making documentation more efficient, measurable, and sustainable.

In recent years, there has been a significant increase in the number of residents in Family Medicine departments.[4,5] Currently, there are approximately 20–25 residents per faculty member, making it extremely challenging to effectively monitor each resident's specialty training process without the use of electronic learning management systems (LMS). MTA-UZEM stands out as an online LMS specifically developed for the management of Family Medicine residency training, with active participation from family medicine faculty members, specialists, and residents in its development team.

Now in its final testing and development stages, MTA-UZEM is expected to be made available free of charge for use by all Family Medicine departments in the near future.

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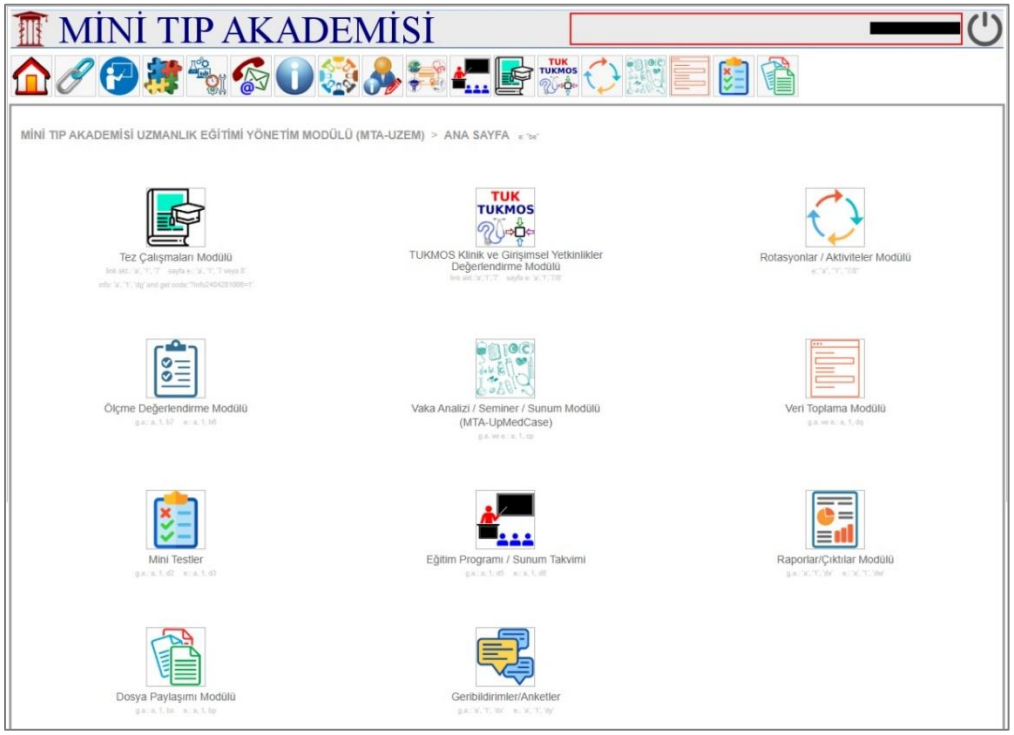


Figure 1. MTA-UZEM Modules.

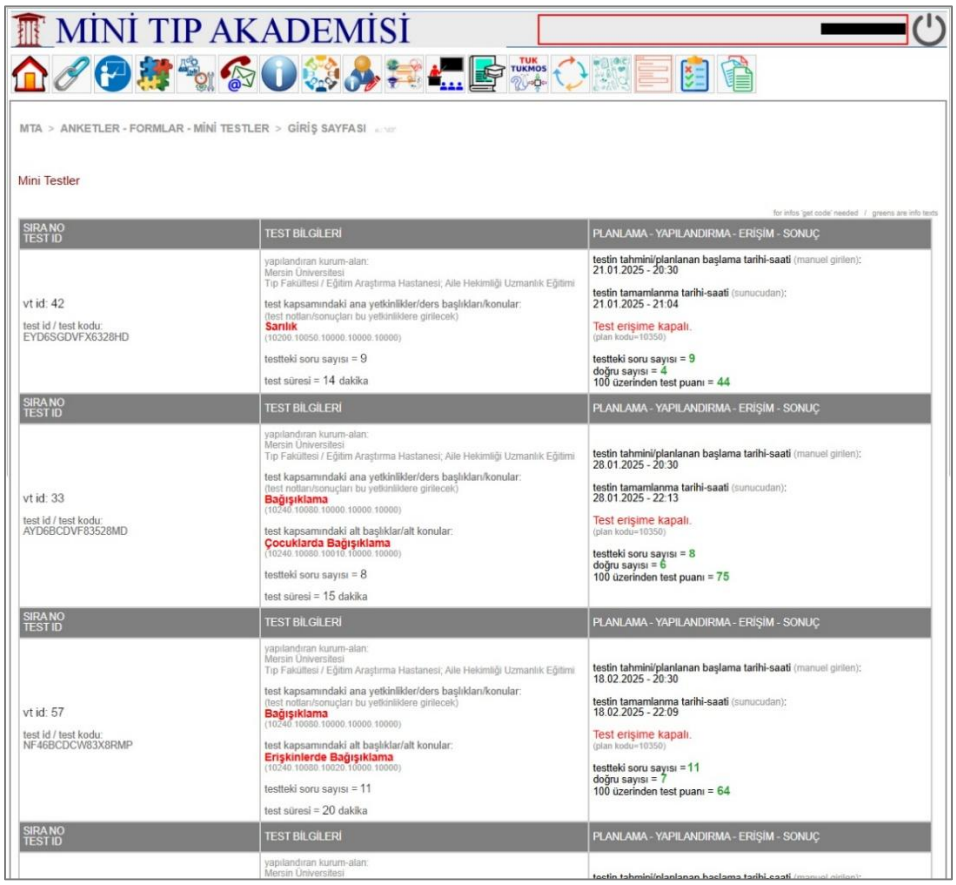


Figure 2. MTA-UZEM Modules.

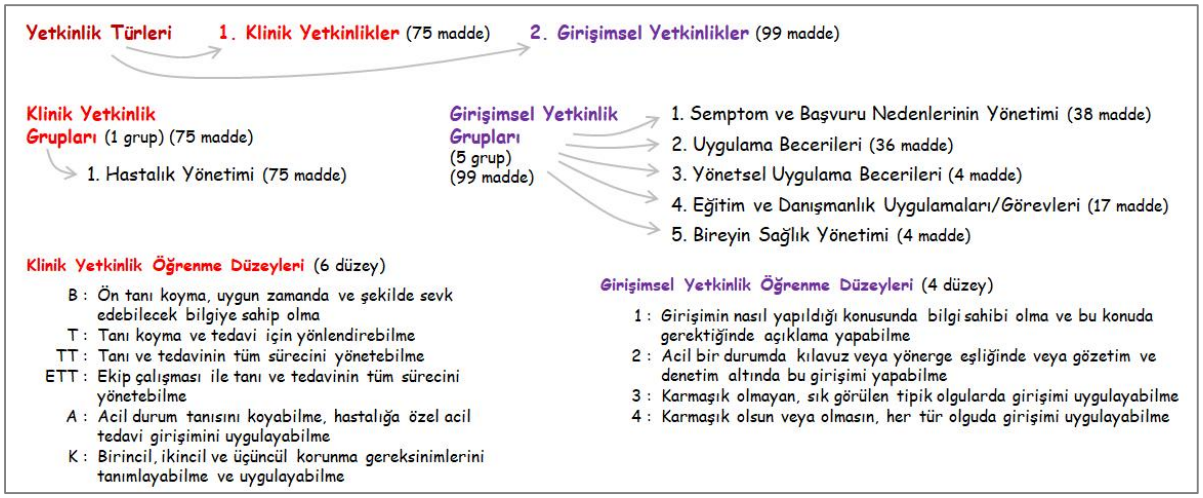
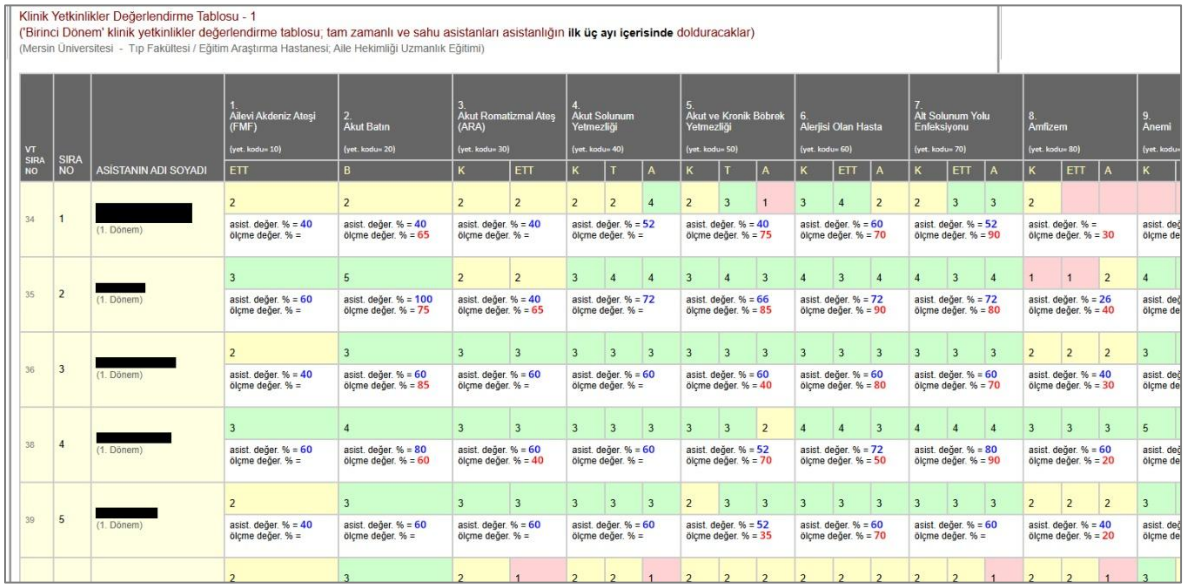


Figure 3. Summary of TUKMOS Clinical and Interventional Competence items and learning levels.



Klinik Yetkinlikler Değerlendirme Tablosu - 1
('Birinci Dönem' klinik yetkinlikler değerlendirme tablosu; tam zamanlı ve sahu asistanları asistanlığın **ilk üç ayı içerisinde** dolduracaklar)
(Mersin Üniversitesi - Tıp Fakültesi / Eğitim Araştırma Hastanesi; Aile Hekimliği Uzmanlık Eğitimi)

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Figure 4. Image of a table on the trainer screen for the TUKMOS Clinical and Interventional Competency Assessment Module.

Peripheral Artery Disease Screening Using Ankle-Brachial Index (ABI) Measurement

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Abstract

Peripheral artery disease (PAD) is a serious health issue that can significantly limit quality of life and even cause mortality, particularly due to complications such as amputation. This condition often presents with leg pain, although some patients may directly present with symptoms of tissue loss or gangrene. Screening plays a crucial role in the early detection of the disease. The main practical indicators commonly used in PAD screening include: evaluation for claudication, absence of pedal pulses, and the Ankle-Brachial Index (ABI). ABI measurement provides an effective screening tool, except in diabetic patients. Although selective patient screening is generally recommended, a more recent approach suggests that family physicians can conduct broader screening by assessing leg pain or cramps during walking, checking peripheral pulses, and measuring ABI.

In our study, we investigated findings related to peripheral artery disease and associated factors through ABI measurements in individuals who presented to primary care health units for any reason. During the measurement process, systolic blood pressure was taken from the right/left upper and lower extremities, and both right and left ABI values were calculated. The lower ABI value was recorded as the final ABI result.

Oral Presentation – OP411

Data from 300 individuals who were properly recorded were included in the analysis. The mean age was 49.6 years (ranging from 21 to 87). Of the participants, 191 were women (63.7%) and 109 were men (36.3%). ABI values were evaluated in six categories: 1. <0.5; indicates a high likelihood/suspicion of advanced PAD or critical limb ischemia, 2. 0.50–0.79; indicates a high likelihood/suspicion of PAD, 3. 0.80–0.89; indicates a low likelihood/suspicion of PAD, 4. 0.90–1.00; borderline normal (very low likelihood/suspicion of PAD), 5. 1.01–1.40; normal ABI, 6. >1.40; ABI in favor of atherosclerosis.

Based on ABI results within the screened population: 2 individuals (0.7%) had a high likelihood/suspicion of advanced PAD, 2 individuals (0.7%) had a high likelihood/suspicion of PAD, 2 individuals (0.7%) had a low likelihood/suspicion of PAD, 21 individuals (7%) had borderline normal / very low likelihood of PAD, 253 individuals (84%) had normal ABI values, 21 individuals (7%) had ABI values suggestive of atherosclerosis.

Keywords: Peripheral Artery Disease Screening, Ankle-Brachial Index (ABI)

Introduction and Aim

Peripheral arterial disease (PAD) is recognized as a group of conditions that significantly contribute to cardiovascular morbidity and mortality worldwide. Traditional cardiovascular risk factors such as advanced age and smoking are associated with an increased risk of PAD. PAD develops in association with atherosclerosis, typically beginning asymptomatically and progressing over a long period. The resting ankle-brachial index (ABI) is considered the primary screening test for diagnosing PAD.

This study aimed to screen for PAD using ABI measurements and investigate related risk factors among patients under follow-up at a family health center in Mersin, Türkiye.

Materials and Methods

Ethical approval for the study was obtained from the Clinical Research Ethics Committee of Mersin University Faculty of Medicine (Decision No: 2023/739, Date: 01/11/2023) and from the Mersin Provincial Health Directorate (Date: 05/01/2023, Ref No: E-66442466-604.99-233518956).

This descriptive and cross-sectional study was conducted between February 1, 2023, and September 1, 2024, at Tarsus Family Health Center No. 42 in Mersin.

A total of 300 individuals aged 18 and older were assessed through ABI measurement and risk factor screening.

All measurements were performed by the same researcher using the same device. After a period of rest, systolic blood pressure (SBP) was measured twice on both ankles and both arms in the supine position using an Omron M2 digital blood pressure monitor. The higher of the two readings was recorded, and the ankle SBP was divided by the brachial SBP to calculate the right and left ABI values. The lower ABI value was recorded as the final ABI result.

Results

ABI values were classified and interpreted using the following thresholds:

< 0.50 : Severe PAD (suggestive of advanced disease or critical limb ischemia)

0.50 – 0.79 : Mild to moderate PAD (high likelihood/suspicion of PAD)

0.80 – 0.89 : Borderline low (low likelihood/suspicion of PAD)

0.90 – 1.00 : Borderline normal (very low likelihood/suspicion of PAD)

1.01 – 1.40 : Normal

> 1.40 : Possible/suspected atherosclerosis

For the purpose of analysis and interpretability, ABI values between 1.01 and 1.40 were categorized as “normal ABI values”, while values ≤ 1.0 were grouped as “suspected PAD based on ABI”. This categorization was used in several of the presented tables for statistical clarity.

Table 1: Distribution of ABI Values by Gender

			ABI Values		Total
			ABI Normal (1.01-1.40)	Suspected PAD According to ABI (<= 1.0)	
Gender	Male	n	89	6	95
		%	35,2	23,1	34,1
	Female	n	164	20	184
		%	64,8	76,9	65,9
Total		n	253	26	279
		%	100,0	100,0	100,0

According to ABI, the likelihood of PAD was found to be higher in females at a rate of 76.9% (n=20) compared to males at 23.1%, and this finding was determined to be statistically significant ($p < 0.05$).

Table 2: Distribution of individuals' ABI values, grouped by age ranges, according to normal and suspected PAD categories.

			ABI Normal - Suspected PAD		Total
			ABI Normal (1.01-1.40)	Suspected PAD According to ABI (<= 1.0)	
Age	18-35	n	65	3	68
		%	25,7	11,5	24,4
	36-45	n	46	4	50
		%	18,2	15,4	17,9
	46-55	n	40	5	45
		%	15,8	19,2	16,1
	56-65	n	47	8	55
		%	18,6	30,8	19,7
	66 and above	n	55	6	61
		%	21,7	23,1	21,9
Total		n	253	26	279
		%	100,0	100,0	100,0

Among the 253 individuals with ABI values within the normal range, the highest proportion—25.7% (n=65)—were in the 18–35 age group. In the same group, 55 individuals (21.7%) were aged 66 and above.

Table 3: Relationship Between Central Obesity and Normal/Suspected PAD Based on ABI.

			ABI Normal - Suspected PAD		Total
			ABI Normal (1.01-1.40)	Suspected PAD According to ABI (<= 1.0)	
Central Obesity	central obesity is present (m: wc >= 88cm, f: wc >= 102cm)	n	153	19	172
		%	60,5	73,1	61,6
	central obesity is not present	n	100	7	107
		%	39,5	26,9	38,4
Total		n	253	26	279
		%	100,0	100,0	100,0

Among the 26 individuals with suspected PAD based on ABI, 19 (73.1%) had central obesity, while 7 (26.9%) did not ($p < 0.05$). In the group with normal ABI values, central obesity was present in 153 individuals (60.5%).

Table 4: Distribution of Individuals with Normal and Suspected PAD Based on ABI According to Alcohol Consumption

			ABI Normal - Suspected PAD		Total
			ABI Normal (1.01-1.40)	Suspected PAD According to ABI (<= 1.0)	
Alcohol use	Yes	n	11	4	15
		%	4,3	15,4	5,4
	No	n	242	22	264
		%	95,7	84,6	94,6
Total		n	253	26	279
		%	100,0	100,0	100,0

Of the 279 participants with an ABI value of 1.40 or below, 264 (94.6%) did not consume alcohol. Among the 253 individuals with normal ABI values, 11 (4.3%) reported alcohol consumption, while 242 (84.6%) did not. Among the 26 individuals with suspected PAD based on ABI, the majority—22 individuals (84.6%)—did not consume alcohol, and this finding was found to be statistically significant ($p < 0.05$).

Discussion and Conclusion

Peripheral arterial disease (PAD) is a condition that develops over a very long period and typically presents with late-onset symptoms, making early diagnosis and treatment essential. Given the morbidity, mortality, amputations, and cerebrovascular events associated with PAD, timely detection is critical. The ankle-brachial index (ABI), which can be used as a primary screening tool during the asymptomatic stage, facilitates early diagnosis. An ABI value lower than 0.9 can serve as a preliminary indicator of arterial stenosis greater than 50%.[1]

In a screening study conducted in Türkiye, the prevalence of PAD among 792 individuals was reported to be 6.3%.[2] In a similar primary care-based screening in Spain, the prevalence of abnormal ABI was found to be 7.6%. In addition to ABI measurement, the Edinburgh Claudication Questionnaire is also used in cardiovascular disease screening. In one study conducted with 1,592 participants, the prevalence of claudication detected via the Edinburgh questionnaire was 4.5%, whereas 9% had a low ABI.[3]

In our study, ABI values above 1.40 were interpreted as falsely elevated due to arterial stiffness or atherosclerosis, and these 21 cases were excluded. Based on this adjustment, the prevalence of individuals at risk for PAD was calculated as 9.3% (n=26), aligning well with existing literature.

Although numerous studies have examined the impact of alcohol consumption on the development of PAD, a recent non-linear meta-analysis revealed a U-shaped relationship between alcohol use and PAD risk ($p < 0.001$). The lowest PAD risk was observed in individuals consuming approximately 2 drinks per week, while those consuming 10 or more drinks per week exhibited a significantly increased risk.[4]

Although alcohol consumption was not quantified in our study, it was found that the majority of individuals with suspected PAD did not consume alcohol, and this finding was statistically significant.

ABI is a repeatable, highly specific, and prognostic marker for PAD, making it a reliable alternative screening tool. Current literature supports ABI as a dependable indicator of lower extremity perfusion, though it remains underutilized in clinical practice.⁽⁵⁾

Given that PAD begins asymptomatically and progresses over time, and that interventions can be initiated during the asymptomatic stage to prevent progression, it is a condition that warrants screening in primary care settings. The ease of ABI use, its applicability in any healthcare environment, and its ability to predict PAD even in asymptomatic patients make it a valuable clinical examination tool.

Our study emphasizes that ABI can effectively be used as a screening method to assess PAD risk.

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The Mediating Role of Relationship Satisfaction in the Association Between Partner Violence and Depression

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Oral Presentation – OP419

Introduction and Aim:

Close interpersonal relationships, which occupy a significant place in our lives, have been the subject of numerous studies. While romantic relationships can evoke positive emotions such as pleasure, happiness, and excitement, they can also involve negative experiences such as disappointment, violence, infidelity, and emotional harm. Despite reports of individuals being exposed to partner violence, it is observed that not all victims exhibit depressive symptoms or terminate the relationship. This observation suggests that other factors may mediate the relationship between partner violence and depression. Therefore, the present study aimed to examine the mediating role of relationship satisfaction in the association between partner violence and depression. The ultimate goal of this research is twofold: to investigate the relationships among partner violence, depression, and relationship satisfaction, and to explore the mediating effect of relationship satisfaction in the link between partner violence and depression.

Methods:

The study employed the Partner Violence Scale, the Short Depression Inventory, and the Relationship Satisfaction Scale. Data were collected from university students aged 18 and above in Istanbul. Within a six-month period, as approved by the ethics committee, data from

a total of 301 participants were obtained. A purposive sampling method, one of the non-probability sampling techniques, was used (Büyüköztürk et al., 2014). Descriptive analyses of the data were conducted using SPSS 22.0, and the mediation analysis examining the role of relationship satisfaction in the association between partner violence and depression was performed using LISREL 8.80.

Results:

The findings indicated a moderate negative correlation between relationship satisfaction and both partner violence and depression. A moderate positive correlation was found between partner violence and depression. Importantly, the results demonstrated that relationship satisfaction plays a significant mediating role in the relationship between partner violence and depression.

Conclusions:

Although the limited sample size, the restriction to students studying in Istanbul, the exclusive inclusion of female participants, and the lack of face-to-face data collection may affect the generalizability of the findings, the study provides valuable contributions to the literature. The results highlight that the strength of the association between partner violence and depression may be influenced by other variables. Specifically, the perceived satisfaction within the relationship significantly moderates this association. These findings help to challenge and contextualize prevalent cultural myths in Turkish society, such as "Isn't he my husband? He beats me because he loves me," or "He hits me because he is jealous."

Keywords: Partner Violence; Depression; Relationship Satisfaction; Psychological Behavior

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Attitudes and Behaviours Regarding Cancer Screening Patients Hospitalised in a Palliative Care Service

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Oral Presentation – OP421

Introduction: Cancer is an important public health problem causing high mortality and morbidity. Cancer screenings are cost-effective tests that significantly reduce mortality, detect and allow treatment of cancer at an early stage. It has been shown that mortality of colorectal, breast and cervical cancers can be reduced with screening methods. Awareness of individuals on this issue will contribute to the improvement of health by increasing participation in screening tests. This study aimed to examine the attitudes and behaviours of patients hospitalised in the Palliative Care Service of Izmir City Hospital about cancer screening.

Materials and Method: The study is a cross-sectional descriptive research. The study included 35 patients hospitalised in the Palliative Care Service of Izmir City Hospital between 01/02/2025-01/05/2025. The questions in the data collection form were asked face to face by the researcher to the patients who agreed to participate in the study. The data collection form included 20 questions about the age and gender of the patients, the presence of cancer in the patient and in the family, the status of cancer screening, where it was performed, by whom it was recommended, and the reason for not performing it.

Results: The mean age of the patients was 72,9 years (42-87) and 48.6% (n:17) were female. Twenty per cent (n:7) of the patients had cancer, 34.3% (n:12) had a family history of cancer. Although 62.9% (n:22) of the patients thought that cancer screening was necessary, 57.1%

(n:20) did not undergo screening. 65.7% (n:23) of the patients stated that they did not undergo screening because they did not know about the screening, 25.7% (n:9) did not think it was accessible, and 17.1% (n:6) did not find the tests reliable.

Screening was recommended by the family physician for 48.6% (n:17) of the patients. Of those who underwent cancer screening, 40% (n:14) stated that they underwent screening at the State Hospital, 8.6% (n:3) at the Family Health Center, and 8.6% (n:3) at KETEM. It was observed that 55.5% (n:10) of the female patients had mammography, 22.2% (n:4) had HPV DNA testing, and 20% (n:7) had smears. Fecal occult blood examination was performed in 48.6% (n:17) and colonoscopy was performed in 11.4% (n:4) of the patients.

Conclusion: In this study, most of the participants stated that they did not perform cancer screening tests because they did not know about them. Informing the public more about cancer screening, increasing their awareness and encouraging them to perform screening tests will help improve public health. Training programmes should be organised to raise public awareness. Primary care physicians play a crucial role in this regard.

Key words: Cancer Screening, Level Of Knowledge, Family Medicine, Cancer

Introduction

In recent years, the incidence of cancer is gradually increasing in our country as well as in other countries. Since there is no effective and curative treatment yet, cancer prevention is considered the most important step in health protection. Early diagnosis is important in order to reduce mortality due to cancer and cancer screening programmes should be continued regularly (1). Within the scope of National Cancer Standards in our country, it is recommended that women should undergo smear or HPV-DNA test every five years between the ages of 30-65, mammography every two years between the ages of 40-69, fecal occult blood test every two years between the ages of 50-70, and colonoscopy every 10 years (2). Although the importance

and necessity of cancer screening is emphasised, it is stated that cancer screening rates have not reached the desired level.

Cancer is an important public health problem causing high mortality and morbidity. Cancer screenings are cost-effective tests that significantly reduce mortality, detect and treat cancer at an early stage. It has been shown that mortality of colorectal, breast and cervical cancers can be reduced with screening methods. Awareness of individuals on this issue will contribute to the improvement of health by increasing participation in screening tests. In our study, we aimed to examine the attitudes and behaviours of patients hospitalised in the Palliative Care Service of Izmir City Hospital about cancer screening.

Materials Method

The study is a cross-sectional descriptive study. The study included 35 patients who agreed to participate in the study and signed the informed consent form between 01/02/2025-01/05/2025 in the Palliative Care Service of Izmir City Hospital. Ethical approval was obtained from the ethics committee of Izmir City Hospital and the study was conducted in accordance with the principles of the Declaration of Helsinki. The questions in the data collection form were asked face-to-face by the researcher to the patients who agreed to participate in the study. In the data collection form, 20 questions were asked about the age, gender, presence of cancer in the patient and in the family, status of cancer screening, breast self-examination, clinical breast examination, mammography, HPV DNA test, smear collection, fecal occult blood examination, and colonoscopy. Patients were also asked where they had the screenings done, who recommended them and the reason for not having them. Statistical analysis of the study was performed using SPSS 16 package programme. Continuous variables were expressed as median (min-max) and categorical variables as n (%).

Results

The mean age of the patients was 72.9 years (42-87) and 48.6% (n:17) were female. 20% (n:7) of the patients had cancer, 34.3% (n:12) had a family history of cancer. Although 62.9% (n:22)

of the patients thought that cancer screening was necessary, 57.1% (n:20) did not undergo screening. 65.7% (n:23) of the patients stated that they did not undergo screening because they did not know about the screening methods, 25.7% (n:9) did not think that they were accessible, and 17.1% (n:6) did not find the tests reliable.

When the patients were questioned about who recommended cancer screening methods, it was observed that 48.6% (n:17) were recommended at the Family Health Centre and 11.5% (n:4) were recommended by neighbours and friends. When the participants were asked which screening methods were recommended, it was observed that 40% (n:14) were recommended fecal occult blood, 5.7% (n:2) sigmoidoscopy and 8.6% (n:3) colonoscopy. Breast self-examination was recommended for 50% (n:9), mammography for 50% (n:9), clinical breast examination for 14.2% (n:5), smear for 5.7% (n:2), hpv/dna test for 2.8% (n:1).

Table 1. Institutions where the patients underwent screening

	%(n)
State Hospital	%40 (14)
Family Health Centre	%8,6 (3)
Ketem'de	%8,6 (3)

Fecal occult blood was analysed in 48.6% (n:17) and colonoscopy was performed in 11.4% (n:4) of the patients. Mammography was performed in 55.5% (n:10), HPV DNA test was performed in 22.2% (n:4), and smear was taken in 20% (n:7) of the female patients. It was observed that 22.9% (n:8) of the women performed breast self-examination and 20% (n:7) underwent clinical breast examination. When female patients were asked about the frequency of breast self-examination, 14.3% (n:5) performed it once a week and 8.6% (n:3) performed it once a year. It was observed that patients were trained by their family physicians for breast self-examination.

Discussion

In our study, it was observed that information about cancer screening methods was frequently learned from the family physician and then from the neighbour. Contrary to our study, studies

in the literature conducted in our country reported that patients most frequently learnt information from television and then from their family physicians (3,4). Media is considered to be an important source of information in our country. In our study, 44% of the participants were observed to undergo screening, whereas in Özsöyler M's study, only 23% of the participants were reported to undergo screening (5). It is observed that the rate of having cancer screening tests is low.

In our study, it was observed that the number of women performing breast self-examination was low. In the study conducted by Dişcigil in the Aegean region, it was reported that 61.7% of women performed breast self-examination, while this rate was 40.9% in the study by Dündar (6,7). Similar to our study, Dişçigil reported that 48.9% of women over the age of 50 had mammography (6). In our study, it was observed that the rate of smear collection was low. Ak et al. reported a smear rate of 19.4% in their study and supported our study (3).

In our study, the rate of fecal occult blood examination was 48.6%. Yiğitbaş supported our study and stated that this rate was 41.8% (8). Özsöyler M reported that this rate was 10.0% in his study (5). In Açıkgöz's study, 9.9% colonoscopy was performed at a rate similar to our study (9).

In our study, it was observed that patients did not apply cancer screening methods because they did not know about screening methods and did not think that they were accessible. In Özsöyler M's study, it was reported that they did not use screening methods because they considered themselves healthy and did not have information about screening methods (5).

Conclusion

In this study, it was determined that most of the participants were not sufficiently aware of cancer screening tests and therefore did not participate in screening. Informing the society more about cancer screening tests, increasing awareness and encouraging them to perform screening tests will contribute to the improvement of health. Training programmes should be organised to raise public awareness. Primary care physicians have a great duty in this regard.

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Clinical Characteristics of Fully Bedridden Patients Registered in the Home Health Care Units in Sivas Province

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Objective

Advances in medical care have led to increased life expectancy at birth, resulting in a growing population of elderly and fully bedridden patients both globally and in Turkey. Consequently, family physicians encounter such patients more frequently in their daily practice. This study aimed to evaluate the characteristics of fully bedridden patients in our province.

Method

This cross-sectional descriptive study was conducted on patients registered with the Home Health Care (HHC) units located in the city center. Sociodemographic and clinical data were collected through structured questionnaires during home visits by HHC teams. The data were analyzed using SPSS version 23.0, with statistical significance set at $p<0.05$.

Results

A total of 230 patients (52.18% female) were included. The mean age was 69.5±19.93 years, and the average duration of registration in HHC units was 31.55 months. Among the patients, 36.09% were illiterate, 45.65% were widowed, 73.48% had lived most of their lives in urban

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areas, and 15.12% had no regular income. The proportion of elderly female patients was significantly higher (p=0.003), and male patients had higher education levels (p<0.001). The most prevalent disease groups were neurological disorders (82.17%) and cardiovascular diseases (65.65%). While 10% had a single chronic illness, 207 patients were identified with multimorbidity. Among those with only one chronic condition, 78.26% had neurological disorders. Smoking history was reported by 33.48%, and 7.83% had a history of alcohol use, though none were current users. The average duration of care dependence was 7.80±9.43 years. Despite 62.61% having air mattresses, 39.57% had pressure ulcers, which were significantly more frequent in men (p=0.044).

Conclusion

Family physicians play a key role in preventive interventions that can delay or prevent patient dependency. Neurological conditions such as stroke may result in full bedridden status as a single underlying cause.

Keywords: Home Health Care Services, Bedridden, Family Physician

Association Between Smartphone Addiction and Disruptive Behavior Disorders in School Children Aged 6–12 Years

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Aim:

This study aimed to examine the relationship between smartphone addiction and disruptive behavior in primary school children aged 6–12 years by administering the adapted Young Smartphone Addiction Scale (SAS) and the Turgay DSM-IV-Based Disruptive Behavior Disorders Rating Scale completed by both parents and teachers.

Materials and Methods:

In this cross-sectional study, 829 students from diverse socioeconomic backgrounds, their parents and their teachers participated. Demographic data were collected, and children's smartphone habits were assessed using the SAS (33 items; 1–6 Likert) and a daily usage questionnaire. Disruptive behavior was measured with the 41-item Turgay Scale (Likert 0–3) in both parent and teacher forms. Data analysis included descriptive statistics, internal consistency (Cronbach's α), Spearman's rank correlation, multiple linear regression, and parent–teacher report consistency via the Wilcoxon signed-rank test.

Results:

The mean age was 10.4 ± 2.36 years; 53.1% were female. Daily smartphone use was median 0.5 hours (IQR 0.5–1). SAS scores had a median of 60 (IQR 45–75), parent-rated Turgay scores

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median 7 (IQR 2–14), and teacher-rated Turgay scores median 2 (IQR 0–9). Spearman's ρ indicated a moderate positive correlation between inattention and SAS ($\rho = 0.45$; $p < 0.001$) and a strong positive correlation between oppositional defiant behaviors and SAS ($\rho = 0.52$; $p < 0.001$). In multiple regression, inattention ($\beta = 0.28$; $p < 0.001$) and oppositional defiant behaviors ($\beta = 0.33$; $p < 0.001$) were the strongest predictors of SAS scores. Parent–teacher report consistency was moderate ($\rho = 0.37$; $p < 0.001$).

Conclusion:

Problematic smartphone use is significantly associated with elevated inattention and oppositional defiant behaviors in children aged 6–12 years. These findings highlight the need for early intervention strategies by school counselors and families to mitigate behavioral risks.

Keywords: Smartphone Addiction; Disruptive Behavior Disorders; Inattention; Oppositional Defiant Disorder; Primary School Children; Cross-Sectional Study

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Clinical Outcomes and Educational Value of Gastroscopy Training During General Surgery Residency: A Two-Year Experience from a Single Center

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Introduction and Aim

Upper gastrointestinal system (UGIS) endoscopy, particularly gastroscopy, is a critical diagnostic and therapeutic tool in the evaluation of gastrointestinal symptoms and the detection of premalignant or malignant lesions. It plays a vital role in the early diagnosis of diseases such as peptic ulcer, gastritis, Helicobacter pylori infection, Barrett's esophagus, and gastric cancer. The increasing burden of gastrointestinal diseases in the general population underscores the need for effective training in endoscopic procedures, especially for physicians in surgical disciplines. In this study, we aimed to present the clinical results and diagnostic findings of gastroscopy cases performed as part of the endoscopy training program at Tekirdağ Namık Kemal University Faculty of Medicine.

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Materials and Methods

The clinical results of 339 cases in which the diagnosis and treatment process was performed between April 2023 and April 2025. Additionally, we sought to evaluate the learning curve of surgical residents, the detection rate of pathological conditions such as *Helicobacter pylori* infection, Barrett's esophagus, and gastric malignancies, and to assess the clinical safety and feasibility of performing gastroscopies under supervision during residency training. The patients whose treatment and follow-up process was followed up at Tekirdağ Namık Kemal

University Faculty of Medicine Hospital were included in the study. In our endoscopy training, which is included in the core education program in the curriculum of Namık Kemal University Faculty of Medicine during general surgery residency training, procedures were performed by two assistant physicians under the observation of a single faculty member and the same endoscopy device was used. Gastroscopy completion was assessed by successful duodenal intubation and J maneuver. There were no complications after the gastroscopies and the patients were discharged 2 hours after the procedure. No prophylactic antibiotics were applied to the patients. Biopsy procedures were performed in accordance with the Sydney classification.

Results

There were 149 (44%) women and 190 (56%) men of all the patients. The mean age was 57 years. Helicobacter pylori was positive in 198 (58.4%) of the cases, 87 (44%) were eradicated, and positivity was detected in 6 (3%) cases in the faecal antigen test performed after eradication. Those patients with positive fecal antigen test were given medical treatment (proton pump inhibitor) and no additional treatment was administered. Barrett's esophagus was detected in 13 (3.8%) patients and these patients were included in surveillance. During the follow-up period, these patients did not develop malignancy. Tumoral masses were detected in 15 (4.4%) patients and were located in the cardia in 8 (53.4%), corpus in 2 (13.3%) and antrum in 5 (33.3%). The mean age of the patients with malignancy was 69.6 years.

Conclusion

It was seen that the learning curve of gastroscopy procedures during general surgery residency training at Tekirdağ Namık Kemal University Faculty of Medicine was approximately 25 to 30. One of the resident physicians who performed the gastroscopy procedures has completed his specialty residency and continues to perform interventions as a specialist physician at the state hospital. Gastroscopy training program is an important educational process for the early diagnosis of upper gastrointestinal tract malignancies and appropriate surveillance of patients.

Keywords: Gastroscopy, Observation, Education

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Relationship Between Systemic Immune-inflammation Index and Disease Activity in Rheumatoid Arthritis Patients

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Abstract

Aim: Rheumatoid arthritis (RA) is a chronic inflammatory disease and traditional markers used to assess disease activity have some limitations. In this study, we aimed to investigate the relationship between systemic immune-inflammation index (SII) derived from complete blood count and disease activity and remission in RA patients.

Materials and Methods: This retrospective study was conducted by examining the files of patients who presented to the Rheumatology Outpatient Clinic of Ankara Etlik City Hospital between January 1, 2023 and December 31, 2024 and were diagnosed with RA according to the American College of Rheumatology/European College of Rheumatology 2010 criteria. The study included 50 patients in the remission group according to the DAS-28 score (<2.6), 39 patients in the active disease group (DAS-28 ≥ 2.6) and 50 healthy controls matched for age and gender. Patients with a history of malignancy, acute or chronic infection, organ failure, hematological disease and other autoimmune diseases were excluded from the study. Demographic data (age, gender, disease duration), clinical parameters (DAS-28 score) and laboratory findings (ESR, CRP, complete blood count parameters) were obtained retrospectively from the patient files. Systemic Immune-Inflammation Index was calculated with the formula SII = (Neutrophil × Platelet) / Lymphocyte.

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Results: There was no statistically significant difference between the groups in terms of age (p=0.055) or gender distribution (p=0.059). CRP and ESR levels were significantly higher in the active RA group compared to the remission and control groups (CRP: p=0.001; ESR: p<0.05). WBC and neutrophil counts were also significantly higher in the active group (WBC: p=0.001 and 0.005; Neutrophils: p=0.001 and 0.015, compared to the remission and control groups, respectively). Platelet counts were significantly higher in the active group (p=0.001, p=0.006). SII values were significantly increased in the active RA group compared to the remission and control groups (p=0.001 for both comparisons) (Table 1). ROC analysis revealed an AUC of 0.851 for CRP and 0.763 for SII, suggesting that both parameters have good diagnostic value in discriminating disease activity (Figure 1).

Conclusion: A significant relationship was found between SII and disease activity in rheumatoid arthritis patients. SII values were found to be significantly higher in active patients, indicating that SII may be a potential biomarker in assessing disease activity. It is thought that SII can be used as meaningful and practical parameters in clinical follow-up together with CRP. The findings need to be supported by larger-scale studies.

Keywords: Systemic Immune-inflammation Index, Rheumatoid Arthritis, Disease Activity

Introduction

Rheumatoid arthritis (RA) is an autoimmune chronic inflammatory disease characterized by joint damage and systemic complications. Although parameters such as erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) and disease activity score (DAS-28) are used to assess disease activity, new biomarkers are needed due to the limitations of these markers. In recent years, the systemic immune inflammation index (SII) derived from complete blood count has emerged as a practical parameter reflecting the integrated effect of neutrophils,

lymphocytes and platelets that play a role in RA pathogenesis. There are limited studies in the literature indicating that SII correlates with RA activity. For these reasons, we aimed to investigate the relationship between SII and disease activity and remission in RA patients.

Materials and Methods

This retrospective study was conducted by examining the files of patients who presented to the Rheumatology Outpatient Clinic of Ankara Etlik City Hospital between January 1, 2023 and December 31, 2024 and were diagnosed with RA according to the American College of Rheumatology/European College of Rheumatology (ACR/EULAR) 2010 criteria. The study included 50 patients in the remission group according to the DAS-28 score (<2.6), 39 patients in the active disease group (DAS-28 ≥ 2.6) and 50 healthy controls matched for age and gender. Patients with a history of malignancy, acute or chronic infection, organ failure, hematological disease and other autoimmune diseases were excluded from the study. Demographic data (age, gender, disease duration), clinical parameters (DAS-28 score) and laboratory findings (ESR, CRP, complete blood count parameters) were obtained retrospectively from the patient files. Systemic Immuno-Inflammation Index was calculated with the formula SII = (Neutrophil × Platelet) / Lymphocyte. Statistical analyses were performed using IBM SPSS Statistics version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were given as mean ± standard deviation or median (minimum–maximum). Mann-Whitney U test and Kruskal-Wallis test were applied for data that did not show normal distribution in comparisons between groups. The relationship between SII, CRP, ESR, WBC levels and DAS-28 was analyzed using Spearman correlation coefficient. The predictive power of SII and CRP for disease activity was evaluated using ROC curve analysis. A p value of <0.05 was considered statistically significant.

Results

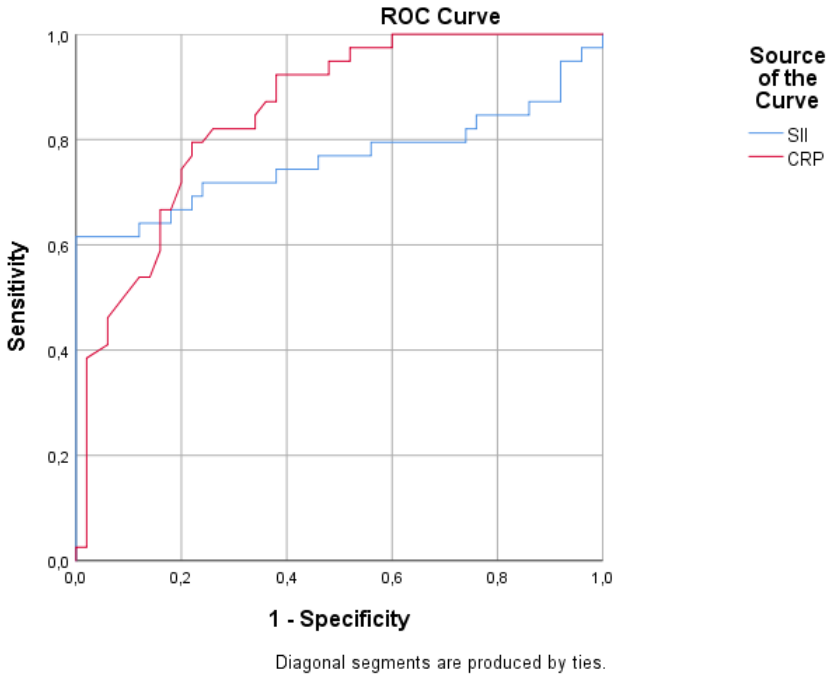
Some socio-demographic characteristics of the 139 individuals included in the study (89 RA patients, 50 controls) are presented in Table 1. RA patients were divided into two groups as remission (n=50, mean age 54.14±9.00) and active disease (n=39, mean age 56.4±11.00)

according to the DAS-28 score. The mean age of the control group was determined as 52.64±12.77. No statistically significant difference was found between the groups in terms of age (p=0.055) and gender distribution (p=0.059). When the laboratory parameters were examined, it was seen that CRP levels were significantly higher in the active patient group (19.13±33.72 mg/L) compared to the remission (4.9±9.88 mg/L) and control (2.15±1.5 mg/L) groups (p=0.001 and p=0.001). Similarly, ESR was found to be higher in the active patient group (20.67±18.08 mm/hour) compared to the other groups and this difference was statistically significant (p<0.05). Leukocyte (WBC) and neutrophil values in the active patient group (8.15±2.45 x10³/µL and 4.8±1.98 x10³/µL, respectively); were found to be significantly higher than in remission (WBC: 6.57±1.55 x10³/µL, neutrophil: 3.45±1.02 x10³/µL) and control (WBC: 6.89±1.69 x10³/µL, neutrophil: 3.81±1.15 x10³/µL) groups (WBC: p=0.001, p=0.005; Neutrophil: p=0.001, p=0.015, respectively). However, no significant difference was observed between the groups in terms of lymphocyte levels (p>0.05). Platelet count was found to be significantly higher in the active patient group (290.62±63.21 x10³/µL) compared to the remission (240.06±61.21 x10³/µL) and control (252.36±62.85 x10³/µL) groups (p=0.001, p=0.006, respectively). SII values were found to be significantly higher in the active patient group (605.51±332.49) compared to the remission (365.03±89.31) and control groups (407.55±112.88). These differences were found to be statistically significant (p=0.001, p=0.001, respectively). Neutrophil/lymphocyte ratio (NLR) was higher in the active patient group (2.06±1.02) than in the other groups, and this difference was found to be significant between the remission group and the active patient group (p=0.022), but no significant difference was observed between the control group and the other groups (p>0.05) (Table 1). According to the ROC analysis results, the area under the curve (AUC) value for CRP was found to be 0.851, indicating that this parameter has a high diagnostic value in distinguishing disease activity. In addition, the AUC value for SII was calculated as 0.763, indicating that this parameter may also be a significant biomarker in determining disease activity (Figure 1).

Table 1. Some Sociodemographic and Laboratory Parameters of Patients

	Remission Group (G1) (N=50)	Active Patient Group (G2) (N=39)	Control Group (G3) N=50)	P
Age (Years)	54,14±9,00	56,4±11,00	52,64±12,77	0,055
Gender M/F N (%)	8/42(16/84)	8/31(20/80)	8/42(16/84)	0,059
WBC	6,57±1,55	8,15±2,45	6,89±1,69	G1-G2=0,001* G1-G3=0,270 G2-G3=0,005*
Neutrophil	3,45±1,02	4,8±1,98	3,81±1,15	G1-G2=0,001* G1-G3=0,066 G2-G3=0,015*
Lymphocyte	2,27±0,63	2,45±0,68	2,35±0,6	G1-G2=0,101 G1-G3=0,333 G2-G3=0,425
Thrombocyte	240,06±61,21	290,62±63,21	252,36±62,85	G1-G2=0,001* G1-G3=0,260 G2-G3=0,006*
SII	365,03±89,31	605,51±332,49	407,55±112,88	G1-G2=0,00* G1-G3=0,057 G2-G3=0,001*
NLR	1,59±0,47	2,06±1,02	1,67±0,47	G1-G2=0,022* G1-G3=0,400 G2-G3=0,092

WBC: White blood cell count, SII: Systemic immune inflammation index, NLR: Neutrophil lymphocyte ratio, *p<0.05 is statistically significant.



Area Under the Curve	
Test Result Variable(s)	Area
SII	,763
CRP	,851
The test result variable(s): CRP has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.	

Figure 1. Discrimination of disease activity (ROC) analysis of SII and CRP according to DAS-28 score

Discussion and Conclusion

In this study, a significant relationship was found between CII and disease activity in rheumatoid arthritis patients. The fact that CII values were significantly higher in the active patient group compared to the remission and control groups indicates that CII can be used as a potential biomarker to assess disease activity. In addition, CRP and CII have been shown to be

reliable and meaningful tools in determining the activity of rheumatoid arthritis disease. These findings may support the use of these parameters in the clinical follow-up of rheumatoid arthritis patients and contribute to the development of new strategies for disease management. In the future, it is recommended that these biomarkers be examined in more detail with studies conducted with larger patient groups.

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Clinical Effectiveness of Hip Joint Injections in Coxarthrosis: A Retrospective Study

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Introduction Coxarthrosis is a degenerative condition of the hip joint commonly seen in elderly individuals, leading to pain, restricted mobility, and decreased quality of life. Injection therapies are among the conservative treatment options aimed at controlling pain. This study was conducted to evaluate the clinical effectiveness of injection therapy.

Method This retrospective study included a total of 46 patients (20 women, 26 men) diagnosed with coxarthrosis. All patients underwent hip joint injection. Pain levels were assessed using the Visual Analog Scale (VAS) and functional status using the Oswestry Disability Index (ODI). Data were collected at five time points: preoperative, and on the 15th day, 1st month, 3rd month, and 6th month post-treatment. Statistical analysis was performed using SPSS 28 with paired t-tests and mean calculations.

Oral Presentation – OP430

Results

Gender	Number of Patients	Mean Age	Age Std. Deviation	Normal BMI	Overweight	Obese	Mean BMI
Female	20	43.75	14.53	8	8	4	26.59
Male	26	45.38	14.32	12	6	8	26.89
p-value			**0.7048**				**0.8206**

The mean VAS score decreased from 7.02 preoperatively to 2.07 at 6 months (mean reduction of 5.07 points, $p < 0.0001$).
The mean ODI score decreased from 39.13 preoperatively to 9.39 at 6 months (mean reduction of 28.52 points, $p < 0.0001$).
No significant difference was found between male and female patients in terms of VAS and ODI scores.

Discussion

The findings of this study demonstrate that hip joint injection therapy significantly reduces both pain and functional loss in patients with coxarthrosis. Similar studies in the literature also report that injection therapy is effective in pain control in the short and medium term. The early improvements observed after injection were sustained up to the 6th month.

These results support that injections containing steroids or local anesthetics may alleviate pain by suppressing inflammation. Additionally, demographic factors such as BMI and gender did not significantly affect treatment response, indicating broad applicability across patient groups. However, limitations of our study include the lack of a control group and the subjective nature of functional assessments.

Future randomized controlled trials can better clarify the long-term effects of injection therapy and compare different injection contents.

Conclusion

This study demonstrated that hip joint injection therapy provides significant clinical benefits in patients with coxarthrosis, both in terms of pain relief and functional improvement. The marked reduction in VAS and ODI scores observed as early as the 15th day and sustained through the 6th month indicates that injection therapy can be an effective conservative treatment modality for short- and medium-term management of hip osteoarthritis. The results also suggest that demographic factors such as gender and BMI do not significantly influence treatment outcomes, highlighting the general applicability of this method across different patient subgroups. The mechanisms underlying the therapeutic effects are likely related to the anti-inflammatory properties of corticosteroids or the analgesic effects of local anesthetics, which can reduce synovial irritation and intra-articular inflammation.

In conclusion, hip joint injection therapy appears to be a safe, minimally invasive, and effective option for managing symptoms in patients with coxarthrosis, particularly in those who are not immediate candidates for surgical intervention. However, further prospective, randomized controlled trials with larger sample sizes and long-term follow-up are needed to confirm these findings and to optimize treatment protocols regarding injection contents and frequency.

Keywords: Coxarthrosis, Hip Injection, VAS, ODI, Functional Assessment, BMI

The Impact of Chronic Obstructive Pulmonary Disease Severity on Anxiety and Depression

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Introduction:

This study aimed to investigate the effect of disease severity on anxiety and depression in patients diagnosed with Chronic Obstructive Pulmonary Disease (COPD).

Materials and Methods:

The study was conducted with 112 patients diagnosed with COPD who presented to a pulmonology outpatient clinic. Patients were classified according to the American Thoracic Society (ATS) guidelines and categorized into mild, moderate, severe, and very severe stages. The COPD Assessment Test (CAT), Modified Medical Research Council Dyspnea Scale (MRC), and Hospital Anxiety and Depression Scale (HADS) were used. Respiratory parameters were statistically analyzed in relation to anxiety and depression scores.

Results:

A total of 112 COPD patients, including 22 females and 90 males with a mean age of 65.50 ± 10.67 years, were enrolled in the study.

Oral Presentation – OP433

Table 1. Demographic Characteristics of the Patients

	Min-Max	Mean ± SD
Age	35–88	65.50 ± 10.67
	Min-Max	**Mean ± SD**
Body Mass Index (BMI)	16.3–43.4	27.82 ± 62.16
Disease Duration (years)	2–15	6.88 ± 3.04
Smoking (Pack/Year)	0–50	23.76 ± 13.47
MRC	1–4	2.04 ± 0.85
CAT Score	8–38	20.14 ± 5.52
FEV1 (%)	8–79	49.64 ± 15.95
FVC (%)	10–98	64.66 ± 17.49
FEV1/FVC	48–89	77.44 ± 12.63
Anxiety Score	2–18	8.70 ± 4.57
Depression Score	1–16	6.00 ± 3.16

Gender
- Female: 22 (19.64%)
- Male: 90 (80.35%)

Occupation
- Retired: 49 (43.75%)
- Farmer: 20 (17.85%)
- Housewife: 22 (19.64%)
- Self-employed: 13 (11.60%)
- Driver: 3 (2.67%)
- Worker: 3 (2.67%)
- Livestock: 2 (1.78%)

Number of Comorbidities
- None: 43 (38.39%)
- One: 46 (41.07%)
- Two: 16 (14.28%)
- Three or more: 7 (6.25%)

Long-term Oxygen Therapy
- No: 105 (93.7%)
- Yes: 7 (6.25%)

GOLD Stages
- GOLD 1 (Mild): 1 (0.89%)
- GOLD 2 (Moderate): 46 (41.07%)
- GOLD 3 (Severe): 45 (40.17%)
- GOLD 4 (Very Severe): 12 (10.71%)

Abbreviations: GOLD: Global Initiative for Chronic Obstructive Lung Disease; BMI: Body Mass Index; FEV1: Forced Expiratory Volume in 1 second; FVC: Forced Vital Capacity; CAT: COPD Assessment Test; MRC: Modified Medical Research Council Dyspnea Scale; HADS: Hospital Anxiety and Depression Scale.

Although anxiety and depression appeared to increase in parallel with worsening dyspnea as measured by the CAT and MRC scales, this relationship was not statistically significant.

Table 2. HADS Anxiety Status

	HADS-A ≤ 7 (n=69)	HADS-A ≥ 8 (n=43)	p-value
Age	63.94 ± 11.60	68.00 ± 8.52	0.046
Disease Duration (years)	5.91 ± 2.74	8.44 ± 2.86	0.262
BMI	29.35 ± 57.57	25.37 ± 62.01	0.583
Smoking (Pack/Year)	20.90 ± 13.95	28.35 ± 11.36	0.118
FEV1 (%)	57.52 ± 12.98	35.83 ± 10.13	0.030
FVC (%)	71.43 ± 13.53	53.81 ± 17.78	0.106
FEV1/FVC	81.88 ± 9.95	70.14 ± 13.11	0.002
CAT	17.65 ± 4.31	24.13 ± 4.91	0.578
MRC	1.65 ± 0.72	2.67 ± 0.64	0.369

A statistically significant relationship was found between HADS anxiety scores and FEV1, FEV1/FVC, and age (p = 0.030, p = 0.002, and p = 0.046, respectively).

Table 3. HADS Depression Status

	HADS-D ≤ 10 (n=77)	HADS-D > 10 (n=35)	p-value
Age	64.13 ± 11.40	68.51 ± 8.24	0.023
Disease Duration (years)	6.10 ± 2.84	8.60 ± 2.76	0.880
BMI	28.93 ± 57.49	25.39 ± 65.86	0.342
Smoking (Pack/Year)	21.81 ± 13.88	28.06 ± 11.55	0.191
FEV1 (%)	55.53 ± 13.91	35.25 ± 10.34	0.012
FVC (%)	70.46 ± 13.40	51.91 ± 18.80	0.036
FEV1/FVC	80.12 ± 11.32	71.55 ± 13.46	0.045
CAT	18.19 ± 4.61	24.42 ± 4.97	0.893
MRC	1.77 ± 0.80	2.62 ± 0.64	0.254

A statistically significant association was found between HADS depression scores and FEV1, FVC, FEV1/FVC, and age (p = 0.012, p = 0.036, p = 0.045, and p = 0.023, respectively).

A clear relationship was observed between the degree of airway obstruction and the presence of anxiety and depression symptoms.

Discussion:

Anxiety is characterized by uneasiness, tension, and worry in response to unknown or uncertain threats. In COPD patients, hypoxemia, frequent hospital admissions, complexity of medications and treatments, dependency on healthcare personnel, and the presence of comorbidities may all contribute to increased anxiety (1).

When examining the relationship between COPD and psychiatric disorders, anxiety and depression are the most frequently encountered conditions (2,3,4). Our findings are consistent with data reported in the literature. Several studies have shown high prevalence rates of anxiety and depression in COPD patients (5,6). In our study, as the objective parameters (FEV1 and FEV1/FVC) decreased with disease progression, symptoms of depression increased, and with increased perception of dyspnea, both anxiety and depression symptoms were found to increase.

Conclusion:

Our findings indicate that the degree of airway obstruction in COPD patients is significantly associated with the frequency and severity of anxiety and depression symptoms. As COPD severity increases, the psychological burden on patients also intensifies. These findings underscore the importance of comprehensive and multidisciplinary evaluation and management of COPD patients.

Keywords: Chronic Obstructive Pulmonary Disease (COPD), Anxiety, Depression, Disease Severity

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Radiological Detection and Clinical Relevance of Lumbosacral Transitional Vertebrae in Young Adults with Chronic Low Back Pain

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Introduction and Aim

Oral Presentation – OP434

Low back pain is one of the most common reasons for medical consultation and represents a major public health concern due to its high prevalence and impact on quality of life and workforce productivity. It is the second most frequent clinical condition following the common cold. Lifetime prevalence rates range from 59% to 80% in developed countries and from 44% to 79% in Türkiye. Bertolotti Syndrome (BS) is a congenital spinal anomaly characterized by the presence of a lumbosacral transitional vertebra (LSTV), which results in pseudoarticulation or fusion between the transverse process of the last lumbar vertebra and the sacrum or ilium. This condition is frequently overlooked in the differential diagnosis of chronic low back pain, especially in young adults who present without typical degenerative findings on imaging studies.

The aim of this study is to evaluate the prevalence of Bertolotti Syndrome among young adult patients with unexplained chronic low back pain using lumbar X-ray and 3D CT imaging, and to assess the clinical and demographic characteristics of patients diagnosed with LSTV, as well as their response to conservative treatment approaches.

Materials and Methods

This study included young adult patients who presented to the Neurosurgery Outpatient Clinic of Adana City Training and Research Hospital between January 1, 2024, and January 1, 2025, with complaints of unexplained chronic low back pain and underwent lumbar MRI. Patients were excluded from the study if they had MRI findings consistent with degenerative spinal pathologies such as lumbar disc herniation, spinal stenosis, or spondylolisthesis. Additional exclusion criteria included a history of prior spinal surgery, morbid obesity or frailty due to advanced age, a known history of malignancy, presence of spinal infection, history of trauma, or a diagnosis of osteoporosis.

All patients underwent standard anteroposterior and lateral lumbar radiographs, as well as three-dimensional computed tomography (CT) scans of the lumbar spine to evaluate the presence and anatomical characteristics of lumbosacral transitional vertebrae. The anatomical variations of the lumbosacral transitional vertebrae identified on imaging were classified using both the Jenkins and Castellvi classification systems.

Results

A total of 92 young adult patients presenting with unexplained chronic low back pain were evaluated using standard lumbar radiographs and three-dimensional computed tomography (CT) imaging. Among these, 38 patients (36%) were found to have a lumbosacral transitional vertebra (LSTV) and were subsequently diagnosed with Bertolotti Syndrome. Of the patients diagnosed with LSTV, 14 (37%) were male and 24 (63%) were female. The relatively high prevalence of LSTV in this selected population emphasizes the importance of considering Bertolotti Syndrome as a potential underlying cause of chronic low back pain, particularly when routine imaging fails to reveal typical degenerative pathologies. The use of both plain radiography and 3D CT proved effective in identifying anatomical anomalies associated with LSTV that may otherwise be overlooked on standard MRI alone.
All patients diagnosed with Bertolotti Syndrome initially received conservative medical

treatment, including muscle relaxants, analgesics, and non-steroidal anti-inflammatory drugs (NSAIDs). While a subset of patients responded well to pharmacological management, those who did not show sufficient clinical improvement were referred for further non-invasive interventions such as physical therapy or were evaluated by the pain management (algology) department. This stepwise approach highlights the variability in clinical response and supports the need for individualized treatment planning in patients with LSTV-related chronic pain.

Conclusion

Bertolotti Syndrome (BS) is an often underdiagnosed cause of chronic low back pain, particularly in young adults with no apparent degenerative spinal pathology. In this study, 36% of patients presenting with unexplained chronic low back pain were diagnosed with LSTV-related Bertolotti Syndrome, underscoring the importance of considering this congenital anomaly in the differential diagnosis. The relatively high prevalence detected in our cohort highlights the need for increased clinical awareness and routine radiographic evaluation in such patient populations. Standard lumbar MRI may not always detect LSTV; thus, dedicated anteroposterior/lateral lumbar radiographs and three-dimensional CT imaging are essential for accurate diagnosis and classification. The application of both Jenkins and Castellvi classification systems enabled a more systematic evaluation of the anatomical variations observed in LSTV.

Initial management with conservative medical therapy was effective for a subset of patients; however, a significant proportion required referral for physical therapy or interventional pain management, indicating the chronic and potentially refractory nature of the syndrome. Overall, our findings suggest that timely diagnosis of BS through appropriate imaging and classification can help guide effective treatment strategies and improve patient outcomes. Further studies with larger sample sizes are warranted to better understand the clinical course and optimal management of this condition.

Keywords: Bertolotti Syndrome, Chronic Low Back Pain, Jenkins Classification Castellvi Classification

Assessment of University Students' Knowledge and Awareness of Human Papillomavirus (HPV): Preliminary Findings of the Research

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Introduction and Objective:

Oral Presentation – OP438

Human papillomavirus (HPV) is one of the most common sexually transmitted infections worldwide. To date, over 100 types of HPV have been identified. Approximately 60 of these cause cutaneous warts typically seen on the hands and feet, while about 40 infect mucosal surfaces, leading to lesions in various anatomical regions such as the vulva, vagina, cervix, rectum, anus, penis, scrotum, and oropharynx. Mucosal HPV types are generally transmitted through vaginal, anal, and oral sexual contact, genital skin-to-skin contact, or vertically from mother to child during birth. These types are associated with a range of benign and malignant pathologies, including genital warts, laryngeal papillomatosis, and anogenital and oropharyngeal cancers.

High-risk (oncogenic) HPV types include 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, 70, 73, and 82. Among these, HPV-16 and HPV-18 have the highest oncogenic potential. HPV-16 increases the risk of developing cervical squamous cell carcinoma by approximately 400 times, while HPV-18 increases the risk of cervical adenocarcinoma by about 250 times. Globally, approximately 70% of cervical cancers are associated with HPV types 16 and 18, and 20% with types 31, 33, 45, 52, and 58.

HPV vaccines were developed to prevent transmission of HPV and the associated diseases and malignancies. These vaccines elicit a strong immune response, with studies showing that by the fourth week after the final dose, immunity against the HPV types included in the vaccine exceeds 97%. The first HPV vaccine was licensed in 2006, and since then, more than 500 million doses have been administered globally. Despite widespread use, no major safety concerns have been reported. In the United States, routine HPV vaccination for females has been recommended since June 2006. Over the past decade, the widespread use of the vaccine has led to a 62% reduction in cervical cancer-related mortality.

The aim of this study is to assess university students' knowledge and awareness regarding HPV infection, its transmission routes, vaccination, and prevention methods. The findings are evaluated in the context of the students' sociodemographic characteristics.

Materials and Methods:

The study population consisted of students enrolled at Çukurova University between February 15 and April 1, 2025. The student body was stratified by faculty—Health Sciences, Social Sciences, and Engineering and Architecture—and participants were randomly selected using a stratified cluster sampling method via Microsoft Excel. From the Health Sciences faculty, students from the Faculties of Medicine and Pharmacy were included; from Social Sciences, students from the Faculties of Communication and Arts & Sciences; and from Engineering and Architecture, students from the Faculties of Engineering and Architecture. A total of 389 students voluntarily participated in the study.

The data collection tools included a researcher-developed sociodemographic questionnaire and structured surveys measuring sexual myths and sexual knowledge. This preliminary study focused specifically on students' responses to questions related to HPV, one of the most prevalent sexually transmitted infections.

Results:

Among the 389 participants, 221 (56.8%) were female and 168 (43.2%) were male. Of these, 129 (33.2%) were from Health Sciences, 133 (34.2%) from Social Sciences, and 127 (32.6%) from Engineering and Architecture faculties. Regarding residential background, 164 students (42.2%) had spent most of their lives in metropolitan areas, 31 (8%) in rural areas, and the remainder in cities or towns.

A total of 291 students (74.8%) reported that their families lived in the Mediterranean Region. In terms of socioeconomic background, 335 students (86.1%) described their family's financial situation as moderate. Regarding parental education, 124 students (31.9%) reported their mothers were high school graduates, 82 (21.1%) university graduates, 74 (19%) secondary school graduates, 74 (19%) primary school graduates, 14 (3.6%) literate only, and 20 (5.1%) illiterate. Regarding fathers, 122 (31.4%) were university graduates, 119 (30.6%) high school graduates, 66 (17%) secondary school graduates, 64 (16.5%) primary school graduates, 11 (2.8%) literate only, and 6 (1.5%) illiterate.

Of the participants, 139 (35.7%) had experienced sexual intercourse, while 249 (64%) had not. In terms of sources of sexual information: 142 (36.5%) reported the internet, 108 (27.8%) friends, 41 (10.5%) a medical institution, 30 (7.7%) family, 32 (8.2%) partner/spouse, and 32 (8.2%) books. Notably, 101 students (26%) stated they had received no sexual education. When asked where they would prefer to receive sexual information, 188 (48.3%) chose a medical institution, 57 (14.7%) the internet, 64 (16.5%) friends, 37 (9.5%) partner/spouse, 31 (8%) a family elder, while 33 (8.5%) did not want to receive any such information.

A total of 231 students (59.9%) believed their sexual knowledge was sufficient, while 157 (40.4%) did not. Regarding masturbation, 233 (59.9%) had masturbated before, while 152 (39.1%) had not. When asked about their expectations from healthcare institutions regarding sexual health, 141 (36.2%) wanted specialized sexual health centers, 133 (34.2%) expected healthcare personnel to initiate discussions, 42 (10.8%) preferred online counseling, 40 (10.3%)

favored accessible sexual health hotlines, 14 (3.6%) desired public conferences, and 12 (3.1%) wanted brochures on sexual topics in clinics.

The average age of participants was 21.49 (±2.9) years, with a mean age of first sexual intercourse at 18.22 (±2.28) years.

In response to the multiple-choice question "Mark the correct statements about HPV (you may choose more than one)," options included: "I have no information, I'm hearing about this for the first time," "It is a sexually transmitted disease," "It causes cervical cancer," and "Diseases caused by HPV can be prevented by vaccination."

Seventy-five participants (19.3%) selected "I have no information"; 194 (49.9%) selected at least one of the other three options; and 119 (30.6%) selected all three accurate statements. Among those who did not select "I have no information," 280 (72%) identified HPV as a sexually transmitted disease, 165 (42.4%) acknowledged its link to cervical cancer, and 185 (47.6%) recognized that HPV-related diseases are preventable through vaccination. In total, 58.1% of students recognized HPV as an STI, 33.89% understood its association with cervical cancer, and 37.92% knew that vaccination can prevent HPV-related diseases.

Of those who selected "I have no information," 62.7% were female and 37.3% male; 30.7% were in the Faculty of Communication, 2.7% in Pharmacy, 18.7% in Arts & Sciences, 2.7% in Medicine, 25.3% in Engineering, and 20% in Architecture. Furthermore, 22.7% had experienced sexual intercourse and 77.3% had not.

Knowledge of HPV as an STI was reported by 71.4% of females and 73.2% of males; by faculty: 56% of Communication, 92.3% of Pharmacy, 68.2% of Arts & Sciences, 81.3% of Medicine, 65.1% of Engineering, and 70.3% of Architecture students. Among those who had engaged in sexual intercourse, 79.1% were aware that HPV is an STI, compared to 68.1% of those who had not.

Regarding awareness of HPV's link to cervical cancer: 45% of women and 38.7% of men selected this option. By faculty: 27.3% of Communication, 46.2% of Pharmacy, 28.8% of Arts & Sciences, 92.2% of Medicine, 27% of Engineering, and 34.4% of Architecture students. Of those with prior sexual experience, 39.6% selected this option, compared to 44% without such experience.

Knowledge that HPV-related diseases can be prevented by vaccination was reported by 51.8% of women and 42.3% of men; by faculty: 37.9% of Communication, 44.6% of Pharmacy, 43.9% of Arts & Sciences, 85.9% of Medicine, 38.1% of Engineering, and 35.9% of Architecture students. Among sexually active students, 50.4% were aware, compared to 46% of those who were not.

Conclusion and Discussion:

A notable proportion of students reported having no knowledge of HPV. Many were unaware that HPV is a sexually transmitted infection, causes cervical cancer, or that it is vaccine-preventable.

Adolescence is a phase marked by rapid physical growth and the development of sexual identity. It is generally divided into early, middle, and late stages. Late adolescence, beginning around age 18, is a period when bodily changes stabilize and individuals make future-oriented decisions. University students fall within this developmental stage, during which they may become sexually active and continue exploring their identities.

Our study found that knowledge levels were significantly higher among students in health-related faculties. Students with sexual experience were significantly more likely to know that HPV is sexually transmitted. However, awareness of the vaccine's protective role was not statistically different by gender or sexual experience.

Notably, knowledge about HPV's vaccine preventability was significantly higher among medical students than those in other faculties—approximately double the rate. Still, even among those who were sexually active, only half knew about the vaccine's protective effects. These

findings suggest that awareness of HPV's transmission, health consequences, and vaccine remains insufficient and needs to be addressed with targeted educational interventions.

Keywords: Human Papillomavirus (HPV), HPV Vaccine, University Students, Cervical Cancer, Awareness, Knowledge Level

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Investigation of Palliative Service Caregivers Concealment of Information from Patients

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Abstract

Objective The aim of this study is to examine the situations in which caregivers of palliative care patients conceal patient information and the factors affecting these situations.

Materials and Methods This study was planned as a single-center, cross-sectional descriptive study. 41 caregivers of patients hospitalized in Izmir City Hospital Palliative Care Unit between February and April 2025 were included in the study. After obtaining voluntary consent from the participants, sociodemographic data, patients' gender, age group, current diagnoses, and reason for hospitalization were collected using the Information Confidentiality Scale and a questionnaire form through face-to-face interviews. Clinical data were obtained from patient files and the hospital information system. The collected data were analyzed using SPSS version 27.0. A p value of <0.05 was considered statistically significant.

Results Participants were 78% female and 22% male. The largest age group was 55-64 years old with 43.9%. 61% of the patients were female and the mean age was 70.88±17.58. Caregivers of male patients had significantly higher scores on the “misrepresentation of the true situation” subscale compared to caregivers of female patients (t=-2.103; p=0.042). Caregivers of patients hospitalized for general deterioration had significantly lower scores on both the “concealment

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of information" (p=0.007) and "concealment of the true situation" (p=0.011) subscales. Caregivers of patients hospitalized for pain palliation had higher "concealment of information" scores (p=0.010). A significant relationship was found between the degree of kinship of the caregiver with the patient and information concealment behaviors. First-degree relatives tended to share more information, while unrelated individuals were more cautious (p<0.05).

Conclusion: This study revealed that palliative care patients' caregivers exhibited certain levels of information hiding behavior when communicating information to healthcare professionals. In particular, the sub-dimensions of misrepresentation of the disease and misrepresentation of the real situation appear to be the strongest predictors of information hiding behavior.

Keywords: Palliative Care, Family Practice, Caregivers, Information Concealment Scale.

Introduction

Palliative care is a holistic approach aimed that improving the quality of life for individuals with life-threatening illnesses, encompassing physical, psychosocial, and psycological support for both the patient and their family. Although this service is often implemented in the final stages of life, it can be sustained alongside treatment at any stage of the illness[1]. In the palliative care process, caregivers may include individuals from the patient's close circle or professional healthcare staff. These caregivers play a crucial role in the treatment process as they are in direct communication with the patient[2,3].

During this process, how caregivers share medical information with the patient including their level of transparency, tendencies to withhold or inadequately convey information is a matter that must be carefully evaluated from both ethical and psychological perspectives[2,4]. Particularly in the case of terminal illnesses, various ethical debates arise around whether or not the patient should be fully informed. In some cases, caregivers may be inclined to withhold certain information from the patient, either to protect the patient's emotional well-being or

based on their own beliefs. However, such behavior may infringe upon the patient's right to make informed decisions about their own life.

Therefore, examining instances where caregivers withhold information from patients, along with the socio-demographic factors influencing these tendencies, is of great significance both ethically and clinically.

Objective

The aim of this study is to assess the extent to which individuals who provide care to patients in palliative care units either as healthcare staff or due to close personal ties tend to withhold information from patients, and to identify the factors influencing this behavior. Based on the data obtained, the study aims to develop recommendations to ensure more ethical and transparent communication between patients and their caregivers throughout the palliative care process.

Materials and Methods

This study was conducted between February and April 2025 with 41 caregivers of patients hospitalized in the Palliative Care Unit of Izmir City Hospital. After obtaining voluntary informed consent from the participants, the Information Concealment Scale and a demographic information form were administered through face-to-face interviews. The structured demographic form for caregivers included variables such as gender, age, marital status, education level, employment status, economic status, presence of chronic illness, and degree of kinship with the patient.

The scale consists of 15 items and 3 sub-dimensions: "misrepresentation of the disease" (items 1, 5, 6, 7, 9, 10, 11), "concealment of ınformation" (items 2, 3, 4), and "misrepresentation of the real situation" (items 8, 12, 13, 14, 15). It is scored using a 4-point Likert scale (0 = Never, 1 = Sometimes, 2 = Often, 3 = Always). Two items on the scale are reverse-scored. Higher scores on the scale and its sub-dimensions indicate a greater tendency toward information concealment. The scale was developed by de la Piedra-Torres et al. in 2022, and its Turkish

validity and reliability study was conducted by Çamcı et al. in 2024. The Cronbach's α values for the scale ranged from 0.79 to 0.87[5,6].

Statistical Analysis

The data were analyzed using SPSS version 27.0 statistical software. A significance level of $p<0.05$ was considered statistically significant. To assess the distribution of continuous variables, the Kolmogorov-Smirnov test was applied in combination with kurtosis and skewness values. It is known that skewness and kurtosis values between +1.5 and -1.5 are considered to indicate a normal distribution[7]. Assuming that the continuous variables were normally distributed, parametric tests were used in the analyses.

An independent samples t-test was employed to compare Information Concealment Scale scores between two independent groups, while one-way ANOVA was used for comparisons involving three or more groups. The Pearson chi-square test was applied for comparisons of categorical variables. A p-value of less than 0.05 was considered statistically significant. Data analysis was conducted using SPSS version 27.0.

Results

A total of 41 caregivers of palliative care patients participated in the study. Of the participants, 78% were women and 22% were men. Regarding age distribution, the largest group fell within the 55–64 age range, making up 43.9% of the sample. Among the caregivers, 68.3% were married and 61% were not employed. The most common level of education among caregivers was high school, with 34.2% holding a high school diploma. In terms of economic status, 48.8% reported having income lower than their expenses. Additionally, 43.9% of the caregivers had at least one chronic illness. Furthermore, 65.9% had a first-degree kinship relationship with the patient.

Among the patients, 61% were female, and their mean age was 70.88 ± 17.58 years. The most common diagnosis was cerebrovascular disease (CVD), accounting for 48.8%, and the most frequent reason for hospitalization was nutritional palliative care, noted in 68.3% of cases.

Looking at the mean scores of the Information Concealment Scale subdimensions: "Misrepresentation of the disease" had a mean score of 9.76 ± 4.21, "Concealment of ınformation" had a mean score of 4.83 ± 1.81, "Misrepresentation of the real situation" had a mean score of 7.07 ± 2.98, and the overall scale mean score was 22.34 ± 5.83.

Caregivers of male patients had significantly higher scores in the “Misrepresentation of the real situation” subdimension compared to caregivers of female patients (t = -2.103; p=0.042).

Caregivers of patients admitted due to general condition deterioration scored significantly lower in both the “Concealment of ınformation” (p = 0.007) and “Misrepresentation of the real situation” (p = 0.011) subdimensions.

Conversely, caregivers of patients admitted due to pain had significantly higher “Concealment of ınformation” scores compared to those of other patients (p = 0.010).

When comparing caregivers' responses to the scale items with their sociodemographic data, a statistically significant relationship was found in responses to the item: "Have you lied to your patient about their illness to make them happy?" Among those whose income was less than their expenses, 45% responded “never,” whereas those with income equal to expenses most frequently answered “often” (60.0%). Among caregivers whose income exceeded expenses, the most common response was “sometimes” at 66.7% (p = 0.012).

There is a statistically significant relationship between responses to the scale item: “Would you support a healthcare worker if they told your patient they would recover, even if it's not true?” Among those whose income was equal to their expenses, the majority (80%) answered “often.” Those with income less than expenses showed a more varied distribution, yet 55% still answered “often.” Caregivers with income exceeding expenses most frequently answered “sometimes” (50%) and “often” (33.3%) (p = 0.031).

A statistically significant relationship was also found in responses to the item: “Do you decide what information about the disease your patient should receive?” Caregivers without chronic illness predominantly responded with “never” (65.2%) and “often” (30.4%), with none

selecting “always.” In contrast, caregivers with chronic illness provided more varied responses, notably selecting “sometimes” most frequently (44.4%) (p = 0.003).

Responses to the item: “Even if it is not true, could you tell your patient that the symptoms they are experiencing are caused by a different illness?” also showed a significant relationship. A large portion of caregivers without chronic illness chose “often” (43.5%) and “never” (39.1%); none selected “always” (p = 0.026).

There was also a statistically significant relationship in answers to: “Would you hide from your patient the fact that his/her illness will cause his/her death ?” Most caregivers without chronic illness answered “often” (43.5%) and “always” (30.4%). In contrast, caregivers with chronic illness most frequently answered “never” (38.9%) (p = 0.042).

Finally, a significant relationship was found in responses to the item: “Do you speak honestly with your patient about their illness?” Caregivers who were not relatives of the patient most frequently chose “sometimes” (53.8%) (p = 0.021). There is a statistically significant relationship between responses to the scale item: “Would you consult a healthcare professional to be sure about what to say to your patient?” Participants who were not relatives of the patient most frequently selected “always” (46.2%). Among first-degree relatives, the most common responses were “often” (44.4%) and “always” (40.7%) (p = 0.001)

Discussion

In this study, the behaviors of caregivers in concealing information from patients hospitalized in a palliative care unit were examined using the Information Concealment Scale. It was found that the majority of caregivers were women (78%), with the most common age range 53.17 ±11.27 years, and the predominant education level being high school (34.1%). In a similar study conducted in Spain using the same scale, the average age of caregivers was reported as 55.57±14.5 years, the majority were also women (84.6%), and most had a high school education (33.4%)[5]. The sociodemographic characteristics of the caregivers in our study appear to align with the literature.

In a 2024 study by Zhang et al. examining spousal tendencies to conceal information, it was noted that emotional closeness could increase information concealment behaviors[8]. Similarly, in a study by Muckaden et al. involving women diagnosed with cervical cancer, it was reported that in two-thirds of cases, diagnosis information was withheld by spouses or family members. This behavior was often rooted in assumptions that patients could not cope with bad news or should not bear the burden of making informed decisions[9].

Unlike these findings in the literature, our study observed that caregivers with a familial relationship to the patient spoke more honestly with the patient about their illness compared to non-relatives. We believe that further research is needed on this subject to better understand the dynamics of caregiver-patient communication in palliative care. In a qualitative study conducted in Thailand focusing on the experiences of caregivers of patients with advanced-stage cancer, it was found that the primary reason for concealing diagnosis and prognosis information was the desire to protect the patient's psychological well-being. The study emphasized that information concealment behavior is shaped not only by individual factors but also by relationship dynamics and cultural values. It also revealed that caregivers often refrained from explicitly disclosing the diagnosis to prevent the patient from being affected by bad news[10].

Consistent with the literature, our study also found that information hiding behavior is not only aimed at preventing harm to the patient, but can also be understood as a way for the caregiver to manage their own internal conflicts. In our study, the higher “information hiding” scores of caregivers of patients hospitalized for pain may reflect the caregiver’s intention to reduce the patient’s emotional and physical burden.

There is limited literature examining the effects of caregivers’ own chronic health conditions and economic status on their tendency to hide information.

Conclusion

This study showed that variables such as the patient's gender and the caregiver's economic and health status have significant effects on caregiver information hiding. Caregivers with chronic diseases were observed to be more careful in sharing information, while those without such conditions tended to communicate more openly. It was also found that individuals facing economic difficulties were more inclined to share unrealistically positive information with the patient. These results suggest that information hiding may not be a solely personal behavior, but a complex, multidimensional situation that requires holistic support.

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Evaluation of the Relationship Between Disease Severity and Vitamin D Levels in Alopecia Areata Patients

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Abstract

Alopecia areata (AA) is a chronic, autoimmune disease that causes scarless hair loss. Various factors play a role in the etiopathogenesis of AA. Vitamin D has been associated with AA and other autoimmune disorders due to its immunomodulatory properties. In addition, vitamin D receptors are located in hair follicles. These receptors and their expression are very important in maintaining a normal hair cycle. Vitamin D plays a role in innate and adaptive immune response through T and B lymphocytes, macrophages and dendritic cells expressing vitamin D receptor (VDR). There are publications suggesting that Vitamin D levels are lower than normal in various autoimmune diseases and that supplementation prevents the emergence of these diseases and helps the treatment of these diseases by reducing the frequency of attacks. In this study, we aimed to compare serum vitamin D levels between AA patients and age- and sex-matched healthy controls and to explain whether there is a relationship between AA and vitamin D serum levels in terms of disease severity and prevalence.

Oral Presentation – OP443

Keywords: Alopecia Areata, Vitamin D, Non-Cicatricial Alopecia, Disease Severity

Introduction

AA is an autoimmune disease affecting the hair follicle, characterized by scarless hair loss, with an incidence of 0.1- 0.2%. It can affect any area where hair follicles are seen, including scalp, beard and body hair, and often causes psychological morbidity. The etiology is not known exactly. Genetic and environmental factors play a role in its pathogenesis.(1,2) Vitamin D plays an important role in blood calcium balance, immune system balance, cell growth and differentiation. Vitamin D plays a role in innate and adaptive immune response through T and B lymphocytes, macrophages and dendritic cells expressing VDR. In addition, vitamin D deficiency causes loss of self-tolerance and predisposes to autoimmune diseases. Vitamin D deficiency is more common in psoriatic patients and autoimmune skin diseases such as vitiligo.(3,4) Although the etiology of AA has not been fully elucidated, it is known that the immune response plays a significant role in the aetiology.(1) Considering the effect of vitamin D both in the development of healthy hair cycle and in the formation of immune response, it may be considered that vitamin D levels in AA patients may be different from the normal population. Only a few studies have been conducted to determine the association of vitamin D deficiency with AA. In this study, we aimed to compare serum vitamin D levels between AA patients and age- and sex-matched healthy controls and to clarify whether there is a relationship between disease severity and type and vitamin D serum levels.

Materials and Methods

This study consisted of a group of 20 patients diagnosed with AA who were diagnosed and followed up in the dermatology outpatient clinic between April and November 2024. The control group consisted of 20 hospital staff and their relatives without any chronic or dermatological disease. Patients taking vitamin D or calcium supplements in the last 3 months, those with renal disease, those in pregnancy, breastfeeding and menopausal period for women, and those receiving phototherapy treatment in the last 6 months were excluded from the study.

Socio-demographic (age, gender, body mass index (BMI)), clinical characteristics (duration of disease, severity of disease, type of disease, family history, presence of autoimmune disease) and vitamin D levels of all patients were recorded. Severity of alopecia tool (SALT) score was calculated for disease severity. It was determined according to the percentage of the area covered by alopecic areas and classified as S0 if there was no hair loss, S1 if hair loss was below 25%, S2 if hair loss was between 26-50%, S3 if hair loss was between 51-75%, S4 if hair loss was between 76-99% and S5 if hair loss was 100%. Vitamin D levels of the patients; >30 ng/ml values were considered as 'normal' (no deficiency), values between 15-30 ng/ml were considered as 'deficiency' and values <15 ng/ml were considered as 'insufficiency'. Data were analyzed using SPSS (Statistical Package for Social Science) for Windows version20.0 statistical package programme and the relationship between the variables was analyzed using chi-square and Fisher exact statistical method. The relationship between vitamin D level and disease severity and duration was analyzed by Pearson correlation test. The significance limit was accepted as $p<0.05$.

Results

There were no significant differences between the patient and control groups in terms of gender, age, or body mass index (BMI). Among patients with alopecia areata (AA), 11 had the patchy type, 2 had the ophiasis type, 2 had the reticular type, and 5 exhibited a diffuse pattern. Based on AA severity scoring, 60% of the patients had mild disease (S1 and S2), while 40% presented with severe disease (S3, S4, and S5). A statistically significant correlation was observed between disease severity and disease duration. A positive family history was reported in only 4 patients. Although the disease appeared to be more severe in patients with a family history, the low number of such cases precluded statistical significance. In 14 patients, the disease duration exceeded 6 months, whereas 6 patients had an acute onset. In 12 patients, the disease began during the juvenile period (before the age of 16). Coexisting autoimmune disorders were identified in 3 patients, all of whom were diagnosed with thyroid disease.

Serum vitamin D levels were below the normal range in both the patient and control groups. There was no statistically significant difference in vitamin D levels between the two groups or between genders. Additionally, no significant correlation was found between vitamin D levels and disease severity or duration ($p > 0.05$).

Discussion

Vitamin D has an important role in keratinocyte differentiation and healthy hair cycle. It has been found that VDR is intensely expressed in hair follicles and the absence of VDR impairs hair growth.(5) Several studies have reported that vitamin D levels are associated with the incidence and/or severity of some autoimmune disorders, including type 1 diabetes mellitus, systemic lupus erythematosus, multiple sclerosis and inflammatory bowel disease.(6) However, there are a limited number of studies investigating the relationship between AA and vitamin D, in which autoimmune factors have also been implicated in its aetiology.

D' Ovidio has shown that there are seasonal differences in the new onset or relapse of AA; a high relapse rate was recorded at the end of the winter season, corresponding to a low vitamin D level during this season. Vitamin D levels were lower in these study groups (both patients and controls), which may indicate vitamin D deficiency in the general population. This may be due to inadequate dietary intake, sampling in winter, or genetic predisposition to vitamin D deficiency. However, in their study, which included patients with a prevalence of AA involvement of more than 25% of the scalp, no significant relationship was found between vitamin D level and AA prevalence.(7) In a similar study conducted by Yılmaz et al. in our country vitamin D level was found to be lower in patients with AA than in the control group, and no relationship was found between vitamin D level and disease prevalence.(8)

In our study, there was no difference between the two groups in terms of vitamin D level, which is different from these studies. This may be due to the tendency towards low vitamin D levels in our geographical location. In a population-based study conducted in the Aegean region of Turkey, Hekimköy et al. found a high prevalence of vitamin D deficiency (74.9%) and

insufficiency (13.8%).(9) Another possibility is that vitamin D plays a role in the development of AA, but it is not a deficiency of this vitamin that causes AA, but problems in the number and/or structure of vitamin D receptors. In future studies, these questions will be clarified by analyzing the number and structure of vitamin D receptors in tissue as well as measuring vitamin D level.

Conclusion

In our study, we found that patients had vitamin D deficiency, but there was no statistically significant difference in serum vitamin D levels between AA patients and healthy controls. To clarify the relationship between 25(OH)D deficiency and AA, studies with larger series and evaluation of VDR are needed.

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Evaluation of COVİD-19 Infection Immunity Levels and Affecting Factors in Healthcare Workers

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Abstract

Introduction This study aimed to determine the parameters that affect and are associated with the antibody response after COVID-19 vaccination in healthcare workers.

Methods Serum samples were obtained from 462 healthcare workers 28 days after the second dose of the vaccine. Detection and quantification of anti-SARS-CoV-2 antispike antibodies were performed via a chemiluminescent microparticle immunoassay.

Results A total of 99.6% of healthcare workers developed seropositivity 4 weeks after the second dose of the vaccine. The IgG antibody titer was significantly greater in young people than in elderly people ($p<0.001$), and the IgG antibody titer was significantly greater in those working in the surgical department than in those working in the basic department ($p<0.001$). A statistically significant greater percentage of the participants who did not have chronic disease ($p=0.027$), those who did not use continuous medication ($p=0.014$), those who did not smoke ($p<0.001$), and those who were diagnosed with prevaccine

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COVID-19 infection than those who did not ($p<0.001$) were affected. The mean IgG antibody level was significantly greater in those who were diagnosed with COVID-19 before vaccination and did not use drugs for COVID-19 ($p=0.009$). At the same time, a significant negative correlation was found between the participants' age-IgG antibody level average and smoking/pack-year-IgG antibody level average.

Conclusions Finally, the antibody response was affected by conditions such as advanced age, BMI, educational status, exposure, smoking, chronic disease, and past infection. We believe that it would be beneficial to consider these factors affecting the vaccine response while creating vaccination programs.

Keywords: COVID-19, Vaccine, Antibody, IgM, IgG, Healthcare Worker

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Assessment of Knowledge Levels on Cardiovascular Disease Risk Factors Among Tobacco Users with Cardiovascular Disease: A Preliminary Study

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Oral Presentation – OP451

Objective

Tobacco use is among the leading causes of cardiovascular diseases (CVD), which are responsible for an estimated 17.9 million deaths annually. The most common and deadly form of tobacco consumption is cigarette smoking, which is associated with a reduction in life expectancy of at least 10 years for lifelong smokers. Smoking is a major risk factor for CVD and remains the leading cause of preventable death worldwide. According to data from the World Health Organization, smoking accounts for approximately 12% of all cardiovascular diseases. Importantly, the harmful effects of tobacco use can be significantly and relatively rapidly reversed upon cessation.

Today, raising public awareness about CVD and its modifiable risk factors is of critical importance. Several studies have shown that there are knowledge gaps regarding CVD risk factors, which may lead to insufficient preventive behaviors. The aim of this preliminary study was to assess the level of knowledge regarding cardiovascular disease risk factors among individuals diagnosed with CVD who are active tobacco users, and to examine the relationship between tobacco use and this knowledge level.

Materials and Methods

This cross-sectional descriptive study included 60 voluntary participants who were active tobacco users and had a diagnosis of cardiovascular disease. All participants were recruited from the Narlıca 2 Family Health Center in Adana. Institutional permissions were obtained, and verbal informed consent was collected prior to participation. The data were collected through face-to-face interviews using a structured questionnaire. The questionnaire consisted of two parts: a socio-demographic data collection form developed by the researchers and the Cardiovascular Disease Risk Factors Knowledge Level Scale (CVD-RFKS), which includes 28 items.

Results

A total of 59 patients participated in the study. The mean age of the participants was 60.76±10.74 years; 50.8% were female, and 78% were married. On average, they had been using tobacco or tobacco products for 37.25±15.56 years and smoked 22.20±18.37 cigarettes per day.

A history of myocardial infarction was reported by 35.6% of the participants, 8.5% had experienced a stroke, and 33.9% had undergone cardiac stenting or bypass surgery. Hypertension was present in 86.4% of the patients, and 49.2% had been diagnosed with diabetes mellitus.

Distribution of Cardiovascular Disease Risk Factors Knowledge Score (CVD-RFKS)

Scale	Possible Score Range	Observed Score Range	Mean±SD
CVD-RFKS (KARRIF-BD)	0–28	0–22	14.22±5.31

Most participants demonstrated good awareness of cardiovascular risk factors: 96.6% correctly identified smoking as a risk factor for heart disease, 91.5% recognized hypertension as a risk factor, and 93.2% knew that overweight individuals have an increased risk of heart disease.

However, 25.4% of the participants believed that cardiovascular diseases could not be prevented.

Keywords: Tobacco Use, Cardiovascular Diseases, Knowledge Level of Cardiovascular Disease Risk Factors

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Determination of Nurses' Knowledge Levels in Oral Mucositis Management

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Abstract

Mucositis is one of the most common oral problems associated with many diseases and treatments. This study is a descriptive study to determine the knowledge levels of nurses working in pediatric intensive care and pediatric hematology-oncology clinics on oral mucositis management. The universe of the study was 32 nurses working in the Pediatric Intensive Care and Pediatric Hematology-Oncology Clinic of Çukurova University Balcalı Education and Research Hospital. When the age groups of the nurses were examined, it was determined that the most common age group was between 36-45 years old with 16 (47.6%) people. 24 (45.6%) of the nurses participating in the study were female. When their marital status was examined, 16 (50%) were single and 16 (50%) were married. When their educational status was examined, 23 (71.8%) people had a bachelor's degree. According to the year of the study, it was seen that 13 (40.6%) people had been in the 1-5 year range. Of the nurses participating in the study, 17 (53.1%) work in a pediatric intensive care clinic. When the length of time the nurses worked in the clinic was questioned, 17 (54.8%) had worked in the clinic for 1-5 years. 19 (59.4%) of the nurses received information about oral mucositis by following publications. When the places where information was obtained were examined, the in-service training category was the most preferred place with 8 (57.1%) people. 18 (56.3%) of the nurses stated that they could diagnose oral mucositis. Oral mucositis total score mean and standard deviation were 40.15±9.24. In the

Oral Presentation – OP455

comparisons made with descriptive questions, no significant difference was found between any of the nominal and ordinal variables and the scale total score mean. It is planned to organize and conduct an effective structured in- service training program for nurses on oral mucositis.

Keywords: Oral Mucositis, Mucositis, Pediatrics

Introduction and Objective

Mucositis is one of the most common oral problems associated with many diseases and treatments. Along with the development of treatment modalities used in children, adverse side effects such as oral mucositis, a painful inflammation of the mucous membrane, and ulceration of the mucous membrane associated with these modalities are emerging (1). Oral mucositis (OM) is a common oral complication in cancer patients receiving systematic chemotherapy. This complication is defined as inflammation of the oral cavity and is characterised by erythema and degeneration of the mucous membrane, which later develops into ulcers and bleeding (2). Oral mucositis (OM) is associated with a high rate of clinical morbidity including severe pain, malnutrition and local and systemic infections (3). Oral mucositis leads to an increase in opioid use in the clinic because of the severe pain it causes and a significant deterioration in the quality of life of the child by negatively affecting communication and sleep quality (1,4).

The incidence of OM depends on the type of cancer and the treatment modality. The complication is usually associated with high-dose systemic chemotherapy. The incidence of oral mucositis in cancer patients varies between 30% and 75%. Oral mucositis and related systemic infections are oncological emergencies. It is important in the management of patients with cancer using serious treatment protocols. Nurses should have knowledge about the clinical course and management of this life-threatening complication (2).

Oral mucositis is one of the most common treatment-related side effects in paediatric oncology patients and is the most important cause of sepsis in these patients. In patients with oral mucositis, microorganisms enter the circulation with the disruption of the normal mucosa and

cause systemic infections. Systemic infections lead to development of life-threatening events including neutropenia and lymphopenia (5).

Regular evaluation of the oral mucosa throughout treatment is necessary for the prevention of mucositis and the effectiveness of treatment. Although many scales are used in the evaluation of oral mucositis, the scale to be preferred should be appropriate for paediatric patients and its validity-reliability should be proven (4). Nurses caring for paediatric oncology patients should know the clinical course of oral mucositis and should be aware of their roles in the management of the disease, such as frequent evaluation, providing appropriate oral care and educating patients (6,7).

Oral mucositis is a source of morbidity that negatively affects the progress of the treatment process and increases health care costs. There are limited number of studies in the literature focusing on the paediatric population about this subject (1).

Practices frequently used by nurses in paediatric intensive care units are of great importance because they affect the duration of stay in intensive care and the quality of nursing care. One of these practices is oral care. In unconscious paediatric patients treated in intensive care units, inability to take fluids and nutrients by mouth, mouth breathing and drying of the oral mucosa due to oxygen therapy may lead to the development of OM (8).

Provision of oral hygiene and protection of the oral mucosa of children in the intensive care unit is important in preventing mucositis as well as healthy nutrition, increasing comfort and quality of life of patients and ultimately preventing ventilator-associated pneumonia (1,9).

The nurse, who makes the final decision in the care of patients, should do this in the light of evidence-based practices, taking into account the results of current research, carefully and carefully. In this way, while the quality of nursing care increases, significant differences occur in patient care outcomes and the patient's quality of life increases with the patient's satisfaction. Thus, the quality level of care improves, a difference occurs in nursing practices and patient care outcomes, nursing care is standardised and patient satisfaction increases (10).

Evaluation of oral hygiene and mucosal integrity in the paediatric intensive care unit is one of the basic responsibilities of the nurse who has an important role in the prevention of diseases

and protection of health. Evaluation of oral hygiene and mucosal integrity is also an indicator of the general health of the child and the nursing care provided (11).

In a study using the Beck oral assessment scale, it was concluded that almost all of the children in the tertiary paediatric intensive care unit had dysfunction and 70.9% of them had medium-heavy dysfunction. According to the study data, the age, gender and length of hospital stay of the child were found to be directly related with the results (11).

Nurses, who assume an important role as a part of the professional healthcare team in the treatment and care of the patient, should increase their level of knowledge about oral hygiene and take initiatives to improve the quality of patient care by actively using evidence-based practices and prepared guidelines in the clinic (9,11).

There are various classification systems for OM and the system proposed by the World Health Organisation (WHO) is the most commonly used one. According to this system, OM is considered as a four-phase dysfunction including inflammatory/vascular phase (Phase I), epithelial phase (Phase II), ulcerative/bacteriological phase (Phase III) and healing phase (Phase IV) (8).

Proper oral care is of vital importance in terms of eliminating oral mucous membrane problems, pain and infection risk that limit the individual's ability to eat, speak and socialise (1). Pain/infection control and maintenance of good oral hygiene are essential during OM management (3). Considering the studies, it is seen that prevention and management of oral mucositis is of vital importance in paediatric patients.

This study was conducted to determine the level of knowledge of nurses working in the Pediatric Intensive Care, Pediatric Haematology and Pediatric Oncology Clinics of Ç.Ü. Balcalı Hospital about the management of oral mucositis.

Material and Method

This study was a descriptive study to determine the level of knowledge of nurses about the management of oral mucositis in paediatric patients receiving long-term treatment in hospital. It was conducted in Çukurova University Balcalı Training and Research Hospital between November 2022 and November 2023.

The population of the study consisted of 45 nurses working in the Pediatric Intensive Care and Pediatric Haematology and Pediatric Oncology Clinics of Çukurova University Balcalı Training and Research Hospital, and the study was completed with 32 nurses.

In the study, 'Questionnaire Form for Management of Oral Mucositis' prepared in line with the literature was used. The questionnaire form prepared as a result of the literature review included 27 questions answered as 'true', 'false' and 'don't know' (4,12-15). Information questions were calculated over 100 points.

After ethics committee permission was obtained, data were collected by questionnaire after obtaining the consent of the participants. This research was supported by Çukurova University BAP Commission (ID: TSA-2023-1578).

The data obtained were transferred to the computer environment by the researcher and evaluated with appropriate statistical methods in the licensed SPSS (Statistical Package For Social Science) package programme with the support of the statistical consultant. Number percentage mean, standard deviation, tests for comparison of scale score averages were used in the evaluation of the data.

Results

Descriptive characteristics of the nurses who participated in the study are given in Table 1. When the age groups of the nurses were analysed, it was found that the most common age group was between 36-45 years with 16 (47.6%) people. Twenty-four (45.6%) of the nurses participating in the study were female. Considering their marital status, 16 (50%) were single and 16 (50%) were married. When the educational status of the nurses participating in the study was analysed, 23 (71.8%) were undergraduate graduates. According to the years of employment, 13 (40.6%) of the nurses were in the range of 1-5 years (Table 1).

Seventeen (53.1%) of the nurses participating in the study were working in the paediatric intensive care clinic. When the working time of the nurses in the clinic was questioned, 17 (54.8%) of them worked in the clinic between 1-5 years. Nineteen (59.4%) of the nurses received information about oral mucositis by following publications. When the places where information was obtained were analysed, in-service training category was the most preferred

place with 8 (57.1%) people. Eighteen (56.3%) of the nurses stated that they could diagnose oral mucositis (Table 1).

When the findings related to the oral mucositis knowledge score are analysed, the mean and standard deviation of the total score are given in Table 2 (Table 2).

Table 1. Descriptive Characteristics of Nurses

Variables (N=32)	***n***	***%***
Age Groups		
18-25	12	37.5
26-35	16	50.0
36-45	4	12.5
Gender		
Female	24	75.0
Male	8	25.0
Marital Status		
Married	16	50.0
Single	16	50.0
Education Status		
Postgraduate	3	9.4
Licence	23	71.8
Associate Degree	2	6.3
Health Vocational High School	4	12.5
Year of Work		
Less than 1 year	7	21.9
1-5	13	40.6
6-15	9	28.1
16-20	2	6.3
Over 20	1	3.1
Working Clinic		
Paediatric Intensive Care	17	53.1
Paediatric Oncology Clinic	8	25.0
Paediatric Haematology Clinic	7	21.9
Duration of Clinical Study (N=31)		
Less than 1 year	7	22.6
1-5 years	17	54.8
6-10 years	3	9.7
10 years and over	4	12.9
Status of Following Publications		
Yes	13	40.6
No	19	59.4
Getting Information About Oral Mucositis		
Yes	13	40.6

No	19	59.4
Place of Information (N=14)		
In-Service Training	8	57.1
Congress/Symposium/Seminar	2	14.3
School/Faculty	4	28.6
Diagnosis of Oral Mucositis		
Yes	18	56.3
No	14	43.7
Frequency of Diagnosis (N=13)		
Her shift	1	7.7
Everyday	8	61.5
Often	4	30.8
Standard Form Usage (N=30)		
Yes	21	70.0
No	9	30.0

Table 2. Findings Related to Nurses' Oral Mucositis Knowledge Score

	X±SS
Oral Mucositis Knowledge Score	40.15±9.24

Discussion

The mean and standard deviation of oral mucositis total score was 40.15±9.24 (Table 2). In the comparisons made with descriptive questions, no significant difference was found between any of the nominal and ordinal variables and the mean total score of the scale.

In a study in which oral care assessment and care planning levels of oncology nurses were evaluated, it was concluded that the scores of the participants were low. The results emphasise the importance of continuous education and training for oncology nurses on the use of a standard protocol for oral mucositis assessment and care. These results indicate that an effective structured education programme about OM is needed (6).

Conclusion and Recommendations

It is planned to organise and conduct an effective structured in-service training programme on oral mucositis.

Acknowledgement: This research was supported by Çukurova University BAP Commission (ID: TSA-2023-1578).

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Investigation of Knowledge Level and Influencing Factors Regarding Nursing Care for Nasal CPAP

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Abstract

This study aims to determine the knowledge level of neonatal intensive care unit nurses regarding nursing care for infants receiving nasal CPAP oxygen therapy, and the factors affecting this level. The research is a cross-sectional study conducted at Adana City Training and Research Hospital, with the participation of 43 nurses. Data were collected through a 100-item questionnaire measuring socio-demographic characteristics and knowledge level about CPAP therapy. The findings of the study indicate that the majority of the participants had received training on CPAP, but they did not have certifications, and there was a lack of guidelines in the clinic. It is emphasized that increasing nurses' knowledge level about CPAP would improve the quality of care and play an important role in nursing practice.

Oral Presentation – OP456

Keywords: Child Health and Disease Nursing Care, Nasal CPAP, Newborn, Nursing, NICU, Oxygen Therapy, Preterm.

Introduction and Objective

The assessment of the neonatal respiratory system includes evaluation of oxygen saturation, partial pressures of carbon dioxide and oxygen, the shape and symmetry of the chest wall and any deviations, breath sounds, use of accessory muscles, nasal flaring, apnea, responses to

stimuli, the need for suctioning, and assessment of skin color for cyanosis or pallor (1-3). Respiratory distress in neonates may be an early indicator of a variety of conditions, including perinatal asphyxia, transient tachypnea of the newborn, meconium aspiration syndrome, respiratory distress syndrome, persistent pulmonary hypertension of the newborn, congenital heart diseases, central nervous system disorders, hypoglycemia, and metabolic diseases (4). Oxygen therapy is used to ensure adequate oxygenation of the respiratory system and tissues in neonates (5). For preterm infants with respiratory distress, the use of nasal prong continuous positive airway pressure (CPAP) is recommended over endotracheal intubation and mechanical ventilation (6,7). In CPAP application, a pressure of 5-6 cmH_2O, FiO_2 of 60-80%, and a flow rate of 5-8 L/min are generally used, and these parameters are adjusted based on blood gas values (8). Studies comparing different modes of CPAP therapy have not found a significant difference in extubation failure rates (9,10). One study reported that more than 60 days of positive pressure support is associated with a higher risk of neurodevelopmental problems (11). Avoiding intubation and using non-invasive modes in preterm infants reduces the risk of lung injury and improves neonatal outcomes (12). Complications of CPAP include pulmonary air leaks, intraventricular hemorrhage, retinopathy, and nasal complications (13). Pressure injuries to the nasal septum are seen in 20-100% of neonates receiving CPAP therapy (14,15). Skin complications during CPAP therapy are positively correlated with prematurity, gestational age, and duration of therapy (15). The risk of intraventricular hemorrhage and white matter injury increases with painful procedures during CPAP use in neonates (16,17). Risk factors for retinopathy of prematurity (ROP) include prematurity and oxygen therapy; ROP is more common in infants receiving CPAP (18-21). During CPAP therapy, nasal secretions, nasal hygiene, and regular repositioning are crucial (23,24). Prolonged use of CPAP may cause skin irritation and pressure ulcers; therefore, frequent position changes are essential (24). Additionally, CPAP prongs must be properly positioned and skin integrity must be protected (31-34). Nurses' knowledge levels regarding oxygen therapy and ROP screening in neonates play a critical role in improving the quality of patient care (26,27). More education and studies are needed to enhance nurses’ knowledge about CPAP use (35-39).

This study was conducted to determine the knowledge levels of neonatal intensive care nurses regarding nursing care for neonates receiving oxygen therapy via nasal CPAP, as well as the factors influencing these knowledge levels.

Research Questions

1. What is the level of knowledge of nurses regarding the nursing care of neonates receiving oxygen therapy via nasal CPAP?
2. What are the factors that influence this level of knowledge?

Material and Method

This descriptive cross-sectional study was conducted with nurses working with neonates receiving nasal CPAP therapy at Adana City Training and Research Hospital between June 1, 2024, and August 1, 2024. Ethical approval and institutional permissions were obtained. The study sample consisted of 43 nurses. According to a post-hoc power analysis performed using the G*Power 3.0.10 program, the power of the study was found to be 89.3% at a 5% significance level.

The data collection tool was a two-part questionnaire developed by the researchers based on the literature. The first part included 11 questions related to socio-demographic characteristics. The second part comprised 100 knowledge questions regarding nursing care for neonates receiving oxygen therapy via CPAP (1-39). The questions were in a three-point Likert-type format with the options "Yes," "No," and "I don't know."

Data Evaluation

The data were analyzed using IBM SPSS Statistics version 27. Frequency tables and descriptive statistics were utilized, and non-parametric tests were preferred for data that did not follow a normal distribution. The Mann-Whitney U test was used for comparisons between two groups, while the Kruskal-Wallis H test was used for comparisons among three or more groups. Bonferroni correction was applied in cases where significant differences were found.

Results

The mean age of the participants was 35.02 ± 7.06 years. Of the participants, 76.7% were female and 60.5% held a bachelor's degree. A total of 44.2% had less than 10 years of professional

experience, and 60.5% had less than 10 years of experience in intensive care. While 62.8% did not hold a certification in CPAP, 79.1% had received CPAP training. Additionally, 83.7% reported that there was no CPAP guideline available in their clinical setting, and all participants stated that there is a need for such a guideline (Table 1). The mean knowledge score was 97.33 ± 3.30 (minimum: 90, maximum: 100). A score of 80 or above was considered indicative of sufficient knowledge (Table 2). No significant differences were found between knowledge scores and age, gender, education level, overall professional experience, or the presence of a clinical guideline ($p > 0.05$). However, significant differences were observed between knowledge scores and intensive care experience, possession of a certification, participation in resuscitation, and having received CPAP training ($p < 0.05$) (Table 3). Knowledge gaps or uncertainties were identified in several critical areas. Specifically, deficiencies were noted regarding alarm settings, filter placement, family education, management of nasal bleeding, and complications related to high CPAP pressure.

Table 1. Distribution of Demographic Characteristics Related to the Study

Variable (N=43)	**n**	**%**
Age Groups [Mean±SD → 35.02±7.06 (years)]		
<26	3	7,0
26-35	22	51,1
36-45	12	27,9
46-55	6	14,0
Gender		
Female	33	76,7
Male	10	23,3
Education Level		
High School	13	30,2
Associate Degree	2	4,7
Bachelor's Degree	26	60,5
Master's Degree	1	2,3
Doctorate	1	2,3
Years of Professional Experience		
<10 years	19	44,2
10-19 years	15	34,8
20-29 years	6	14,0
30-39 years	3	7,0

Intensive Care Unit Experience		
<10 years	26	60,5
10-19 years	10	23,2
20-29 years	7	16,3
Certification		
Yes	16	37,2
No	27	62,8
Participation in Resuscitation		
Yes	17	62,8
No	16	37,2
CPAP Training		
Yes	34	79,1
No	9	20,9
Number of Sessions Attended		
Never Attended	9	20,9
1 session	1	2,3
3 session	3	7,0
More than 3 sessions	30	69,8
Clinical CPAP Guidelines Availability		
Evet	7	16,3
Hayır	36	83,7
Need for Clinical CPAP Guidelines		
Yes, there is a need	43	100,0

Table 2. Distribution of Descriptive Statistics for Knowledge Form Scores

Variable (N=43)	Mean	S.D.	Median	Min.	Max.
Knowledge Scores	97,33	3,30	99,0	90,0	100,0

Tablo 3. Comparison of Knowledge Scores According to Findings

Variable (N=43)	n	Knowledge Score		Statistical Analysis* Probability
		$\overline{\text{Mean}} \pm$ S. D.	Median [IQR]	
Age groups				
<35	25	96,16±3,76	97,0 [7,5]	χ^2=5,089
36-45	12	98,67±1,67	99,0 [2,0]	p=0,080
46-55	6	99,50±0,84	100,0 [1,3]	
Gender				
Female	33	97,72±2,93	99,0 [4,5]	Z=-1,018
Male	10	96,00±4,19	97,0 [9,0]	p=0,309
Education Level				
Associate's Degree and	15	98,47±2,92	100,0 [2,0]	Z=-1,831
Below	28	96,71±3,38	98,0 [6,0]	p=0,067

Bachelor's Degree and Above				
Years of Professional Experience <10 years 10-19 years ≥20 years	19 15 9	95,95±3,78 97,87±2,89 99,33±0,86	96,0 [8,0] 99,0 [4,0] 100,0 [1,5]	χ^2=4,842 p=0,089
Intensive Care Experience <10 years (1) 10-19 years (2) 20-29 years (3)	26 10 7	96,07±3,63 99,10±1,52 99,42±0,78	97,0 [7,3] 100,0 [2,3] 100,0 [1,0]	χ^2=8,692 **p=0,013** **[1-2,3]**
Certification Yes No	16 27	99,56±1,31 96,00±3,41	100,0 [0,0] 97,0 [6,0]	Z=-4,198 **p<0,001**
Participation in Resuscitation Yes No	17 16	98,85±1,76 94,75±3,71	100,0 [2,0] 93,5 [7,7]	Z=-3,715 **p<0,001**
CPAP Training Yes No	34 9	98,11±2,83 94,33±3,35	99,5 [2,3] 94,0 [6,0]	Z=-2,813 **p=0,005**
Presence of CPAP Guidelines Yes No	7 36	98,14±1,95 97,17±3,50	99,0 [4,0] 99,0 [6,0]	Z=-0,103 p=0,918

Conclusion and Recommendations

Although the overall knowledge level of neonatal intensive care nurses regarding CPAP applications is high, there are deficiencies in certain critical areas. To ensure the safe and effective implementation of CPAP therapy, it is recommended that practice-based, up-to-date, and continuous training programs be developed for nurses, grounded in current clinical guidelines.

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Evaluation of Preoperative Education, Chronic Disease Training, and Health Perception in Adult Patients Undergoing Coronary Artery Bypass Surgery from a Family Medicine Perspective

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Oral Presentation – OP459

Background and Aim: Coronary artery disease (CAD) is one of the leading causes of mortality worldwide. Coronary artery bypass graft (CABG) surgery is a common surgical intervention to improve myocardial perfusion in CAD patients. Effective preoperative education and chronic disease management are essential for improving outcomes, particularly in the context of primary care. This study aims to evaluate preoperative education processes, chronic disease education status, and general health perception in adult patients who underwent CABG, from a family medicine perspective.

Methods: This cross-sectional, descriptive study was conducted with adult patients who underwent CABG surgery at the University of Health Sciences Adana City Training and Research Hospital. Data were collected via face-to-face surveys, which included a 22-item sociodemographic questionnaire, the 15-item Barnason Perceived Effectiveness Expectation Scale – Cardiac Surgery Version, and the 20-item Assessment of Chronic Illness Care (ACIC) scale.

Results: A total of 155 patients participated (30.3% female, 69.7% male), with a mean age of 64.58 ± 9.89 years. Most participants were married (77.4%) and lived in urban areas (95.5%). Preoperative education was received by 98.7%, with 44.5% receiving information from physicians and 54.2% from nurses or other health professionals. A total of 72.9% rated the

education as sufficient. Additionally, 98.1% had received chronic disease education, primarily from family physicians (89.7%) and specialists (97.4%).

Conclusion: The findings indicate high levels of educational intervention prior to CABG surgery. Family physicians play a vital role in chronic disease management and patient education. Strengthening their involvement in educational processes may enhance patients' health literacy and self-care capabilities, and positively influence their health perceptions.

Keywords: Coronary Artery Disease, Coronary Artery Bypass Graft, Family Medicine, Patient Education, Chronic Disease Management, Health Perception

Introduction

Chronic diseases, as defined by the World Health Organization, are non-communicable conditions that emerge due to multiple risk factors, progress slowly, last three months or more, and often result in permanent complications and disabilities. Among these, cardiovascular diseases rank first in terms of mortality.

Coronary artery disease (CAD), which leads to myocardial ischemia and necrosis due to the narrowing or blockage of coronary arteries, remains a global health concern. Coronary artery bypass graft (CABG) surgery is a key intervention in managing CAD. However, preventive care delivered in primary healthcare settings, especially by family physicians, is vital in reducing morbidity and mortality related to CAD.

Lifestyle changes, including cessation of smoking and alcohol, healthy diet, weight control, physical activity, and stress management, are essential for prevention. Family physicians are central in early identification of at-risk individuals and in implementing preventive strategies and patient education.

Surgical interventions such as CABG not only have physiological but also psychological and social impacts. Patients often experience anxiety, body image disturbances, dependency, and uncertainty. Effective preoperative education can improve coping mechanisms, reduce complications, and promote better recovery.

Family medicine provides continuous and comprehensive healthcare services throughout the patient's life and plays a key role in chronic disease management and preoperative education. This study evaluates the educational experiences and health perceptions of patients undergoing CABG surgery from a family medicine perspective.

Material and Methods

This descriptive, cross-sectional study was conducted with adult patients who had undergone CABG surgery at the Cardiovascular Surgery Clinic of the University of Health Sciences Adana City Training and Research Hospital.

Patients who consented to participate were surveyed using a face-to-face questionnaire. The instrument included: A 22-item sociodemographic questionnaire, the 15-item Barnason Perceived Effectiveness Expectation Scale – Cardiac Surgery Version and the 20-item Assessment of Chronic Illness Care (ACIC) scale.

Results

Of the 155 participants, 30.3% were women and 69.7% men. The mean age was 64.58 ± 9.89 years (range: 40–94). Most were married (77.4%), had primary education (45.2%), were retired (58.1%), and lived with their spouses (66.5%). A majority (95.5%) lived in urban areas, and 52.9% reported moderate economic status.

Preoperative education was received by 98.7% of participants; 44.5% were educated by physicians, while 54.2% received information from nurses or other healthcare providers. Among them, 72.9% found the education sufficient.

Regarding general health perception, 41.9% rated their health as moderate, while 43.9% rated it as good. Chronic disease education was received by 98.1% of participants. Among them, 89.7% reported receiving this education from family physicians and 97.4% from specialist physicians.

Discussion and Conclusion

The results show that the vast majority of patients received preoperative education, and most found it adequate. Nonetheless, improvements in the content, duration, and methods of educational delivery could enhance outcomes.

A significant portion of participants rated their health perception as moderate, indicating room for improvement. Health literacy and disease awareness efforts may contribute to more positive health perceptions.

The high rate of chronic disease education highlights the crucial role of family physicians and specialists in patient support. Family physicians, in particular, serve as essential links between chronic disease management and preventive care.

Patient education is critical for minimizing complications and fostering self-care. Although many patients received education, structural constraints in primary care settings may limit the effectiveness of these interventions.

It is imperative to strengthen the role of family physicians in patient education to improve health literacy, foster positive health perceptions, and support chronic disease management more effectively.

Associations Between Polypharmacy, Chronic Conditions, and Inappropriate Medication Use in the Very Elderly

Mehmet Beler

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Oral Presentation – OP464

Objective: This study aimed to investigate the prevalence of polypharmacy and potentially inappropriate medication use (PIM) in the elderly population and to identify associated factors.

Methods: This cross-sectional and descriptive study was conducted between February and May 2025 in the central district of Elazığ, Türkiye, among patients registered at a geriatric outpatient clinic. A total of 300 individuals aged 80 years and older were included. Sociodemographic data and medical histories of the participants were collected through face-to-face interviews. Polypharmacy was defined as the regular, concurrent use of five or more medications or prescribed supplements. Potentially inappropriate medication use was evaluated based on the Beers Criteria.

Results: The median number of medications used by participants was 5.00 (range: 0.00–12.00), and the median number of chronic conditions was 3.00 (range: 0.00–8.00). The prevalence of polypharmacy was 54.7% (n=164), while the prevalence of PIM was 78.0% (n=234). No statistically significant differences were found between sociodemographic characteristics and polypharmacy. PIM was significantly more common among participants with urinary incontinence (p=0.044). Participants with polypharmacy had significantly higher rates of PIM (p<0.001).

Conclusion: This study revealed high rates of polypharmacy (54.7%) and PIM (78%) among the very elderly population. An increased number of chronic conditions and medications was significantly associated with PIM. Physicians providing care to geriatric populations are advised to consider the risks of polypharmacy and PIM in order to minimize adverse drug events.

Keywords: Potentially Inappropriate Medication Use, Polypharmacy, Aging

Evaluation of Healthcare Professionals' Thoughts Regarding Patient Privacy in The COVID-19 Process

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Oral Presentation – OP468

The importance of patient is developing in parallel with the increasing awareness of patient rights today. Privacy is defined as "privacy", "personal privacy" in the Dictionary of the Turkish Language Association (TDK), and the phrase entering into (someone's) privacy is defined as "being close enough to learn about a person's private life". The level of privacy consciousness is the organizations that should be at the highest level in the health sector that provides uninterrupted service. Because it is important both for the privacy of the employee and for the patients they are dealing with.

It is possible to examine the issue of privacy under two main headings as physical and personal information. The issue of always protecting the privacy of the patient has been defined by the laws of Hammurabi, strengthened with the Hippocratic oath, and today it is bound by many regulations and legal obligations. Patients Rights Directive published in 1998 in Turkey (HHY) section of the Protection of Patients Rights to respect for privacy is mentioned as necessary. Regarding the protection of bodily privacy, in article 21 of the Legislative Patient Rights Regulation in our country, the examination, diagnosis, treatment and other procedures that require direct contact with the patient are carried out in a reasonable confidentiality, allowing a relative to be present in cases where there is no medical harm, and not directly related to the treatment. It regulates the absence of persons during medical intervention within the right to respect the privacy of the patient. The 5th article,

20th article, 21st and 23rd article of the Patient Rights Regulation under the title of Principles contain regulations on the protection of the privacy of the patient's information.

Method: The primary aim of the study is to determine the attitudes of healthcare professionals towards patient privacy. The secondary aim is to reveal whether there is a difference between the attitudes of healthcare professionals working in different units and between the attitudes of healthcare professionals from different professional groups. The study is a qualitative study with a phenomenological research design. The study is a qualitative study and the universe of the study consists of 5 doctors, 8 nurses and 5 hospital healthcare personnel working at Mersin Toros State Hospital. The research was conducted during the Covid-19 period. Participants were selected from different professional groups by random sampling method and 19 questions were asked to the participants with one-on-one face-to-face interview technique, 6 of which were descriptive, i.e. including their socio-demographic characteristics and 13 of which were aimed at determining their feelings and thoughts. A suitable interview environment was provided with the participants and no recording device was used during the interviews.

The concept of privacy is used in many disciplines and especially in the healthcare sector, the concept of ‘’patient privacy’’ is gaining more importance. Health education shaped in line with this purpose can be a good option. Qualitative studies are needed to better understand the attitudes of healthcare professionals towards patient privacy during the COVID-19 process and to ensure that behavioral changes are in the right direction. In the process of COVID-19, it is thought that patient privacy should not be ignored and attention should be paid to this issue in health services. The attitude of healthcare professionals on the subject in this process is very important. Because, healthcare professionals are considered primarily responsible for ensuring and maintaining patient privacy in healthcare services. Indeed, it is the healthcare workers who are in primary and continuous interaction with the patient throughout the disease process, and the protection of privacy in this process is essentially associated with this group.

Key Words: Patient Privacy, Healthcare Professionals, COVID-19

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The Roles and Functions of Nurses Working in the Field of Pediatric Health and Diseases: Their Implementation and Influencing Factors

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Oral Presentation – OP469

Introduction and Aim: The purpose and basic function of nursing is to help healthy or sick individuals. The research was conducted to determine the roles and functions of nurses working in child health related areas in Adana city center through their responses; to examine the implementation status of these roles and the factors affecting them.

Method: The study was conducted in the pediatric wards, emergency, intensive care and polyclinics of Çukurova University Balcalı Hospital, Adana Numune Training and Research Hospital, Adana Maternity and Child Diseases Hospital, Adana city center, between December 1, 2018 and May 1, 2019. Data were collected using 19 socio-demographic questions and the Scale for the Application of the Roles and Functions of Pediatric Nurses developed by Yüzer and Yiğit in 2005.

Results: It was determined that 20 nurses (45.4%) were in the 26-35 age group, 39(88.6%) were female, 26(59.1%) were married, 29(65.9%) had a bachelor's degree/above, and 21(47.7%) had been working for 6-15 years. It was determined that 25 nurses (56.8%) worked in the pediatric ward/surgery, 35(79.5%) received in-service training, 25 (56.8%) attended a course, and 10 (40%) had attended the course for more than 1 year. It was determined that 23 (52.3%) of them did not work willingly in the clinic they currently work in, 42 (95.5%) of them loved children and 35 (79.5%) of them felt competent in the field of child health. It was determined that 42 nurses (95.5%) wanted to participate in scientific activities in child health and wanted to receive

scientific activities from faculty members, 39 (88.6%) of them played entertaining roles for children to reduce stress, and 41 (93.2%) of them played educational roles for children.

Conclusion: A statistically significant difference was found in terms of caregiver and health protective role scores, advocate and decision-maker role score, rehabilitative role scores, and counseling role scores according to the clinic worked in ($p<0.05$). It was determined that the scores given by those working in pediatric ward/surgical clinics were statistically significantly higher than those working in pediatric intensive care.

Keywords: Child Health and Disease Nursing, Nursing, Roles and Functions, Health.

Poster Presentations

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Determination of Knowledge Levels Regarding Prostate Cancer Screening Among Men Aged 50 and Above

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Poster Presentation – PP501

Introduction: This study aimed to determine the knowledge levels of men aged 50 and above regarding prostate cancer screening.

Methods: This study was conducted between January 2, 2021, and January 5, 2021, at Kahramanmaraş Pazarcık No. 2 Family Health Center. Men aged 50 and above were included in the study. Participants were informed about the study, and 48 individuals who provided informed consent were included. A questionnaire developed by the researchers, along with the Personal Health Information Form and the Health Belief Model scale, was administered to assess participants' knowledge levels about prostate cancer.

Results: The mean age of the participants was 29.17±7.24 (min=50, max=85). Among the participants, 47 (97.9%) were married, and 28 (58.3%) had completed primary education. A total of 19 participants (39.6%) reported having undergone a prostate examination before, while 13 (27.1%) stated that they had previously experienced a prostate-related disease or problem. Additionally, 18 participants (37.5%) had heard of the PSA test, and 14 (29.2%) had undergone PSA testing before. Furthermore, 14 participants (29.2%) believed that recurrent lower back pain could be a sign of prostate cancer, while 22 (45.8%) acknowledged that a person with prostate cancer might not exhibit any symptoms or findings. Regarding the statement, "Some treatment methods for prostate cancer may cause sexual dysfunction in men," 28 participants (58.3%) responded with "I have no opinion," 14 (29.2%) agreed, and 6 (12.5%)

disagreed. For the statement, "Prostate cancer may still be present even if PSA results are normal," 28 participants (58.3%) responded with "I have no opinion," 11 (22.9%) agreed, and 9 (18.8%) disagreed. Additionally, 40 participants (83.3%) expressed a desire to receive education on prostate cancer.

Conclusion: This study revealed significant knowledge gaps regarding prostate cancer among men aged 50 and above. The low prevalence of prostate examinations was notable. Particularly, knowledge deficiencies related to prostate cancer symptoms were prominent.

Keywords: prostate, cancer, screening, prevention, family medicine

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Google Trends Searches for Depressıon in Turkey after Kahramanmaras Earthquakes

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Poster Presentation – PP502

Objective: Depression, a psychiatric disorder characterized by cognitive, affective, behavioral, and physical symptoms, can profoundly affect a person's thoughts, mood, and physical health. This study aimed to determine the changes in Google Trends searches for depression in Turkey after the Kahramanmaraş earthquakes.

Method: In this study, the search volumes for depression were evaluated in Google Trends, which is obtained from the Google database where searches are most frequently made on the internet (range 0-100). 31 search terms prepared for depression were used by scanning the literature. Search volumes made between 26.12.2021 and 19.01.2025 in Turkey were evaluated. While evaluating before and after the Kahramanmaraş earthquakes, the acute period of the earthquake, 5-20 February 2023, were not included in the study. The weekly and annual search volumes of the search terms were determined. The peak value of 100 indicates high interest, while a value of 0 indicates low interest. Cases where the P value was below 0.05 were considered statistically significant.

Results: Throughout the study period, symptoms and words that suggest depression were searched in the Google Trends database. The most searched words were found to be "depression", "unhappiness", "sadness", fatigue", weight loss", and "weakness". The least searched words were found to be "withdrawal", "inability to focus", "difficulty falling asleep",

and “lack of energy”. It was found that all 31 search terms reached their peak value at least once. It was found that the search terms “depression”, “weight loss”, and “apathy” reached their peak value twice each. It was found that 10 of these peaks occurred in 2022, 11 in 2023, and 12 in 2024. While the average search volume of the terms in the pre-earthquake period was 34.38±26.54, it was found that it was 28.14±23.31 in the post-earthquake period. It was found that the average search volumes of the words “sadness”, “increased appetite”, “loss of energy”, “inability to focus”, “exhaustion”, “excessive irritability”, and “weight gain” increased in the post-earthquake period compared to the pre-earthquake period. No significant relationship was found between the search volumes of the search terms related to depression in the pre-earthquake and post-earthquake periods ($p>0.05$).

Conclusion: In this study, search terms determined for depression in Turkey were searched. It was found that all search terms peaked at least once; sadness, increased appetite, loss of energy, inability to focus, exhaustion, excessive irritability, and weight gain increased interest in the post-earthquake period compared to the pre-earthquake period. No significant relationship was found between the search volumes of search terms for depression in the pre-earthquake and post-earthquake periods. The fact that the period before the Kahramanmaraş Earthquakes coincided with a major disaster such as COVID-19 may have caused the lack of a significant increase in search volume in the post-earthquake period. Depressive disorders are a very common and disabling disorder that leads to serious costs, decreased quality of life, and increased mortality rates. Therefore, more studies are needed to increase knowledge and awareness about depression.

Keywords: Depression, Earthquake, Sadness

Diabetic Retinopathy Screening Practices and Methods: The Role of Family Physicians in Current Approaches

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Objective

This study aims to evaluate the role of family physicians in diabetic retinopathy (DR) screening and assess the effectiveness of screening systems while proposing solutions to address knowledge gaps and access challenges.

Introduction

Diabetic retinopathy (DR) is one of the most common microvascular complications of diabetes and a leading cause of preventable blindness (1). A study by Alamri et al. found that 29% of diabetic patients had not undergone an eye examination (2). According to the American Diabetes Association (ADA), individuals diagnosed with type 2 diabetes should have an initial eye examination upon diagnosis, followed by annual eye check-ups (3,4).

Methodology

A literature review was conducted on February 14, 2024, using the search terms "diabetic retinopathy screening by family physicians" in MEDLINE/PubMed. Studies published in the last ten years were screened, resulting in a full-text review of 36 articles, of which 25 were identified as highly relevant.

Screening Methods and Technological Advancements

Portable Fundus Cameras

Farford et al. utilized a non-mydriatic ultra-widefield retinal camera for DR screening. A total of 34 patients were assessed by trained family physicians, achieving an average diagnostic accuracy of 93% for diabetic retinopathy detection. The study demonstrated that DR screening in primary care clinics is both feasible and effective (5).

Smartphone-Based Systems

Enhancements have been made by integrating various lens attachments with smartphone cameras. Rajalakshmi et al. reported that smartphone-based retinal imaging systems, combined with artificial intelligence, achieved a sensitivity of 96% and specificity of 80% in detecting diabetic retinopathy (6).

Artificial Intelligence (AI)-Based Systems

These software applications analyze retinal images to differentiate between referable and non-referable DR cases, playing a crucial role in screening. Teoh et al. compared the performance of an automated deep learning-based software with evaluations from three retina specialists. The findings indicated that AI-driven solutions offer an efficient and cost-effective alternative for DR diagnosis (7).

Teleophthalmology Systems

Kalogeropoulos et al. demonstrated that teleophthalmology achieves high sensitivity (62.5%-98.2%) and specificity (76.6%-98.7%) in DR screening while improving access in remote areas and reducing costs (8).

The Role and Importance of Family Physicians

Family physicians play a crucial role in encouraging patients to undergo regular eye examinations and increasing participation in screening programs. A study by Wewetzer et al. highlighted that physicians' approach to patients and their adoption of technology significantly impact the success of DR screenings (9). In another study, Rosses et al. evaluated family physicians' performance in diabetic retinopathy assessment post-training, reporting sensitivity of 82.9%, specificity of 92%, and overall accuracy of 90.3% (10). Abeer Al-Alawi et al. identified knowledge gaps, negative attitudes, and perceived barriers among diabetic patients regarding eye screening, emphasizing the need for healthcare professional training and awareness-raising strategies (11).

Improvement Strategies

The widespread adoption of AI-assisted screening systems and the enhancement of digital healthcare infrastructure can improve screening efficiency (12). For instance, the DeepDR-Transformer module enables high-accuracy DR detection using both standard and portable fundus images (13). Increasing patient education and awareness initiatives can boost participation in screening programs (14). Additionally, continuous training programs for family physicians and the development of multidisciplinary collaboration protocols can enhance the success of screening initiatives.

Conclusion

Family physicians play a pivotal role in diabetic retinopathy screening by facilitating early diagnosis, integrating technology-driven approaches, educating patients, and ensuring appropriate referrals, thereby improving screening effectiveness.

Keywords: Diabetic Retinopathy, Screening, Family Physicians, Artificial Intelligence, Teleophthalmology

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The Latest Trick Or Treat Game For The Eye Surgeon

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Multifocal Intraocular Lens Implantation In Cataract PatientsWith Retinitis Pigmentosa

Retinitis pigmentosa primarily affects rod photoreceptors first. Itusually starts with night blindness and progressively leads to a narrowing of the visual field, often resulting in tunnel vision.

Eventually, cone photoreceptor function diminishes, affectingcentral vision. Mutations in several genes responsible formaintaining photoreceptor cell health impair their ability to reactto light. As the condition worsens, individuals may struggle withtasks that require peripheral vision, like moving through low-lightareas or identifying faces from a distance. The gradual breakdownof retinal cells, lead to progressive vision loss over time. In somecases, colour vision may also be impacted.

Current clinical evaluation for Retinitis pigmentosa includes a thorough ocular history, family history, clinical ophthalmologic exam, OCT, visual field testing, and electroretinography (ERG). Molecular genetic testing is essential for diagnosis confirmationand personalized treatment. Improved diagnostic tools are necessary for accurate disease staging and diagnosis.

Therapeutic Approaches to Retinitis pigmentosa include Neuroprotective Agents, Gene Therapy, Stem Cell Therapy and Optogenetic Therapy.

Cataracts may develop as a common problem with RP and can further decrease visual acuity in the individuals. In thesecataractous Retinitis pigmentosa patients monofocal intraocularlenses with toric or non toric options may be the first choice but the vision profiles of Retinitis pigmentosa patients can vary. From this point of view the aim of this overview is to call attention to some frame breaking conditions by using ''not only disease-based approach but also patient-based approach''. Although thesubject in question is highly controversial and multıfaceted, previous studies have also shown that multifocal intraocular lensescan be used in cataract patients with retinitis pigmentosa , depending on the patient's personal and psychological needs.

So, as a topic of growing interest in the field of ophthalmology, usage of multifocal IOLs in cataract surgery for patients with retinitis pigmentosa is a situation that requires individual evaluation. A multifaceted approach should be adopted to determine the most suitable lens type for each patient, and a detailed assessment should be conducted.

Keywords: Retinitis Pigmentosa, Cataract, Intraocular Lenses

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Pneumothorax Case in a Family Medicine Clinic

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Poster Presentation – PP505

Introduction

Pneumothorax was first described in 1803 by Jean Marc Gaspard Itard. In 1819, Laennec defined pneumothorax occurring outside of tuberculosis patients as "simple pneumothorax." The term "primary spontaneous pneumothorax" (PSP) was first introduced by Kjaergard in 1932. Pneumothorax is defined as the presence of air in the pleural space, leading to secondary lung collapse. The pleural space is the area between the parietal pleura, which lines the inner surface of the chest wall, mediastinum, and diaphragm, and the visceral pleura, which covers the lungs, including the fissures.

1. Spontaneous Pneumothorax

a. Primary Spontaneous Pneumothorax (PSP)
b. Secondary Spontaneous Pneumothorax
c. Catamenial Pneumothorax
d. Neonatal Pneumothorax

2. Acquired (Non-Spontaneous) Pneumothorax

a. Traumatic Pneumothorax
b. Barotrauma-Induced Pneumothorax
c. Iatrogenic Pneumothorax

Clinical Presentation

PSP most commonly occurs at rest. Patients typically present with sudden-onset, pleuritic chest pain on the affected side. The severity of pain can range from mild to severe, often described as sharp and stabbing. If left untreated, pain usually subsides within 24 hours, which may delay medical consultation. Other common symptoms include dyspnea and cough, particularly in patients experiencing discomfort.

Total or large lung collapse due to pneumothorax can be detected through physical examination, whereas smaller pneumothoraces may not present with obvious findings. On examination, decreased breath sounds and hyperresonance on percussion are noted on the affected side. In addition, ipsilateral chest wall movement is restricted, and vocal fremitus is reduced or absent. Depending on the degree of lung collapse, vital capacity decreases, anatomical shunting occurs, alveolar hypotension develops, PaO_2 levels drop, and respiratory acidosis may ensue. If a patient presents with chest pain, tachypnea, tachycardia, sweating, and hypotension, tension pneumothorax should be suspected.

The estimation of pneumothorax size is important for treatment planning but should not be the sole determinant of management. The correlation between pneumothorax size and clinical symptoms can vary.

Case Report

- **34-year-old male**
- **Height:** 178 cm, **Weight:** 67 kg
- **Presenting Complaint:** Sharp, stabbing pain in the right side of the back radiating to the neck for two days, pain in the right shoulder while walking uphill.
- **Symptoms:** No cough, sputum, fever, dyspnea, or palpitations.
- **Medical History:** No chronic conditions, no regular medication use.
- **Smoking History:** 15 years, 1 pack/day.

- **Surgical History:** Right-sided spontaneous pneumothorax with tube thoracostomy in 2015.
- **Physical Examination:** Decreased breath sounds on the right side, no rales or rhonchi, relaxed abdomen, normal cardiac auscultation.

Laboratory and Imaging Findings

Chest CT Findings:

- No significant mediastinal deviation detected.
- Right-sided pneumothorax with a thickness of 3-4 cm, posterior lung parenchymal atelectasis.
- Presence of emphysema.
- Scattered nonspecific pulmonary nodules.

From Initial Diagnosis to Treatment

- **11:14 AM:** Pulmonology consultation requested. The patient was advised to visit the emergency department if scheduling difficulties arose.
- **12:25 PM:** Chest CT performed in the emergency department, and hospitalization in the thoracic surgery unit was deemed necessary.
- **8:28 PM:** Admitted to the thoracic surgery ICU for VATS + wedge resection.
- **Discharged on day 7.**

Conclusion

In family medicine practice, emergency cases may not always present with alarming symptoms. In this case, the patient's previous pneumothorax history combined with physical examination findings guided the diagnostic process. Despite a prior history of pneumothorax, the patient continued smoking, highlighting the need for behavioral modification strategies. The limited imaging capabilities in Family Health Centers remain a challenge in such cases.

Keywords: Pneumothorax, Family Medicine, Emercency

Telehealth Approach to Fibromyalgia Pain: Advantages and Challenges

Burcu Özüberk, Nalan Sezgin



Fibromyalgia is a chronic pain condition that significantly affects patients' quality of life. Telehealth has emerged as a transformative tool in healthcare by providing remote access to services that can address the complex needs of fibromyalgia patients. The experiences of both patients utilizing telehealth applications for fibromyalgia management and healthcare professionals delivering these services are crucial. While telehealth offers benefits such as enhanced accessibility and increased patient engagement, it also presents challenges, including technological barriers and the lack of physical interaction.

In this presentation, we will explore the advantages of telehealth, including improved accessibility, cost-effectiveness, and enhanced patient participation, while also addressing challenges such as technological limitations, the absence of physical examinations, and privacy concerns. By gaining insights into the experiences of both patients and healthcare providers, we aim to contribute to a better understanding of how telehealth can be optimized for fibromyalgia care. While emphasizing telehealth's potential to revolutionize fibromyalgia pain management, we also acknowledge areas that require further improvement.

Keywords: Telehealth, Fibromyalgia, Accessibility, Telehealth Advantages, Telehealth Challenges.

From a Prescription Request to a Cancer Diagnosis

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Introduction

Lung cancer is one of the most common cancers in both Turkey and worldwide. With the increasing prevalence of smoking, lung cancer has become the leading cause of cancer-related deaths globally. It is responsible for 19.4% of all cancer deaths. Given the extremely high mortality rates associated with this disease, early diagnosis and timely referral for treatment significantly increase the chances of a cure.

Case Presentation

A 66-year-old male patient visited his family physician to renew his routine diabetes and hypertension medications. While prescribing the medications, the family physician noticed a visible weight loss compared to the patient's previous visit. Upon inquiry, the patient reported a weight loss of 12 kg over the past three months. He also mentioned that a new diabetes medication, dapagliflozin, had been prescribed by an internal medicine specialist three months ago, who had informed him that the medication would regulate his blood sugar by promoting weight loss. Consequently, the patient considered his weight loss to be a normal effect of the drug.

Upon further questioning, the family physician discovered that the patient also had a reduced appetite, increased fatigue, and a persistent cough. The patient had been smoking two packs of cigarettes per day for the past 30 years and noted that he had always had a chronic cough. In his family history, it was revealed that his uncle had passed away due to lung cancer.

Upon physical examination, secretory rales were detected in the basal regions of both lower lung lobes, while the patient's vital signs remained stable. Considering the weight loss, loss of

appetite, and persistent cough, the physician performed blood tests and a chest X-ray. While the blood tests showed no abnormalities, the chest X-ray revealed opacity consistent with increased density in the right upper and left middle lung zones. Given the patient's symptoms and radiographic findings, the physician referred him to a pulmonology clinic for further investigation with a preliminary diagnosis of suspected lung cancer.

When the patient returned to his family physician 1.5 months later, he reported that subsequent CT scans, PET imaging, and biopsy results had confirmed an early-stage lung adenocarcinoma diagnosis. Since the disease was detected at an early stage, he was scheduled for surgery, followed by regular follow-ups. The patient expressed gratitude to his family physician for not simply renewing his prescriptions but instead playing a crucial role in the early diagnosis process.

Conclusion

Every patient encounter, even one solely for a prescription renewal, represents an "opportunity." Primary care physicians should not only take a holistic approach when evaluating patients presenting with various complaints but also leverage the advantage of frequent patient interactions. Ongoing health discussions with patients allow physicians to detect conditions that patients might consider normal. Furthermore, early detection of potential diseases can significantly alter the course of the disease and improve patient outcomes.

Keywords: Early diagnosis, Cancer, Family Medicine

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Rare Incidental Giant Cerebral Hydatid Cyst: Rapid Diagnosis and Successful Surgery in Children

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Abstract

Hydatid cyst is a parasitic disease caused by *Echinococcus granulosus*. Although liver and lung involvement is more common, brain involvement is rarely seen. The best treatment is surgery. It is essential to deliver the intact cyst without rupture to prevent recurrence and possible anaphylactic reaction. In this presentation, an 11-year-old male patient who was diagnosed with a hydatid cyst in the brain by radiological and histological findings is presented. Brain hydatid cyst should be kept in mind in the differential diagnosis of cystic cerebral lesions, especially in children living in rural areas. Medical treatment (mebendazole, albendazole, praziquantel) is recommended along with removal of the cyst without rupture.

Keywords: Brain, Child, Echinococcosis, Hydatid Cyst

Poster Presentation – PP515

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A Rare Cause of Uveitis: Cat Scratch Disease

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Poster Presentation – PP516

Abstract: Cat scratch disease is a zoonotic infection caused by *Bartonella henselae*. It can be transmitted by exposure to cat fleas through a scratch or bite from an infected cat, or by contact with cat saliva on compromised skin or mucosa. It presents with lymphadenopathy, bacteremia, fever of unknown origin, conjunctivitis, uveitis, neuroretinitis, encephalopathy, aseptic meningitis, hepatitis, granuloma in the liver and spleen, endocarditis, erythema nodosum, glomerulonephritis, pneumonia, and thrombocytopenic purpura. Cat scratch disease should definitely be considered in all cases with uveitis complaints and a history of cat contact. In this case, we will present a child whose uveitis etiology was investigated and who was diagnosed with cat scratch disease based on history and serology.

Key words: Uveitis, Cat Scratch Disease, Child, *Bartonella Henselae*

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Aplasia of Frontal Sinus: A Rare Cause of Chronic Headache

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Abstract

Frontal sinus aplasia is an uncommon anatomical variation that may contribute to persistent headache when other etiologies have been excluded. This case report discusses a patient presenting with chronic headache and nasal congestion who was eventually diagnosed with right frontal sinus aplasia. We detail the clinical work-up, imaging findings, and therapeutic approach, highlighting the importance of considering sinus anatomical anomalies in the differential diagnosis of chronic cephalalgia. The patient's symptoms resolved following conservative symptomatic treatment without the need for further antibiotics, underscoring the role of comprehensive evaluation in avoiding unnecessary pharmacologic interventions.

Poster Presentation – PP519

Introduction

Rhinogenic headache is classified as a secondary headache resulting from either inflammatory processes of the paranasal sinuses or anatomical abnormalities of the nasal cavity and sinus structures (1). According to the International Classification of Headache Disorders, rhinogenic headaches are divided into two subtypes: those associated with rhinosinusitis (acute or chronic) and those caused by structural abnormalities such as sinus aplasia or hypoplasia (2). Although frontal sinus aplasia is rare, it may represent an underrecognized source of chronic headache,

particularly when standard therapies fail. This case highlights the clinical relevance of recognizing anatomical variants and tailoring the diagnostic approach accordingly.

Case Presentation

A 44-year-old female patient presented to the Family Medicine outpatient clinic at Bezmialem Vakıf University with complaints of general fatigue, persistent frontal headache, and nasal congestion for the previous three months. The patient had no known history of chronic diseases, recent upper respiratory tract infections, long-term medication use, or head trauma. Her medical history included a previous episode of hyperthyroidism.

Physical examination was within normal limits. Neurological evaluation revealed intact cognitive function, cranial nerve integrity, and normal motor-sensory assessments. No meningeal signs or focal deficits were noted. Ophthalmologic and otoscopic assessments were unremarkable. Vital signs were stable: temperature 37.2°C and blood pressure 116/77 mmHg.

Routine laboratory work-up showed mild leukopenia (WBC: 2.69 $x10^3/\mu L$; ref: 4.6–10.2 $x10^3/\mu L$) and lymphopenia (Lymphocyte: 0.8 $x10^3/\mu L$; ref: 1.16–3.18 $x10^3/\mu L$), with a slightly elevated C-reactive protein (CRP: 7.07 mg/L; ref: 0–5 mg/L). COVID-19 and influenza PCR tests were negative.

A sinus radiograph revealed the absence of the right frontal sinus, and subsequent imaging confirmed the diagnosis of right frontal sinus aplasia (Figures 1 & 2). The patient had previously received three courses of antibiotics (amoxicillin-clavulanate, cefuroxime axetil, and moxifloxacin) without clinical improvement. She was advised to discontinue antibiotics and initiated on symptomatic therapy with oral paracetamol (500 mg twice daily) for four weeks.



Figure 1: Sinus Waters X-ray; aplasia of right frontal sinus

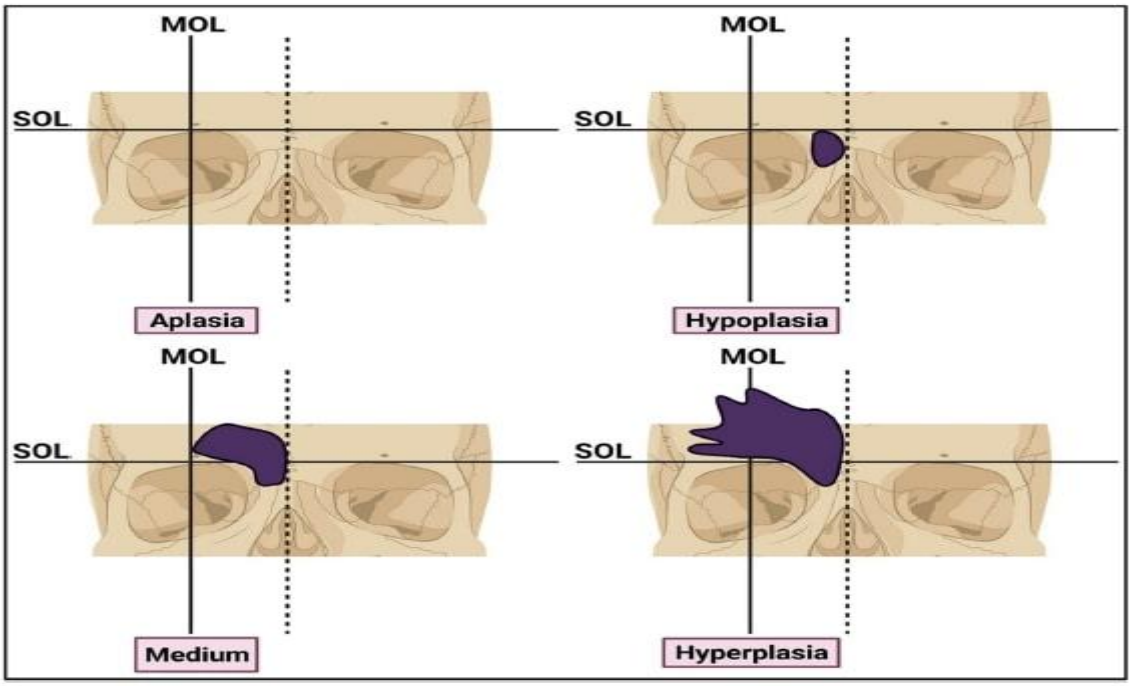

Figure 2: Schematic representation of morphological classification of frontal sinus size categories. SOL: supraorbital line. MOL: midorbital line.

At the one-month follow-up, the patient reported complete resolution of headache and nasal congestion. Laboratory values had normalized, and no additional interventions were required.

The patient provided written informed consent for the use of clinical images and publication of this case report.

Discussion

Frontal sinus aplasia is a relatively rare anatomical variant, with reported frequencies ranging from 2% to 4% depending on the population (3,4). Although often asymptomatic, in certain individuals, especially those with narrowed or obstructed sinus drainage pathways, aplasia may be associated with chronic or recurrent headache (5). Recognition of this variant requires detailed radiological assessment, particularly using computed tomography (CT), which allows accurate evaluation of the paranasal sinus anatomy (6).

In this case, the patient's frontal headache and nasal congestion, despite multiple antibiotic regimens, prompted further imaging that led to the diagnosis of right frontal sinus aplasia. Radiological studies from Oman and Turkey indicate that such variations may go unnoticed without imaging and that their prevalence is clinically significant (3,4). Notably, in our patient, a preliminary sinus X-ray provided diagnostic guidance by meeting key radiographic criteria, thereby facilitating further targeted imaging and diagnosis.

Xie et al. reported favorable outcomes in patients with noninflammatory frontal sinus headache who underwent endoscopic intervention, but conservative management can also be effective in selected cases without inflammatory signs (1,7). The overuse of antibiotics in cases of noninfectious sinus-related headaches may delay proper diagnosis and contribute to antimicrobial resistance. A tailored approach that incorporates anatomical assessment and clinical context is essential.

Conclusion

Anatomical anomalies of the frontal sinus, including aplasia, should be considered in the differential diagnosis of chronic headache, especially in patients unresponsive to standard

medical treatment. This case underscores the value of a biopsychosocial and primary X-ray imaging-guided diagnostic strategy in primary care. Avoiding unnecessary antibiotic use through accurate diagnosis not only benefits the individual patient but also aligns with broader public health priorities.

Keywords: Aplasia, Frontal Sinus, Headache, Primary Care

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A Rare Case: Aquagenic Urticaria

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Poster Presentation – PP521

Introduction

Aquagenic urticaria is a rare form of urticaria that occurs upon any contact with water, regardless of the water temperature. Factors such as water temperature, pH, and others do not affect the development of urticaria. However, any type of water, including sweat, can trigger aquagenic urticaria. Aquagenic urticaria is characterized by 1-3 mm folliculocentric urticarial plaques with surrounding erythema of 1-3 cm. These lesions may sometimes be pruritic, and a sensation of burning or tingling may also accompany them. Lesions are most commonly found on the arms and torso and typically resolve spontaneously within 30-60 minutes. Lesions do not develop on the palms of the hands or the soles of the feet. The diagnosis is made in the presence of recurrent characteristic symptoms, and water provocation tests are performed to confirm the diagnosis. Since the histopathological examination of aquagenic urticaria is nonspecific and similar to that of common urticaria, routine biopsy is not recommended. This case is presented to raise awareness among family physicians by highlighting a rare condition and to contribute to a better understanding of the pathogenesis and treatment of aquagenic urticaria by identifying larger patient groups.

Case

A 25-year-old female patient presented to our family medicine clinic with complaints of itching and small urticarial lesions on her skin. It was learned that the first eruptions had started a year

ago after taking a shower. There was no history of consanguinity between the patient's parents, and no family members had similar complaints. On physical examination, the patient's body weight was 60 kg, height: 153 cm, blood pressure: 120/80 mmHg, respiratory rate: 22 breaths/min, temperature: 36.7°C, and pulse rate: 88 beats/min. On skin examination, widespread urticarial lesions that faded with pressure were present. Other system examinations were unremarkable. The patient was consulted with the dermatology clinic. Complete blood count, biochemical values, coagulation parameters, thyroid function tests, thyroid autoantibodies, viral serology tests, urinalysis, hepatitis markers, serum tryptase levels, rheumatoid factor, and complement tests were all within normal limits. Skin prick tests were performed, revealing sensitivity to dog and cat dander, as well as mold allergens. During provocation tests with towels soaked in water at 35°C applied to the chest and arm areas for 30 minutes, urticarial lesions developed. To exclude other types of physical urticaria, exercise, pressure, dermographism, and ice cube tests were conducted. No skin lesions were observed in response to these tests. Based on these findings, the diagnosis of aquagenic urticaria was made, and treatment with oral second-generation antihistamines and topical liquid petroleum jelly was initiated. After one month of treatment, the patient returned to the family medicine clinic for follow-up, and the eruptions had significantly reduced.

Conclusion

Dermatological symptoms are frequently encountered in family medicine clinics. Urticarial eruptions are usually a condition that can be diagnosed and treated at the primary care level; however, referral to a specialist is essential in cases where the treatment response is inadequate. Family physicians play a critical role in the early diagnosis and management of urticaria, and in cases of urticarial lesions triggered by water, the rare condition of aquagenic urticaria should be kept in mind.

Keywords: Aquagenic Urticaria, Family Medicine, Dermatological Symptoms

Intrauterine Device Causing Tubo-Ovarian Abscess and Ovarian Migration in a First-Trimester Intrauterine Pregnancy: A Case Report

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The intrauterine device (IUD) is one of the most commonly used contraceptive methods among women of reproductive age in our country. Although generally considered safe, IUDs can occasionally lead to severe complications, including uterine perforation, fistula formation, and migration. Uterine perforation occurs in approximately 1 in 1000 cases during IUD insertion. Factors associated with an increased risk of perforation include a retroverted uterus, lack of clinical experience by the healthcare provider, uterine immobility, and underlying myometrial defects. Intra-abdominally displaced IUDs can result in significant morbidity and mortality, necessitating careful management. Following uterine perforation or migration through the tubal ostia, serious complications such as pyosalpinx, pelvic abscess, bowel injury, intestinal obstruction, and peritonitis may occur. Women in the lactation period are particularly at risk for IUD transposition due to uterine perforation.

Our case involves a 30-year-old woman, gravida 2, para 1, with no history of abortion, who presented with complaints of right lower quadrant pain and menstrual delay. She had undergone a normal vaginal delivery nine months earlier. The patient reported that her postpartum IUD had spontaneously expelled, though this was uncertain. Ultrasonographic evaluation revealed a single live intrauterine pregnancy consistent with approximately six weeks of gestation. A transvaginal ultrasound examination identified a well-defined hyperechoic area extending into the right ovary, suggestive of an IUD. Additionally, a complicated cystic structure measuring

approximately 30 mm, consistent with an abscess adjacent to the right ovary, was detected. Laboratory findings revealed an elevated C-reactive protein level and leukocytosis, raising suspicion for an intra-abdominal abscess with IUD migration to the ovary. Laparoscopic intervention was planned. The IUD was successfully removed laparoscopically, and the abscess cavity, which involved the right fallopian tube, was meticulously cleaned. A right salpingectomy was subsequently performed.

Patients with a history of IUD insertion who do not present with the device during follow-up examinations should undergo thorough evaluation, including advanced imaging to determine IUD localization. Prior contraceptive methods should always be reviewed. In cases where the IUD is not visualized within the uterine cavity, uterine perforation should be considered. Except for patients at high surgical risk, perforated IUDs or those that have migrated into the bowel, bladder, or major blood vessels should be surgically removed.

Keywords: Intrauterine Device, Pregnancy, Tubo-Ovarian Abscess

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"Homo Sacer" and the Vulnerability of Healthcare Workers to Violence

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Abstract This paper explores the theoretical connection between Giorgio Agamben's concept of *Homo Sacer* and the vulnerability of healthcare workers to violence. *Homo Sacer*, in Roman law, *refers to an individual who can be killed without legal consequence but cannot be ritually sacrificed*. Agamben extends this notion to describe those whom sovereign power excludes from legal protection while simultaneously subjecting them to its authority. In contemporary healthcare systems, workers are indispensable yet remain inadequately protected from violence. This study examines the structural and societal factors that contribute to the precarious position of healthcare workers and analyzes how they are rendered modern-day *Homo Sacer* within the framework of sovereign power and the state of exception.

Poster Presentation – PP528

Introduction Violence against healthcare workers has become a global public health crisis, driven by both structural and systemic factors. Despite their critical role in providing medical services, healthcare professionals frequently encounter aggression, often with little to no legal repercussions for perpetrators. This phenomenon aligns with Agamben's *Homo Sacer*, a figure who exists at the threshold of law—simultaneously recognized and excluded. While the state acknowledges the necessity of healthcare workers, it fails to ensure their safety, rendering them legally and politically vulnerable.

1. **The Concept of Homo Sacer and Sovereign Power** Agamben conceptualizes *Homo Sacer* as an individual who exists in a paradoxical state: stripped of legal rights yet fully

exposed to sovereign power. In the modern era, this framework extends beyond its ancient origins to describe populations who are subject to the law but lack its protection. The state of exception—where normal legal protections are suspended—becomes a tool for marginalizing certain groups, including healthcare workers who operate in high-risk environments with minimal legal safeguards.

2. **Structural and Systemic Causes of Violence in Healthcare** The rising violence against healthcare professionals can be attributed to several key factors:

   - **Inadequate Legal Protection:** Perpetrators of violence against healthcare workers often face minimal consequences, weakening deterrence.
   - **Systemic Crises in Healthcare:** Overburdened healthcare systems, long patient wait times, and resource shortages contribute to tensions between patients and providers.
   - **Social Perceptions:** Healthcare professionals are frequently viewed as both essential and expendable, leading to their devaluation in the public sphere.

3. **Healthcare Workers as Modern Homo Sacer** Despite being hailed as heroes during crises, healthcare workers are frequently subjected to violence, with inadequate institutional support. During the COVID-19 pandemic, they were celebrated for their sacrifices, yet many faced aggression from the very societies they served. This contradiction mirrors the *Homo Sacer* condition: indispensable yet unprotected, legally recognized yet politically abandoned. The failure of state institutions to enforce stringent protections further exemplifies their exclusion from full legal personhood.

Conclusion and Recommendations The precarious status of healthcare workers as modern *Homo Sacer* is not merely a legal oversight but a structural consequence of sovereign power dynamics. Addressing this crisis requires:

1. **Strengthening Legal Protections:** Establishing and enforcing strict legal consequences for violence against healthcare workers.

2. **Reforming Healthcare Systems:** Reducing systemic pressures that contribute to patient-provider conflicts.
3. **Raising Public Awareness:** Promoting societal respect for healthcare workers through education and media campaigns.

Conclusion and Recommendations

The precarious status of healthcare workers as modern *Homo Sacer* is not merely a legal oversight but a structural consequence of sovereign power dynamics. Their existence at the intersection of necessity and disposability exposes them to systemic neglect and vulnerability. While they serve as essential pillars of society, their rights and well-being are frequently sacrificed in the name of efficiency, cost reduction, or political expediency.

Addressing this crisis requires:

1. **Strengthening Legal Protections:** Establishing and enforcing strict legal consequences for violence against healthcare workers.
2. **Reforming Healthcare Systems:** Reducing systemic pressures that contribute to patient-provider conflicts.
3. **Raising Public Awareness:** Promoting societal respect for healthcare workers through education and media campaigns.

By applying Agamben's theoretical framework, this paper highlights the urgent need for systemic and policy changes to protect healthcare workers from violence. Ensuring their safety is not only a legal necessity but also a moral imperative in modern healthcare systems. If healthcare workers continue to be treated as dispensable, the very foundation of public health and patient care will remain at risk.

Keywords: Homo Sacer, Violence, Healthcare Workers

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A Rare Case of Vaginal Endometriosis Presenting as a Vaginal Mass: Clinical and Pathological Evaluation

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Endometriosis is a chronic gynecological condition characterized by the ectopic presence of endometrial tissue outside the uterine cavity. The most common sites of implantation are pelvic organs and the peritoneum. Clinically, it can present with a spectrum of manifestations, ranging from minimal superficial lesions to large endometriotic cysts causing significant anatomical distortion of the tubo-ovarian structures and extensive adhesions involving the bowel, bladder, and ureters. Extrapelvic endometriosis is less common but has been reported in various sites, including the intestinal tract, vagina, ureters, lungs, umbilicus, and central nervous system.

Vaginal endometriosis is a rare entity and is often overlooked in clinical practice. Despite its low prevalence, it should be considered in patients presenting with cyclic pelvic pain, dyspareunia, or a vaginal mass. The diagnosis is particularly important in cases where a vaginal cyst or tumor is suspected.

Case Presentation

We present the case of a 47-year-old sexually active woman who was evaluated for persistent vaginal pain, a sensation of fullness, and discomfort. Her medical history was significant for an anterior vaginal wall repair due to cystocele one year prior. Clinical examination and imaging revealed a 3–4 cm mass on the anterior vaginal wall, proximal to the introitus. The lesion was

surgically aspirated, and a biopsy was obtained from the cyst wall for histopathological examination. Pathological analysis confirmed the diagnosis of vaginal endometriosis.

Discussion

Vaginal endometriosis is a rare but clinically significant manifestation of endometriosis. The pathogenesis remains unclear, though theories suggest retrograde menstruation, coelomic metaplasia, and iatrogenic implantation as possible mechanisms. In patients with a history of pelvic or vaginal surgery, iatrogenic implantation is a likely etiology.

The clinical presentation varies depending on the extent and location of the lesions. In many cases, vaginal endometriosis presents with cyclic pain, dyspareunia, or a palpable mass. Given its nonspecific symptoms, it is often misdiagnosed or overlooked. Differential diagnoses include vaginal cysts (e.g., Gartner's duct cyst, Bartholin's cyst), malignancies, and infectious processes.

Histopathological confirmation remains the gold standard for diagnosis, with characteristic findings of endometrial glands and stroma within the lesion. Treatment options include medical management with hormonal therapy (progestins, GnRH analogs) and surgical excision for symptomatic relief or definitive treatment.

Conclusion

This case underscores the importance of considering vaginal endometriosis in the differential diagnosis of vaginal masses. Clinicians should maintain a high index of suspicion, particularly in patients with cyclic symptoms and a history of pelvic or vaginal surgery. Early recognition and appropriate management can help prevent complications and improve patient outcomes.

Keywords: Vaginal Endometriosis, Ectopic Endometrial Tissue, Vaginal Mass, Dyspareunia, Cyclic Pain, Histopathology

Evaluating the Effectiveness of Fecal Occult Blood Testing in Colorectal Cancer Early Detection

Latife Uzun



Introduction

According to 2019 data in our country, colorectal cancers are the third most common cancer in both men and women. The incidence is 25.5 per 100,000 in men and 15.0 per 100,000 in women (https://hsgm.saglik.gov.tr/tr/kanser-istatistikleri). Colorectal cancers generally do not present symptoms in the early stages, and by the time symptoms appear, the disease is often advanced. Therefore, early diagnosis and treatment are crucial for halting disease progression and reducing mortality rates. In our country, the colorectal cancer screening program has been implemented since September 2014, recommending fecal occult blood tests (FOBT) every two years and colonoscopies every ten years for healthy individuals aged 50-70 (Özkan et al. 2013).

Fecal Occult Blood Test: Definition, Methods, and Importance

The fecal occult blood test (FOBT) is a non-invasive screening method used to detect blood in the stool that is not normally visible but present at a microscopic level. Compared to more invasive methods like colonoscopy, it is less costly and carries lower risks. Thus, it has higher patient compliance and is applicable to larger populations. Colonoscopy is typically used in individuals at high risk or when a positive result is found in screening tests such as the FOBT (Özkan et al. 2013).

Guaiac-Based FOBT: In this test, guaiac resin is added to a stool sample, and a chemical reaction with hemoglobin causes a blue color change. Its sensitivity is lower in precancerous lesions. It can be influenced by certain foods and medications, leading to false positives.

Fecal Immunochemical Test (FIT): This test uses an antibody-based method to detect human hemoglobin in the stool and is not affected by diet or medications. Its sensitivity in detecting precancerous lesions is higher (Altekin, Solak, and Tuncel 2003; Young et al. 2015).

A study conducted in 2015 found that the sensitivity and specificity of the guaiac-based FOBT were 50% and 77.87%, respectively, while for the fecal immunochemical test, the sensitivity and specificity were 75% and 90.12%, respectively (Elsafi et al. 2015).

Evaluation of FOBT Clinical Effectiveness with Colonoscopy Results

A study conducted in Denmark showed that among individuals with a positive FOBT, 5% had colorectal cancer, and 15% had adenomas. Another study conducted in Scotland found 7.1% colorectal cancer and 35.5% adenomatous polyps (Bjerrum et al. 2017; Quyn et al. 2018). In a study by Paimela et al., the invasive colorectal cancer detection rate was 8.2%, and the rate of adenomas and colorectal mucosal invasion was 39.7% (Paimela et al. 2010). Another study found that the sensitivity of the FOBT in detecting neoplastic polyps was 66.7%, specificity was 62.3%, positive predictive value was 11%, and negative predictive value was 94.2% (Saraceni et al. 2019).

In studies conducted in Turkey, Utku et al. found that 7.5% of 225 individuals with a positive FOBT and who underwent colonoscopy had colorectal cancer, and 26.2% had polyps (Utku, Ergül, and Oğuz 2018). Another study found malignancy in 0.8% of patients, dysplasia in 0.8%, and benign polyps in 31.5% (Mayir et al. 2018). In Kara et al.'s study, 4% had colorectal cancer, and 40% had precancerous adenomatous polyps (Kara, Sarıcı, and Kalaycı 2019). Another study found adenocarcinoma in 5.7% and adenomatous polyps in 19% of patients (Akkuzu et

al. 2020). Şahin et al.'s study reported that colorectal cancer was observed in 4.2% of all participants and 7.7% of those with a positive FOBT (Şahin, Çelik Güzel and Mete 2022).

Role of Upper Gastrointestinal Endoscopy Following a Positive FOBT

The question of whether upper gastrointestinal (GI) endoscopy is necessary for individuals with a positive FOBT but no lesions found in colonoscopy arises. Studies suggest that upper GI endoscopy should be performed on these individuals due to its high rate of detecting benign conditions, its ability to provide treatment, its low complication rate, and its ability to be done quickly (Choi et al. 2013; Ng, Chan, and Tan 2017). In a study by Shah et al., the prevalence of upper gastrointestinal cancers was 0.8%, and clinically significant upper GI lesions were found in 30.4% of individuals with a positive FOBT. Anemia was associated with a higher likelihood of detecting upper GI lesions. Performing upper GI endoscopy on the same day as colonoscopy increased the likelihood of identifying the bleeding source by approximately 25% (Shah et al. n.d.). Another study found gastric tumors in 1.3% and polyps in 1.6% of patients. Although not statistically significant, the hemoglobin levels were lower in the tumor group compared to others (Adresi et al. 2022). In patients with a positive FOBT and a normal colonoscopy, if anemia is also present, upper GI endoscopy should not be overlooked. More studies are needed to precisely determine which patient group requires upper GI endoscopy.

Factors Affecting Compliance with FOBT Screening

Individuals with higher socioeconomic status have been found to participate in FOBT screening programs at a higher rate compared to those with lower socioeconomic status. Over time, interventions have led to an increase in screening compliance among lower socioeconomic groups (Luo et al. 2023). A study conducted in an Family Health Center in Erzurum found that 57.7% of individuals did not undergo FOBT due to lack of information. The likelihood of having a positive FOBT was increased by 0.36 times for women, 5.30 times for individuals with a family history of colorectal cancer, 1.11 times for those perceiving benefits, and 1.09 times for those perceiving higher sensitivity (Genç, Yalçınöz Baysal 2020). In Chand et al.'s

study, barriers to screening included disgust with stool, fatalism, fear of cancer, language and literacy barriers, difficulty accessing materials, and low awareness and knowledge of colorectal cancer screening (Chand, Phillipson, and Ha 2023). A study using the Turkish version of the "Tools to Measure Benefits and Barriers of Colorectal Cancer Screening" scale found that perceived benefits were related to education, employment, income, health status, family history of colorectal cancer, and screening knowledge, while perceived barriers were linked to lack of information and the recommendations of healthcare providers (Dönmez et al. 2025).

Conclusion

The FOBT is a non-invasive, low-risk, and cost-effective screening test with high sensitivity and specificity. However, factors such as lack of information, fear of cancer, and fatalism contribute to low participation rates. To increase compliance with the FOBT, individuals should receive frequent education on the importance of screening and early diagnosis in improving survival rates. Educational materials, such as brochures that explain the test procedures with visuals, should be used more widely and be understandable to people at all education levels. Family physicians and healthcare workers should regularly meet with patients, listen to reasons for not undergoing the test, and have solution-oriented, motivating discussions. The importance and necessity of the test can be frequently reminded through social media, TV, and SMS. Social support can be increased by emphasizing the importance of screening within families and social groups. Public events such as health fairs and seminars can be organized more frequently. Personalized invitation letters can be sent to patients, and thank-you letters can be sent to those who undergo the test to encourage participation.

Keywords: Family physicians, Fecal Occult Blood Testing, Colorectal Cancer

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Post-Digital Illiteracy and Its Impact on Health Literacy

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Introduction

Digitization has brought about profound transformations across various aspects of life, ushering in a new era of accessibility and connectivity. However, alongside the opportunities it provides, digital technologies have also introduced negative consequences that are increasingly coming into focus. In the domain of health literacy, the proliferation of digital information has enhanced awareness of health-related issues but has also led to problems concerning the misinterpretation and manipulation of such information. This paper examines the concept of "post-digital illiteracy," shaped by the digital revolution, and explores its impact on health literacy and the potential consequences on societal health outcomes.

Poster Presentation – PP533

Post-Digital Illiteracy: Definition and Key Characteristics

Post-digital illiteracy refers to a condition in which, despite the increased access to digital information, individuals lack the critical thinking, comprehension, and proper utilization skills necessary to interpret and use that information effectively. In the digital age, while nearly everyone has access to the internet and digital resources, the ability to analyze, question the reliability of these sources, and filter the information according to personal needs is often insufficient. As a result, the abundance of information generated by digitalization can leave

individuals more susceptible to misinformation and disinformation, rather than facilitating access to accurate knowledge.

Health Literacy and the Digital Transformation

Health literacy is defined as the ability of individuals to understand health information, evaluate its relevance, use it in decision-making processes, and manage their health behaviors effectively. The digital transformation has presented significant opportunities for the advancement of health literacy, offering vast amounts of accessible health information. However, post-digital illiteracy can limit these opportunities. The sheer volume of digital health resources can be overwhelming, particularly for those unable to distinguish accurate information from misinformation. Inaccurate health advice and treatment recommendations may lead individuals to make poor health decisions, potentially exacerbating their medical conditions.

Impacts of Post-Digital Illiteracy on Health Literacy

Misinformation and Disinformation: One of the most prominent consequences of post-digital illiteracy is the widespread dissemination of false health information on the internet. Individuals, often relying on health forums and social media platforms, may struggle to verify the accuracy of the information they encounter. Particularly with regard to serious health conditions, misinformation can lead individuals to pursue incorrect treatments or delay seeking professional medical care.

Self-Treatment and Associated Risks: Increased access to digital health information has led some individuals to attempt self-treatment, relying on online resources instead of professional medical advice. However, these self-prescribed remedies may not be medically sound, potentially worsening health conditions rather than alleviating them.

Individual and Societal Health Outcomes: Post-digital illiteracy can result in individuals making poor decisions regarding their health, leading to a decrease in health literacy. This, in turn, can contribute to broader social health inequalities. Those with access to accurate health information are more likely to engage in preventive measures and receive timely treatments, while those lacking such information may experience greater health risks and challenges.

Post-Digital Illiteracy and Algorithmic Bias

James Bridle's *New Dark Age* introduces the concept of "algorithmic bias," which highlights the impact of automated systems on individuals' decisions and behaviors. In the context of health literacy, this bias underscores how individuals' trust in digital health tools and algorithms may supersede their ability to critically evaluate health information. This form of bias can lead to the reliance on faulty automated systems, exacerbating the spread of misinformation. For instance, an AI-based diagnostic tool, if not properly assessed, could result in the recommendation of incorrect treatment, thereby adversely affecting patient health.

Proposed Solutions

Educational and Awareness Programs: It is essential to implement educational programs that focus on improving both digital and health literacy. These programs can help individuals better utilize digital resources and discern reliable health information. Additionally, training on how to recognize trustworthy health sources and critically evaluate information should be widely promoted.

Facilitating Access to Accurate Information: Health organizations and government bodies must ensure that accurate and reliable health information is readily accessible on digital platforms. This information should be presented in user-friendly formats to avoid confusion, and continuous monitoring should be conducted to prevent the spread of misleading content.

Media Literacy and Critical Thinking: It is crucial to provide individuals with media literacy education to enable them to assess digital health content critically. These programs would help individuals recognize misinformation, identify credible sources, and understand how to engage with online health information responsibly.

Conclusion

Post-digital illiteracy refers to a condition where the overwhelming availability of digital information does not necessarily translate into its effective usage due to insufficient critical thinking skills. In the context of health literacy, this phenomenon presents significant challenges, as individuals may make poor health decisions based on inaccurate or misleading information. Addressing this issue requires the promotion of health literacy through education, the establishment of reliable digital health resources, and the enhancement of media literacy. By fostering a more informed and digitally literate society, we can improve health literacy and, ultimately, promote better public health outcomes.

Keywords: Post-Digital Illiteracy, Media Literacy, Critical Thinking

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Concurrent Elevation of Transaminases and Creatine Kinase: Liver or Muscle?

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Poster Presentation – PP537

Introduction:

Serum transaminases, alanine aminotransferase (ALT) and aspartate aminotransferase (AST), are commonly used biochemical markers in the evaluation of hepatocellular injury. However, these enzymes are not exclusively liver-specific and can also originate from other tissues, particularly skeletal muscle. Creatine kinase (CK) is an enzyme primarily found in skeletal muscle, cardiac muscle, and brain tissue. Elevated CK levels typically suggest muscle damage. When ALT, AST, and CK levels are simultaneously elevated, extrahepatic causes should be considered in the differential diagnosis.

Case:

A 21-year-old male, a third-year medical student at Ankara University Faculty of Medicine, presented for a routine check-up and serological testing. He had no active complaints. His past medical and family history were unremarkable. There were no medications used regularly. Physical examination was normal, with no signs of hepatomegaly, splenomegaly, ascites, or jaundice. Vital signs were within normal limits, and his Body Mass Index (BMI) was 24.7 kg/m². He reported no alcohol or tobacco use. Initial laboratory tests revealed isolated elevations in ALT (148 U/L) and AST (115 U/L), while hepatitis serologies (HBsAg, Anti-HCV, Anti-HAV IgM) were negative. Upon further questioning, the patient disclosed engaging in regular weightlifting exercises at the gym every third day for the past two years. He had also been consuming protein supplements regularly, starting with 15 grams daily for the first week,

followed by 5 grams daily thereafter. Notably, he had increased his intake to approximately 80-90 grams daily in the two weeks prior to presentation. Additionally, he performed intense back exercises one day before his visit. He reported no history of steroid use. Repeat laboratory tests and an abdominal ultrasound (USG) were ordered two days later. Blood results showed a decreasing trend: ALT 121 U/L, AST 74 U/L, and CK markedly elevated at 2676 U/L. Complete blood count, albumin, bilirubin, ferritin, thyroid function tests, GGT, ALP, INR, and FIB-4 score were all within normal limits. Abdominal USG was reported as normal. Given the trend toward normalization, further advanced investigations were deemed unnecessary. The patient was advised to discontinue protein supplements and temporarily stop exercising. He was encouraged to increase fluid intake (at least 2.5–3 liters of water daily) and avoid potentially hepatotoxic substances. One week later, repeat labs showed ALT 61 U/L, AST 27 U/L, and CK 641 U/L. The same recommendations were repeated, and follow-up testing one week later revealed further normalization: ALT 29 U/L, AST 22 U/L, CK 248 U/L. The patient was discharged from follow-up with advice to avoid unsupervised supplement use.

Conclusion:

In this case, mild hepatotoxicity and CK elevation resolved without pharmacological intervention through cessation of protein supplementation, temporary discontinuation of exercise, and adequate hydration. In asymptomatic patients presenting with elevated liver enzymes in primary care, a thorough history including exercise habits and supplement use can provide valuable diagnostic clues. Careful differential diagnosis is essential for proper management and to avoid unnecessary testing. This case highlights family medicine competencies such as person-centred care, specific problem solving to avoid unnecessary tests, and a comprehensive health-promoting approach.

Keywords: Family Practice, Liver Enzymes, Kreatine Kinase, Supplementation Effects

Introduction: Serum transaminases alanine aminotransferase (ALT) and aspartate aminotransferase (AST) are sensitive indicators of hepatocellular injury and are commonly used

for screening liver diseases (1). In cases of mild to moderate elevations (i.e., <15 times the upper limit of normal), differential diagnosis should consider both hepatic and extrahepatic causes. Among hepatic conditions, those with AST/ALT <1 include drug-induced liver injury, chronic viral hepatitis (HBV, HCV), toxin- or occupation-related hepatocellular damage, autoimmune hepatitis, non-alcoholic fatty liver disease (NAFLD), genetic disorders (e.g., Wilson's disease, hemochromatosis, alpha-1 antitrypsin deficiency), congestive hepatopathy, and malignant hepatic infiltration. In contrast, conditions with AST/ALT ≥1 include alcohol-related hepatitis, cirrhosis secondary to viral hepatitis or NAFLD, and Wilson's disease. Extrahepatic causes include muscle injury (e.g., intense exercise, myopathy), adrenal insufficiency, myocardial infarction, heart failure, anorexia nervosa, thyroid disorders, and celiac disease (2).

Liver function tests are frequently ordered, including in primary care, due to their low cost. However, they should not be considered definitive for diagnosis or exclusion of specific diseases. Persistent abnormalities on repeat testing warrant further investigation (3). The management algorithm for abnormal liver blood tests proposed by the British Society of Gastroenterology recommends that in patients with elevated ALT or AST levels, initial evaluation should include AST/ALT, GGT, and a complete blood count. Additionally, liver ultrasonography should be performed, along with a comprehensive liver etiology screen. This screen should include testing for hepatitis B and C, autoantibodies, immunoglobulin levels, ferritin, transferrin saturation, and HbA1c. If the patient has risk factors such as type 2 diabetes, a body mass index over 25, dyslipidaemia, or hypertension; NAFLD should be considered, and the patient should be evaluated using the NAFLD fibrosis algorithm. Conversely, if the ultrasound is normal, liver etiology tests are negative, and no NAFLD risk factors are present—but ALT and AST elevations persist—the patient should be referred for further diagnostic evaluation (3).

Creatine Kinase (CK) levels are valuable biomarkers for the diagnosis and monitoring of muscle and nerve disorders. After excluding non-neuromuscular causes, conditions such as

Duchenne and Becker muscular dystrophies or limb-girdle dystrophy should be considered (4). Non-neuromuscular causes of elevated CK include hypothyroidism, infections, crush syndrome, metabolic disorders, intramuscular injections, surgery, seizures, certain medications, herbal supplements, and anabolic steroid use (5).

Case: A 21-year-old male, a third-year medical student at Ankara University Faculty of Medicine, presented for a routine medical examination and serological testing. He had no active complaints. His past medical and family history were unremarkable. There were no medications used regularly. Physical examination was normal, with no signs of hepatomegaly, splenomegaly, ascites, or jaundice. Vital signs were within normal limits, and his Body Mass Index was 24.7 kg/m^2. He reported no alcohol, substance or tobacco use. Initial laboratory tests revealed isolated elevations in ALT (148 U/L) and AST (115 U/L), while hepatitis serologies (HBsAg, Anti-HCV, Anti-HAV IgM) were negative. Upon further questioning, the patient disclosed engaging in regular weightlifting exercises at the gym every third day for the past two years. He had also been consuming protein supplements regularly for two years, starting with 15 grams daily for the first week, followed by 5 grams daily thereafter. Notably, he had increased his intake to approximately 80-90 grams daily in the two weeks prior to presentation. Additionally, he performed intense back exercises one day before his visit. He reported no history of steroid use. The patient was advised to discontinue protein supplements and temporarily stop exercising. Repeat laboratory tests and an abdominal ultrasound were ordered two days later. Blood results showed a decreasing trend for liver enzymes: ALT 121 U/L, AST 74 U/L. CK was markedly elevated at 2676 U/L. Complete blood count, albumin, bilirubin, ferritin, thyroid function tests, GGT, ALP, INR, and FIB-4 score were all within normal limits. Abdominal USG was reported as normal. Given the trend toward normalization, further advanced investigations were deemed unnecessary. He was encouraged to increase fluid intake (at least 2.5–3 liters of water daily) and avoid potentially hepatotoxic substances. One week later, repeat repeat laboratory tests showed ALT 61 U/L, AST 27 U/L, and CK 641 U/L. The same recommendations were repeated, and follow-up testing one week later revealed further

normalization: ALT 29 U/L, AST 22 U/L, CK 248 U/L. The patient was discharged from follow-up with advice to avoid unsupervised, excessive supplement use.

Discussion: While some animal studies have reported hepatoprotective effects of whey protein (6,7), others have demonstrated elevations in ALT and AST levels (8). In elderly individuals, excessive intake of whey protein has been associated with impaired renal and hepatic function (9), Conversely, another study conducted on sedentary men reported beneficial effects of whey protein supplementation combined with resistance exercise on liver enzyme levels (10). Furthermore, an experimental animal study demonstrated that long-term whey protein intake exceeding physiological requirements, in the absence of exercise, may induce hepatotoxicity (11,12). Taken together, these findings indicate that the effects of protein supplementation on liver enzymes remain inconclusive.

Although CK levels vary individually, they typically rise with exercise, peak at 24 hours, and normalize within 7 days (4,13). Prolonged, weight-bearing activities (e.g., ultramarathon, triathlon) cause more pronounced elevations (13). Before initiating extensive investigations, repeat testing is recommended to confirm elevations and exclude exercise-induced increases. Therefore, a 7-day rest from intense activity and two measurements at least one month apart are advised (14).

This case highlights the challenge of distinguishing between exercise-induced muscle injury and potential hepatotoxicity related to protein supplements in the setting of concurrent elevation of ALT, AST, and CK. In primary care, the rapid normalization of enzyme levels following the discontinuation of exercise and supplements—without the need for advanced diagnostic workup—supports a reversible and most likely non-hepatic etiology.

There is no global consensus on the definition and regulation of dietary supplements, leading to wide international variation (15). Studies on supplements used to enhance performance are often low quality, with small samples, short durations, and unreliable methods. These products may cause side effects or interact with medications, and their active ingredients are often

unknown or poorly characterized. Therefore, medical consultation is recommended prior to use (16).

Conclusion: In conclusion, this case demonstrates that concurrent elevations in transaminase and CK in an asymptomatic patient may reflect transient biochemical changes related to exercise and supplement use, identifiable through structured history and clinical follow-up. In such cases, evaluating lifestyle factors before pursuing extensive testing is essential, particularly in primary care settings that emphasize patient-centered, problem-focused, and holistic approaches to avoid unnecessary concern.

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Progression to Metabolic Syndrome Due to Atypical Antipsychotic Use: A Case Report

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Introduction

Poster Presentation – PP539

Metabolic syndrome is a life-threatening endocrinopathy characterized by a combination of systemic disorders, including insulin resistance, abdominal obesity, glucose intolerance, dyslipidemia, hypertension, and coronary artery disease (CAD). The National Cholesterol Education Program Adult Treatment Panel III (NCEP-ATP III) defined the diagnostic criteria for metabolic syndrome in 2001, requiring the presence of at least three of the following five criteria:

- **Abdominal obesity** (waist circumference >102 cm in men, >88 cm in women)
- **Hypertriglyceridemia** (>150 mg/dL)
- **Low HDL cholesterol** (<40 mg/dL in men, <50 mg/dL in women)
- **Hypertension** (blood pressure >130/85 mmHg)
- **Hyperglycemia** (fasting blood glucose >110 mg/dL)[1]

Certain medications have been linked to the development of metabolic syndrome, with clinical studies demonstrating the metabolic effects of some atypical antipsychotic drugs.[2] This case

report presents the progression to metabolic syndrome in a patient who was prescribed antipsychotic medication due to substance-induced psychotic disorder.

Case Presentation

A 32-year-old male patient with no known chronic illnesses was admitted to a psychiatric inpatient unit due to substance dependence and substance-induced psychotic disorder. He was started on olanzapine (20 mg/day) and quetiapine (600 mg/day) for treatment. Upon admission, his initial measurements were as follows: weight: 73 kg, waist circumference: 98 cm, BMI: 23.8 kg/m², blood pressure: 98/60 mmHg. Initial fasting blood tests showed HDL cholesterol: 64 mg/dL, triglycerides: 61 mg/dL.

By day 13 of treatment, the patient exhibited significant weight gain, with the following measurements: weight: 112.6 kg, waist circumference: 122 cm, BMI: 36.8 kg/m², blood pressure: 133/70 mmHg. On day 14, repeat fasting blood tests revealed glucose: 81 mg/dL, HDL cholesterol: 53 mg/dL, triglycerides: 279 mg/dL, indicating rapid onset of dyslipidemia.

Due to the rapid progression toward metabolic syndrome, the treatment plan was modified by gradually tapering olanzapine, introducing lurasidone (20 mg/day), and reducing quetiapine to 300 mg/day. Olanzapine was halved to 10 mg/day, and within seven days, repeat blood tests showed triglycerides: 192 mg/dL, HDL cholesterol: 45 mg/dL. Despite the decrease in triglycerides, the decline in HDL cholesterol persisted. However, fasting glucose (85 mg/dL) and HbA1c (5.6%) remained within normal limits, indicating that the patient had not developed glucose intolerance or diabetes. Close monitoring and prompt intervention successfully prevented the progression to full metabolic syndrome.

Discussion

Atypical antipsychotic drugs are associated with varying degrees of weight gain, diabetes, and hyperlipidemia.[3] The risk of weight changes differs among antipsychotics,[4] with olanzapine

being one of the most strongly associated with obesity, dyslipidemia, insulin resistance, and diabetes.[5–9]

Regular metabolic monitoring in patients receiving antipsychotic treatment is essential for the early diagnosis of metabolic syndrome or diabetes. Early intervention can improve quality of life and prolong survival.

In primary care settings, family physicians play a crucial role in holistic patient assessment. Regular monitoring of metabolic parameters in patients on long-term antipsychotic therapy and promoting lifestyle modifications are vital for preventing metabolic complications.

Keywords: Metabolic Syndrome, Dyslipidemia, Antipsychotic, Medication, Diabetes, Obesity, Central Obesity

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A Different Cause of Chronic Low Back Pain in Young Adults: Bertolotti Syndrome

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Poster Presentation – PP542

Objective: Low back pain is a common health problem that creates a great burden on health services. Bertolotti Syndrome should be considered in chronic low back pain in young adults. Bertolotti Syndrome (BS); is a congenital disease that is mostly seen in young adults and is accompanied by chronic back and/or low back pain in the presence of lumbosacral transition vertebra. The aim of this report is to provide a different perspective on chronic low back pain in young adults who apply to primary health care services.

Materials and Methods: Lumbosacral AP radiographs are quite useful in diagnosis. Methods used in further examinations include computed tomography, magnetic resonance imaging and electromyelography.

Findings: The presence of Bertolotti Syndrome should be kept in mind in young adults with chronic low back pain, tenderness in the lumbosacral region and radicular pain radiating to the lower extremity.

Conclusion: Non-steroidal anti-inflammatory drug treatment is the first choice. Physical therapy can be applied simultaneously. Injection therapy and surgical treatment are among the options in treatment-resistant cases. Bertolotti Syndrome should be considered in young adults who present to their family physicians with back pain. Preliminary diagnosis should be supported by direct radiographs and conservative treatments should be planned as a first step.

Keywords: Chronic Low Back Pain, Bertolotti Syndrome, Young Adults, Lumbosacral Transition Vertebra

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Use of Regional Anesthesia Techniques in Difficult Intubation Cases: A Case Report

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Introduction

Difficult intubation is a significant risk factor in preoperative settings, potentially leading to complications such as laryngeal edema, bleeding, tracheal or esophageal trauma, aspiration, and pneumothorax. These complications are more frequently observed and tend to have more severe outcomes, particularly in elderly patients with comorbidities. Therefore, regional anesthesia techniques play a crucial role in managing difficult intubation cases. This case report evaluates the anesthesia techniques used in an elderly patient with multiple comorbidities, who was at high risk for difficult intubation.

Poster Presentation – PP543

Case Presentation

A 77-year-old male patient with a known history of subclinical thyrotoxicosis, hypertension, and diabetes mellitus was admitted for the treatment of a traumatic pathology. Due to tracheal deviation and a significantly enlarged thyroid gland, the patient was expected to encounter difficulties during intubation.

Laboratory findings: WBC: 72,400/mm³, HGB: 12.7 g/dL, PLT: 372,000/mm³, INR: 1.07, CRP: negative, TSH: 2.93, Free T4: 1. The presence of tracheal deviation and thyroid enlargement posed a serious risk for intubation. Consequently, regional anesthesia techniques were chosen to minimize potential complications.

Anesthesia Management

To mitigate the risks, the patient was prepared for surgery using regional anesthesia techniques. Spinal anesthesia was administered for pain control, followed by an infraclavicular block to enhance analgesia. For spinal anesthesia, a Quincke 25-gauge needle was used to deliver a mixture of 20 mcg fentanyl and 13 cc heavy marcaine. The infraclavicular block was performed under ultrasound guidance using 5 mg/mL bupivacaine, diluted in 40 cc saline solution.

Throughout the surgical procedure, the patient's hemodynamic status was continuously monitored, and no active bleeding was observed. There was no need for inotropic support or blood transfusion. Postoperatively, the patient maintained spontaneous breathing and was monitored in the post-anesthesia care unit (PACU) for one day before being transferred to the general ward without complications.

Conclusion

This case highlights the effectiveness of regional anesthesia techniques in patients requiring difficult intubation. Spinal anesthesia and infraclavicular block offer a safe alternative to minimize complications associated with airway management.

Keywords: Infraclavicular Block, Peripheral Nerve Blocks, Multitrauma, Regional Anesthesia

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Elevated Creatine Kinase in a Young Female: A Holistic Approach in Primary Care

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Introduction:

Creatine Kinase (CK) is a biochemical marker used to indicate increased muscle damage. Elevated CK levels serve as the most sensitive and reliable indicator of muscle injury, with the degree of elevation correlating with the extent of muscle damage and disease severity. Serum CK activity is markedly elevated in all types of muscular dystrophy, particularly in Duchenne muscular dystrophy. Extremely high CK levels are observed in conditions such as viral myositis, polymyositis, and similar muscle disorders, whereas CK levels remain normal in neuromuscular diseases like myasthenia gravis, multiple sclerosis, poliomyelitis, and Parkinson's disease. This report presents a case of elevated CK levels identified through anamnesis, physical examination, and laboratory investigations in a patient who presented to our clinic with widespread muscle pain and muscle weakness.



Case Report:

A 19-year-old female patient presented with complaints of widespread muscle pain and increased muscle contractions in her left hand triggered by cold exposure. She reported experiencing these symptoms intermittently, accompanied by episodes of blurred vision, occasional leg pain, weakness, and falls. She had previously visited the emergency department

during such episodes, where she was found to have significantly elevated CK levels. Three days prior to presentation, she had another emergency visit, where her CK level was again found to be high, leading to intravenous fluid administration and a recommendation for CK reassessment three days later.

Her past medical history was significant only for hypothyroidism, while her family history included rheumatoid arthritis in her mother. On physical examination, the patient appeared mildly anxious, holding her left hand in a guarded position. Oropharyngeal, respiratory, and cardiovascular system examinations were unremarkable. Cranial nerve examination was normal, and no meningeal irritation signs were present. Motor strength was 5/5 in all extremities, with no sensory deficits, though she had difficulty opening her left hand. Other system examinations were within normal limits.

Laboratory findings revealed a CK level of 7,992 U/L and an AST level of 216 U/L. Hydration therapy was initiated, and serial CK monitoring every three days was advised. Further immunological investigations, including complement C3-C4, PR3-ANCA, MPO-ANCA, RF, Anti-Ribosomal P, Anti-Jo 1, Anti-SCL-70, Anti-Sm, Anti-Histone Antibody, Anti-SSB, Nucleosome, Anti-Ro52, CENP-B, ANA, and Anti-dsDNA, were all negative. Despite multiple emergency visits, the patient had never been referred to neurology. A neurology consultation was scheduled, and she was advised to avoid strenuous exercise.
One week later, the patient returned to the clinic with complaints of palpitations and cyanosis of the hands. She reported having seen a neurologist, who ordered MRI, EEG, and EMG tests, all of which were normal, and subsequently referred her for genetic testing. During this period, she was prescribed carbamazepine (Tegretol) for muscle contractions, but she reported worsening symptoms after three days of use.

Her vital signs were recorded as blood pressure: 110/80 mmHg, oxygen saturation: 98%, and pulse rate: 114 bpm. An electrocardiogram (ECG) showed normal sinus rhythm (NSR) but revealed newly developed T-wave inversions in lead D3 and biphasic T waves in lead aVF,

prompting an emergency referral. The patient was contacted by phone the following day, reporting that her symptoms were attributed to a side effect of Tegretol, which was subsequently discontinued. She was undergoing genetic testing for a myopathy panel, and the results were pending.

Dıscussion and Conclusion:

This case highlights the importance of obtaining a detailed history, conducting a comprehensive patient evaluation, and ensuring appropriate follow-up when performing routine laboratory investigations in a primary care setting. Providing sufficient time for patient assessment, offering detailed explanations, and ensuring proper referrals are crucial aspects of family medicine practice.

Keywords: Family Medicine, Creatine Kinase Elevation, Holistic Approach

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Private Vaccines Included in the National Immunization Program in Turkey and Their Administration Rates in a Primary Care Family Health Unit

Latife Uzun

Poster Presentation – PP545

Objective:

This study aims to emphasize the critical role of family physicians in recommending and promoting the administration of private vaccines that are not included in the national immunization schedule. It seeks to propose strategies to facilitate access to these vaccines and related information, ultimately increasing vaccination rates and protecting public health. Additionally, it highlights the importance of incorporating these vaccines into the national immunization program.

Materials and Methods:

This study examines vaccination rates, parental knowledge, behaviors, and attitudes regarding these vaccines, reasons for vaccine refusal, and the role of physicians in the immunization process through a comprehensive literature review. A retrospective analysis was conducted on pediatric health monitoring and vaccination clinic visits within the past year at a primary care family health unit in Karaman. The administration rates of private vaccines were presented.

Results:

Rotavirus, which infects nearly all children under the age of five at least once and accounts for a significant proportion of diarrhea-related hospitalizations worldwide, is particularly important in developing countries like Turkey, where rotavirus-related mortality rates are high. The national immunization program includes a monovalent (Rotarix®) and a pentavalent (RotaTeq®) rotavirus vaccine (University et al., 2018).

Invasive meningococcal diseases are common and can lead to severe complications and mortality despite treatment. Globally, six serogroups (A, B, C, W135, X, and Y) are responsible for most cases. Initially, polysaccharide vaccines were developed for protection, but due to their limited efficacy and inapplicability to children under two years of age, conjugate meningococcal vaccines were introduced. In Turkey, three quadrivalent (A/C/W135/Y) conjugate meningococcal vaccines (Menactra®, Menveo®, Nimenrix®) and one serogroup B vaccine (Bexsero®) are licensed for use in infants, children, and adults (Özdemir & Çiftçi, 2014; Kocabaş & Timurtaş Dayar, 2015).

Human papillomavirus (HPV) is a major cause of cervical cancer and various anogenital and oropharyngeal cancers. Three types of HPV vaccines are available for protection: Gardasil®, Cervarix®, and Gardasil 9® (Akalın, 2022).

A study by Ergün Özdel et al. found that when families were informed and recommended private vaccines, the administration rate was 16.1% (most commonly meningococcal and rotavirus vaccines) (Ergün Özdel, 2024). Another study reported that 9.71% of mothers had their children receive private vaccines (most commonly rotavirus and influenza vaccines), while 64.56% of participants cited lack of information as the reason for not vaccinating their children (Çıklar & Güner, 2020).

A study conducted in Antalya found that 69.6% of participants were aware of childhood private vaccines. Among those who had received private vaccines, 74.9% had received the rotavirus vaccine, 43.9% the meningococcal vaccine, 29.8% the influenza vaccine, and 2.9% the HPV vaccine. The most common sources of information about private vaccines were family physicians (56.1%), pediatricians (57.9%), and social media (20.5%). The study also found that as the participants' age decreased, and their education level, income, and number of children increased, the likelihood of receiving private vaccines also increased (Kurşun & Aşık, 2023).

Another study conducted in Ankara with 2,127 participants found that 96.1% had heard of private vaccines in addition to routine vaccinations. The main sources of information were

physicians (62.8%) and the internet (41.4%). Among participants, 5.8% had received or were considering rotavirus vaccination, and 52.7% were considering meningococcal vaccination. The most common reasons for not receiving private vaccines were high cost (52.8%) and concerns about potential side effects (4.3%) (Öztelcan Gündüz et al., 2024).

In this study, a retrospective analysis of 223 infants and children aged five years and under who visited a primary care family health unit in Karaman for pediatric health monitoring and vaccination within the past year revealed that 2.2% had received the rotavirus vaccine, 1.3% had received the meningococcal vaccine, and a total of 3.5% had received a private vaccine. No children had received the HPV vaccine.

Conclusion:

Private vaccines included in the immunization program are the most effective means of preventing diseases that pose significant health threats. However, vaccination rates in Turkey remain low due to the exclusion of these vaccines from the national immunization program. Family physicians and family health centers play a crucial role in informing and encouraging families, ultimately increasing vaccination rates. Pediatric and adolescent health check-ups should be seen as opportunities for evidence-based education on these vaccines. Reducing the cost of these vaccines or incorporating them into the national immunization program would contribute to herd immunity. Further large-scale studies are needed to provide more evidence on their cost-effectiveness and low adverse effect profiles.

Keywords: Rotavirus, Meningococcus, Vaccination

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The Indispensability of Continuous Professional Development for Good Medical Practice in Family Medicine

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Poster Presentation – PP548

In today's medical landscape, good medical practice requires not only knowledge but also adherence to ethical values, competence, and a commitment to continuous professional development (CPD). This is particularly evident in the field of family medicine, which is known for its comprehensive and holistic approach. As the first point of contact, family physicians provide continuous, patient-centered care, necessitating ongoing access to updated knowledge and skill enhancement. The broad scope of family medicine, covering areas from child health to geriatric care, from chronic disease management to mental health, increases the need for family physicians to stay informed and engaged in lifelong learning.

Continuing Medical Education (CME) refers to structured, short-term educational activities designed to update physicians' knowledge and maintain fundamental skills. In contrast, CPD encompasses a broader concept that includes self-directed learning, personal development, and practice-level improvements. CPD has become increasingly critical compared to traditional CME due to the limitations of conventional CME activities, which are often passive, short-term, and fail to address individual learning needs, thus having limited impact on clinical practice. The literature suggests that a lack of CPD poses risks to patient safety, whereas well-structured, practice-oriented CPD activities result in measurable clinical improvements and higher patient satisfaction. For instance, intensive, practice-based CPD

programs for family physicians have been shown to yield more effective outcomes than traditional lecture-based formats.

The success of CPD largely depends on a self-directed learning approach. Family physicians achieve better results when they identify their own learning needs and tailor their learning processes accordingly. Consequently, many family physicians today prefer self-directed methods such as digital learning platforms, simulations, and interactive modules over traditional education formats. Supporting self-directed learning not only ensures physicians acquire up-to-date knowledge but also enhances professional satisfaction, strengthens their commitment to the profession, and reduces burnout risk.

However, numerous barriers hinder family physicians' participation in CPD activities, including time constraints, excessive workload, lack of motivation, and content that is not aligned with practical needs. Therefore, CPD programs must be designed to overcome these limitations. A thorough assessment of educational needs ensures that CPD activities address both general deficiencies and individual demands. Methods such as mentoring, small-group discussions, case-based learning, and regular feedback sessions support physicians' learning processes and facilitate the integration of newly acquired knowledge into daily practice. Additionally, digital tools and hybrid education models, whose importance has become even more evident during the COVID-19 pandemic, improve accessibility and flexibility. Short educational modules, mobile applications, and in-work training sessions help reduce time and travel constraints, encouraging greater CPD participation. Aligning CPD activities with professional requirements and incorporating incentives (such as certification credits) further strengthens participation.

In conclusion, good medical practice in family medicine is inconceivable without lifelong learning and continuous personal development. Physicians' commitment to ethical values and professional responsibility is directly linked to their dedication to ongoing development. WONCA's global standards emphasize the need for a culture of continuous learning and quality improvement in family medicine. This paper presents an innovative CPD-focused perspective

within family medicine literature by addressing existing challenges, proposing practical solutions, and laying a comprehensive foundation for future studies. Furthermore, future research should focus on effectively identifying family physicians' learning needs and systematically evaluating the impact of learning processes on clinical outcomes.

Keywords: Good Medical Practice, Family Medicine, Continuous Professional Development, Lifelong Learning, Self-Directed Learning

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Uveitis Associated with Bartonella Henselae Infection: A Case Report of a 13-Year-Old Male Patient

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Poster Presentation – PP553

Introduction: Cat scratch disease is a zoonotic infection caused by the bacterium *Bartonella henselae*. Although it is typically characterized by self-limiting regional lymphadenopathy, it may also involve ocular, visceral, and neurological systems. Cats are the primary reservoir for *Bartonella henselae*. In this case, we present the clinical course and diagnostic process of a uveitis case that developed secondary to cat scratch disease.

CaseReport:

A 13-year-old male patient presented to the pediatric emergency department with complaints of redness, burning sensation, and decreased vision in both eyes for the past week. Upon ophthalmologic examination performed by the ophthalmology department, anterior uveitis was diagnosed, and the patient was referred to our unit for further etiological investigation.

The patient's history revealed contact with cats and dogs. There was no history of recurrent painful oral or genital ulcers, joint pain, or swelling. He denied any skin rash or fever. There was no family history of tuberculosis or rheumatologic diseases. The family did not consume unpasteurized cheese.

Systemic physical examination was unremarkable. Complete blood count and biochemical parameters were within normal ranges. Serologic tests, including *Toxoplasma gondii*, CMV,

Brucella, *Salmonella*, VDRL, HIV, Lyme disease, and Quantiferon-TB Gold, were all negative. *Bartonella henselae* IgM was negative, while IgG was positive at a titer of 1:320.

The patient was also evaluated by the Pediatric Rheumatology Department to rule out any underlying rheumatologic condition, but the findings did not support a rheumatologic diagnosis. With a presumptive diagnosis of cat scratch disease, oral doxycycline (100 mg twice daily) and rifampin (300 mg once daily) were initiated. The treatment was planned for a total duration of six weeks. At the end of the treatment period, the patient's ocular findings had resolved completely. He continues to be followed by the ophthalmology department for potential relapse or complications.

Discussion:

Ocular involvement in *Bartonella henselae* infections is typically unilateral and occurs in approximately 5–14% of cases. Patients who develop uveitis should undergo a comprehensive etiological workup. In our patient, rheumatologic diseases were excluded during the initial evaluation, and serological testing revealed a high-titer positive *Bartonella henselae* IgG, as ordered by our department. According to the literature, a 6-week course of oral doxycycline and rifampin was administered, resulting in complete clinical resolution. Although the addition of systemic corticosteroids is recommended in cases of severe ocular inflammation such as optic disc edema in *Bartonella henselae* infection, corticosteroid therapy was not deemed necessary in our case due to the mild nature of the ocular involvement.

In conclusion, in pediatric cases presenting with uveitis, a detailed medical history should include inquiries about contact with cats, and *Bartonella* serology should be obtained. Although *Bartonella*-associated uveitis is rare, excluding other potential causes and initiating appropriate treatment promptly is crucial for optimizing patient outcomes.

Keywords: Bartonella Henselae, Cat Scratch Disease, Uveitis, Ocular Bartonellosis,

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A Case of Necrotizing Granulomatous Lymphadenitis Presenting with Left Axillary Abscess Following BCG Vaccination

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Poster Presentation – PP554

Introduction: The Bacillus Calmette-Guérin (BCG) vaccine was developed in 1921 and has since been widely used across the world to prevent tuberculosis. Although local reactions such as erythema, swelling, and abscess formation may occur following BCG vaccination, the most serious complication is suppurative lymphadenitis. In this case, we present a pediatric patient who developed a left axillary abscess after BCG vaccination and was subsequently diagnosed with BCG vaccine-related tuberculous lymphadenitis.

Case Report: An 8-month-old male patient was referred to our clinic with complaints of a left axillary abscess. The family reported that swelling in the left axilla had first been noticed approximately 45 days prior, and partial drainage had been performed at another medical center, followed by antibiotic therapy. However, the swelling persisted. Upon detailed history, it was revealed that the patient was born at 32 weeks of gestation as the first surviving child of a seventh pregnancy and had been hospitalized in the neonatal intensive care unit for 45 days due to prematurity. The parents were third-degree relatives. On physical examination, a 2×2 cm crusted lesion with surrounding erythema consistent with an abscess was observed in the left axillary region. A BCG vaccination scar was present. The patient was admitted to the Pediatric Infectious Diseases

Department for abscess drainage and further investigation. Superficial ultrasonography revealed a hypoechoic, heterogeneous area measuring approximately 16×6 mm in the left axilla, consistent with an abscess. Laboratory investigations revealed markedly low serum IgG and IgA levels. Therefore, the Pediatric Allergy and Immunology Department initiated further evaluation for potential immunodeficiency, including genetic testing. Given the history of BCG vaccination and suspicion of underlying immunodeficiency, tuberculosis workup was performed using gastric aspirate samples, which showed no growth. Quantiferon-TB Gold test was negative, and PPD was measured as 1×1 mm. The patient's family was also evaluated for tuberculosis at the local tuberculosis dispensary, and no positive findings were detected. During follow-up, the axillary abscess was totally excised by the plastic surgery team. Histopathological examination of the biopsy revealed necrotizing granulomatous inflammation. Based on the biopsy findings, history of BCG vaccination, and suspected immunodeficiency, a diagnosis of BCG vaccine-related tuberculous lymphadenitis was made, and anti-tuberculosis treatment with isoniazid, ethambutol, streptomycin, and rifampin was initiated. During treatment, the patient developed swelling at the injection site and significant lower extremity pain, which impaired his ability to crawl. These symptoms were attributed to intramuscular streptomycin, which was discontinued and replaced with levofloxacin. However, after starting levofloxacin, the patient experienced persistent vomiting, leading to the discontinuation of this drug as well. Currently, the patient is receiving isoniazid, rifampin, and ethambutol. The duration of therapy will be determined once the immunodeficiency workup is concluded.

Discussion: The BCG vaccine may lead to various complications. In the early period, local reactions such as abscess, fistula, and erythema can occur; however, more complex conditions including osteomyelitis, lymphadenitis, and disseminated BCG infection may also arise . One of the most serious complications associated with the BCG vaccine is suppurative lymphadenitis.

A definitive diagnosis is established by isolating *Mycobacterium tuberculosis* from biopsy material or by identifying granulomatous inflammation with caseating necrosis on histopathological examination. In our case, the biopsy result revealed necrotizing

granulomatous inflammation. Given the localization of the abscess in the left axillary region and the history of prior BCG vaccination, a diagnosis of BCG vaccine-related tuberculous lymphadenitis was made, and anti-tuberculosis therapy was initiated. In conclusion, in cases of persistent lymphadenitis or abscess formation following BCG vaccination, patients should be thoroughly evaluated for both tuberculosis and possible underlying immunodeficiency.

Keywords: BCG Vaccine, Suppurative Lymphadenitis, Necrotizing Granulomatous Inflammation

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Application of Sternocostal Radiofrequency Treatment in Post-Bypass Chest Pain

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Introduction

Chronic chest pain after bypass surgery may occur due to postoperative neuropathic pain and may seriously affect the patient's quality of life. Radiofrequency (RF) therapy may be an effective alternative in patients resistant to drug therapy. In this case report, the effectiveness of RF therapy applied to a patient with postoperative chest pain originating from the sternocostal joint and patient follow-up are discussed.

Case Report

Patient Information:

Age: 65
Gender: Male
Diagnosis: Patient who underwent bypass surgery due to coronary artery disease
Past History: Hypertension, type 2 diabetes, hyperlipidemia
Symptoms: Nearly 1 year after surgery burning, stinging, and pressure sensation, especially in the midline of the sternum and at the level of the left sternocostal joint since the 3rd postoperative week
Applied Treatments:

o Medical treatment (Pregabalin, NSAIDs)

o Physical therapy and exercise

o TENS (Transcutaneous Electrical Nerve Stimulation)

Radio Frequency Treatment

Since it was resistant to medical treatments, it was decided to apply RF ablation to the sternocostal joint.

• Application:

The patient was taken into the supine position and under sterile conditions.

o The sternocostal joint was visualized with USG.

o Using an in-plane approach, a 22 G, 10 cm echogenic radiofrequency (RF) cannula with a 5 mm active tip (EchoRF, Cosman, Burlington, MA, USA) was placed at the sternocostal joint. Motor stimulation was performed at 2 Hz at 1 V, and sensory stimulation was performed at 50 Hz at 0.5 V. The patient reported paresthesia, tingling, and pain in the sternocostal region. Correct needle tip placement was demonstrated by USG

o Thermal RF ablation was performed at 80°C for 90 seconds.

The patient tolerated the procedure and no complications were observed.

Follow-Up and Results

• Week 1: The patient reported a 50% reduction in chest pain.

• Month 1: Chest pain was significantly reduced, and the patient was able to perform daily activities more comfortably.

• Month 3: More than 80% improvement in symptoms, the patient stopped using NSAIDs.

Conclusion and Discussion

RF ablation has been shown to be an effective method in patients with chronic chest pain after bypass surgery and in cases resistant to medical treatment. In this case, RF ablation applied to the sternocostal joint was observed to significantly reduce the patient's symptoms and increase his quality of life.

Keywords: By-Pass, Chronic Pain, Radyofrequency, Chest Pain

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The Importance of Colorectal Cancer Screening with Fecal Occult Blood Test

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Poster Presentation – PP559

Colorectal cancer is the third most common cancer worldwide. It is the number two cancer-related cause of death. In addition, colorectal cancer comprises 10% of all cancer cases. Colorectal cancer develops from premalignant lesions over many years. Thus, colorectal cancer incidence and mortality are reduced when diagnostic and screening methods are used correctly.

In Turkey, "Cancer Early Diagnosis, Screening and Education Centers (KETEM)" perform screening and early diagnosis projects with methods whose effectiveness is globally approved for the various types of cancer for which they are effective. Both men and women between the ages of 50-70 are screened for colon cancer every two years with the "Fecal Occult Blood Test" (FOBT).

Studies have shown that screening tests are successful. However, providing the patients with sufficient information about screening methods is important for the results. False positives are seen when FOBT is not performed correctly. FOBT should be used appropriately to maintain the cost-effectiveness of screening tests. Patients experience unnecessary anxiety until results are obtained by endoscopic examinations. Their daily lives are indirectly affected.

We thought that patients waiting with impatience and excitement in front of the outpatient clinic did not have enough information about FOBT and colorectal cancers. Therefore, we would like to share the results of ten recent FOBT positive patients screening by KETEM.

Keywords: Fecal Occult Blood, Colorectal Cancer Screening, False Positive, Anxiety

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Pressure Ulcers and Their Treatment: A Case Presentation

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Poster Presentation – PP561

Introduction

A study conducted on patients receiving home health care services found the incidence of pressure ulcers to be 22.80% (1). In a study by Aktürk et al., the prevalence of pressure ulcers was found to be 23.80% (2). The most significant factor in the development of pressure ulcers is pressure. Both the intensity and duration of the pressure are crucial. In addition to the local effects of pressure, factors such as malnutrition, advanced age, hypotension, reduced mobilization, decreased sensory perception, sepsis, skin contamination with feces and urine, moisture, and friction play roles in the formation of pressure ulcers (3). This case report addresses the treatment approach of a patient under home health care services who developed a pressure ulcer.

Case

A 96-year-old bedridden patient with hypertension, heart failure, hyperthyroidism, and atrial fibrillation presented to the home health unit with a decubitus ulcer in the gluteal region. The patient was on metoprolol succinate 100 mg/day, apixaban 5 mg/day, and methimazole 5 mg/day. On examination, the patient had a 4x2 cm stage 2, exudative, and hemorrhagic pressure ulcer. Laboratory parameters, including liver and renal function tests, electrolytes, and hemogram, were within normal limits. The patient's caregiver received education on positioning and dressing to promote healing of the pressure ulcer and prevent the development of new ones. Treatment was initiated with alginate wound dressings and dressings containing chlorhexidine acetate and paraffin. The patient received 1.5 g/kg of

protein and 35 kcal/kg of energy per day. A follow-up after 15 days showed a reduction in the size and improvement of the ulcer.

Discussion

The National Pressure Ulcer Advisory Panel (NPUAP) and the European Pressure Ulcer Advisory Panel recommend nutritional screening for individuals at risk of pressure ulcers and suggest daily intake of 30 to 35 kcal/kg of energy and 1.2 to 1.5 g/kg of protein for those at risk of malnutrition and pressure ulcers (4). The treatment of pressure ulcers involves positioning, nutritional support, proper wound cleaning and care, debridement, and other methods (5). Preventing pressure ulcers is more cost-effective and easier for both families and countries than managing the treatment process. Therefore, preventive measures should be taken for at-risk patients, including skin monitoring, maintaining moisture balance, improving nutrition, implementing position changes, using pressure-relieving products, and encouraging movement as much as possible (6).

Keywords: Pressure Ulcer, Treatment, Nutritional Support, Wound Care, Home Health Care

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A Case of Intrathyroidal Parathyroid Cancer with Recurrent Laryngeal Nerve Invasion

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Parathyroid carcinoma is a cause of hyperthyroidism with an incidence of 0.74%, in which the CDC73 tumor suppressor gene plays a role in the molecular pathogenesis, is more common between the ages of 44 and 56, and has a similar incidence in men and women. Blood calcium level is often between 14.6 and 15.9 mg/dL. Parathormone(PTH) levels are 5 to 10 times higher than normal. Usually only one gland is affected and multiglandular disease is extremely rare. When first diagnosed, approximately 2/3 of patients have lymph node metastases. The disease is usually diagnosed at the time of surgery and tumor tissue must be completely removed. The role of adjuvant radiotherapy and chemotherapy is limited.

Poster Presentation – PP562

Case

A 57-year-old woman was hospitalized to the endocrinology clinic with a Ca level of 13.9 mg/dl during investigations for chronic anemia. Her comorbidities included essential hypertension and type II diabetes mellitus. She had no history of surgery. Parathormone level was 422 pg/ml and phosphorus level was 1.98 mg/dl. Neck ultrasonography demonstrated a 10x10x16.5 mm nodular lesion in the posterior part of the middle zone of the right lobe of the thyroid, which was thought to be compatible with parathyroid adenoma, with intrathyroidal localization and feeding artery. PTH level >5000 pg/ml was detected in the wash-out

examination performed here. It was confirmed to be in the same localization by parathyroid scintigraphy performed previously and right thyroid lobectomy surgery was considered. During surgery, no parathyroid adenoma was identified. Initially described area was palpated to be firm and nodular and was in contact with the n.recurrens (Figure 1). The lesion area was excised over the n.recurrens and the surgical margin was confirmed by frozen section. After lobectomy, PTH level decreased to 65 pg/ml intraoperatively and the operation was terminated. After surgery, right vocal cord paralysis occurred. Pathology results showed a parathyroid carcinoma with a diameter of 1.8x1.8 cm, capsule invasion and vascular invasion, intrathyroidal localization, negative surgical margins, and nerve tissue was observed in certain areas. She was staged as T3N1bM0. Postoperative neck ultrasonography detected subsantimetric lymph nodes at right level 2, 3 and 4. It was decided to follow up these lymph nodes after contrast-enhanced neck magnetic resonance imaging and systemic PET-CT imaging. As a result of the oncology council, she started radiotherapy to the neck region.

Parathyroid carcinoma presents similarly to primary hyperparathyroidism with elevated levels of PTH and serum calcium. Elevated calcium in routine blood tests should not be dismissed.

Keywords: Hypercalcemia, Parathyroid Adenoma, Parathyroid Carcinoma, Recurrent Laryngeal Nerve

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Culture-Negative, Clinically Positive: Diagnosis of a Rare Case of Peritoneal Tuberculosis Based on Clinical Suspicion

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Tuberculosis (TB) remains a significant global public health concern. According to the *2023 Tuberculosis Diagnosis and Treatment Guideline* of the Turkish Ministry of Health, approximately 20% of TB cases are extrapulmonary in location, and these forms often present a more complex diagnostic challenge. Extrapulmonary tuberculosis can be difficult to diagnose and treat, as symptoms are often nonspecific and may mimic other diseases. Therefore, early diagnosis and appropriate treatment of extrapulmonary TB—especially in immunocompromised individuals—are crucial to prevent serious complications.

Case Presentation: A 69-year-old female patient with known diabetes mellitus, hypertension, rheumatoid arthritis, and HCV infection, receiving immunosuppressive therapy, presented to our clinic with complaints of abdominal pain, fever, fatigue, weight loss, low back pain, and night sweats ongoing for five months. Due to unexplained weight loss and elevated CRP levels, she was admitted for malignancy screening. During hospitalization, various tests were ordered, including abdominal ultrasound, endoscopy, abdominal CT, CBC, BUN-creatinine, Brucella serology, and urinalysis. Brucella serology was negative. The initial colonoscopy was deemed insufficient, and the patient was discharged upon her own request. One month later, she was readmitted with persistent symptoms. Urine calcium and serum ACE levels were within normal limits. Owing to sustained clinical suspicion, a second colonoscopy was performed, revealing findings

consistent with *terminal ileitis*. As the abdominal pain worsened and ascites developed, the patient was re-admitted through the family medicine outpatient clinic with a CRP level of 108.7. Despite high CRP, procalcitonin levels were normal. Ascitic fluid analysis showed ADA: 39.2 U/L, positive Quantiferon-TB test, and negative TB PCR. After consultation with gastroenterology and infectious diseases departments, a presumptive diagnosis of spontaneous bacterial peritonitis was made, and empirical treatment was initiated. However, the patient showed no clinical improvement, and CRP levels remained elevated. Serial analysis of ascitic fluid revealed an increase in PMN count. Given ongoing clinical suspicion, a contrast-enhanced abdominal MRI was performed, which reported *"mesenteric fat and omental edema—suggestive of gastrointestinal tuberculosis?"* General surgery was consulted, and a peritoneal biopsy was performed. Histopathological examination of the biopsy revealed: *"chronic granulomatous inflammatory reaction with focal mild necrosis (chronic granulomatous peritonitis)."* Findings were interpreted as consistent with tuberculosis. The patient was referred to the infectious diseases department and then to the tuberculosis dispensary, where anti-TB treatment was initiated.

Peritoneal Tuberculosis is a rare but significant form of extrapulmonary TB. As demonstrated in this case, symptoms are often nonspecific—such as prolonged fever, weight loss, abdominal pain, and ascites—mimicking various other diseases. This can lead to delayed diagnosis and unnecessary investigations. This case highlights that tuberculosis—especially in immunocompromised individuals and patients presenting with atypical symptoms—should always be considered in the differential diagnosis. Even in the absence of culture positivity, TB can be identified through histopathological evidence and requires a multidisciplinary diagnostic approach. This case clearly illustrates the diagnostic challenges of peritoneal tuberculosis and emphasizes the importance of clinical suspicion. Particularly in immunosuppressed individuals with unexplained ascites and prolonged inflammatory signs, tuberculosis must be considered.

Keywords: Peritoneal Tuberculosis, Clinical Suspicion, Delayed Diagnosis

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Case Report of a Person Who Admitted to the Family Health Center in the Late Period After Trauma

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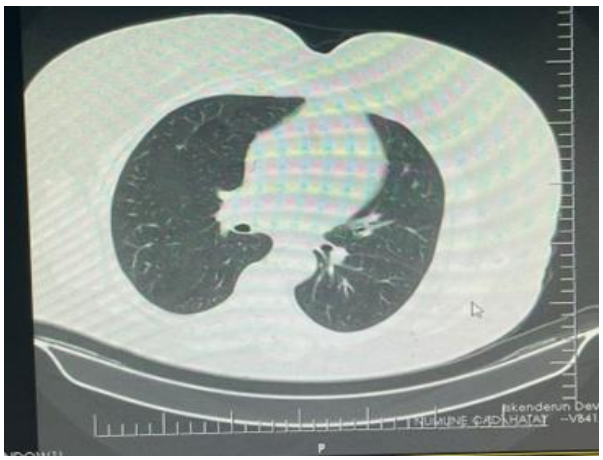
Poster Presentation – PP567

Introduction: Physical traumas are tragic and multifaceted injuries that suddenly threaten life. Blunt injuries constitute the majority of chest trauma. Chest trauma remains an issue for healt services. Blunt thoracic injury commonly includes rib fractures, sternal fracture, hemothorax, pneumothorax and pulmoner contusions. Thus, whatever theseverity, a fast-acting strategy must be organized. Conditions that cause total lung collapse are detected on physical examination. On the side with impaired ventilation, chest movement and respiratory sounds are reduced. Clinical results depend on the degree of collapse of the lung on the affected side which may impair oxygenation and/or ventilation, and compromise hemodynamic stability. The aim of treatment is to ensure re-expansion of the lung. (1,2,3)

Case: A 65-year-old female patient applied to the family health center with complaints of chest pain. The patient, who had a history of falling approximately 1 month ago, underwent X-ray and CT scans in the emergency room, and a fracture in the left rib was detected. Later, she went to the thoracic surgery clinic for a check-up, a chest X-ray was taken, and she was given outpatient treatment. The patient applied to the family health center because her chest pain did not decrease and her general condition worsened. On physical examination, the patient was dyspneic and tachycardic. Respiratory sounds could not be heard in the lobe of the left lung. Blood pressure was measured as 90/60 mmHg. Her medical history includes diagnoses of hypertension, depression, glaucoma, hypothyroidism, and diabetes mellitus.

Intravenous access was immediately established for the patient. The patient was referred to the emergency department of the 112 emergency service and the secondary health center. As a result of the thorax tomography taken at the secondary care institution, no left lung ventilation was observed and a sign of pleural effusion was detected in the left hemithorax. The patient underwent thoracentesis and emergency tube thoracostomy by the thoracic surgery clinic. The patient was admitted to the inpatient service and was discharged after treatment.



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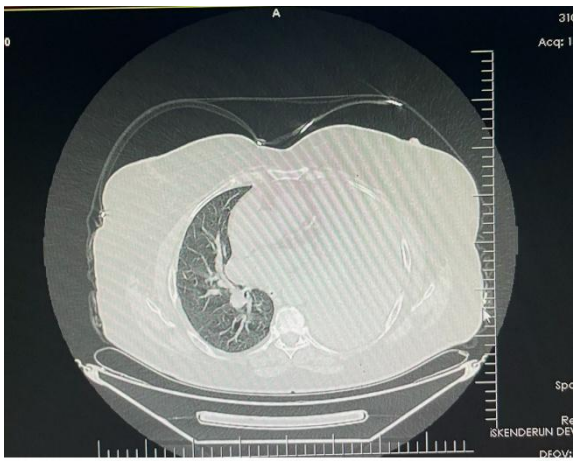

December 13, 2024

Conclusion: According to the principles of the family medicine discipline, primary care physicians can manage conditions that arise in an undifferentiated form in the early stages of development. (4) In a blunt trauma, clinical findings revealed that all structures in the thorax can be damaged, such as thoracic cage, chest wall tissues, ribs, pleura, lung, large vessels, diaphragm, and mediastinal structures. Patient history and physical examination may have been pushed to the second plan with the development of imaging methods in medicine. However, patient history and physical examination are still an integral part of the diagnosis. Symptoms of patients may contain a lot of valuable information such as cyanosis of lips or face, dispnea,

tachpnea or bradipnea, , hemoptysis, signs of shock (hypoperfusion), tracheal deviation, paradoxical movement of the chestwall, distension jugular veins, decreased or absent breathing sounds, pain and especially pain related to respiratory function, failure of chest expansion in normal inspiration. Findings such as tachycardia and hypotension are very valuable. Complaints such as decreased breathing sounds and pleuritic pain may occur. Early recognition and management of disorders that require urgent intervention are important in terms of mortality and morbidity. For this reason, history and physical examination are an integral part of the approach to these patient. Anamnesis and physical examination continue to play a key role in early diagnosis.(1,5,6)

Keywords: Family Medicine, Blaunt Trauma, Respiratory System, Emergency Diagnosis

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A Patient with Left Forearm Osteomyelitis on the Limit of Amputation

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Abstract: Osteomyelitis is an infection of bone tissue. Although bacteria are the most common cause, fungi, parasites and other microorganisms can also be responsible. The most common causative microorganism is Staphylococcus aureus. If left untreated, acute osteomyelitis can become chronic and destroy bone tissue. The incidence is highest in the first two decades. One-third of patients have a history of trauma before the infection. Long bones are most commonly affected. Here, we present a 13-year-old male case of chronic osteomyelitis with ongoing swelling and discharge in the left forearm after trauma. Chronic osteomyelitis should be kept in mind in soft tissue swellings that are resistant to treatment after trauma. Both surgical intervention and long-term antibiotic therapy are necessary.

Poster Presentation – PP569

Keywords: Trauma, Child, Staphylococcus Aureus, Osteomyelitis, Surgery, Antibiotic

Black Hairy Tongue: A Case Report in Primary Care

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Poster Presentation – PP571

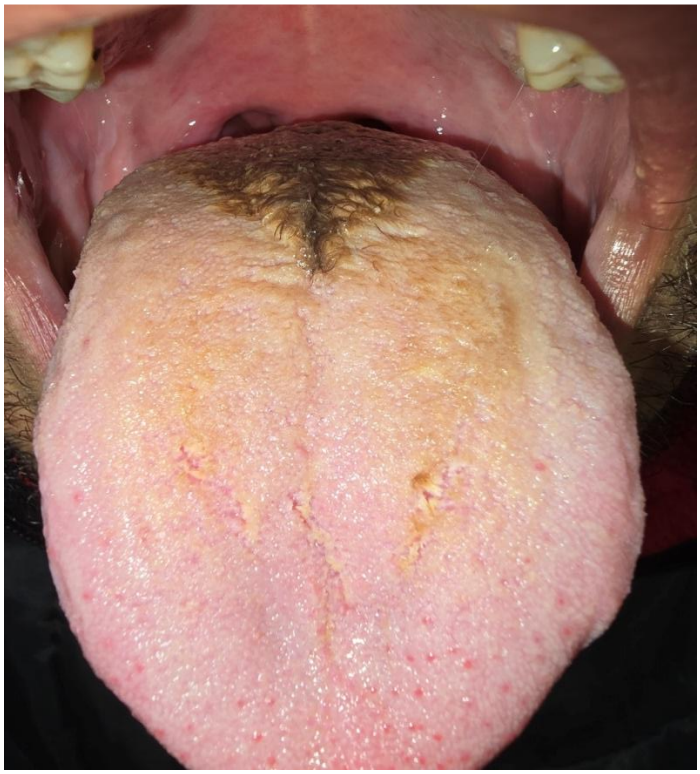
Introduction

The tongue is a complex organ involved not only in speech and expression but also in taste perception, mastication, and swallowing. The oral cavity and tongue can serve as indicators of neoplasms, reactive processes, infections, and systemic diseases. The tongue consists of a sophisticated cluster of sensory papillae and muscles. Black hairy tongue (lingua villosa nigra) results from retention hyperkeratosis of the filiform papillae (1). While normal papillae are approximately 1 mm in length, defective desquamation in black hairy tongue leads to decreased exfoliation (due to reduced oral intake, poor oral hygiene, and xerostomia) and accelerated keratinization (often triggered by smoking-related irritation) (2).

Case

A 34-year-old male patient frequently presented to the Family Medicine Clinic with symptoms of upper respiratory tract infections almost every month and ear pain approximately every six months. During his latest visit, he reported sore throat, cough, nasal discharge, watery eyes, and ear pain. Oropharyngeal examination revealed erythematous tonsils and oropharynx, postnasal serous discharge, poor oral hygiene, halitosis, and multiple dental caries. Notably, the dorsum of his tongue exhibited dark brown to black discoloration with elongated and structurally altered papillae, consistent with black hairy tongue (Picture 1). The left external auditory canal appeared normal, whereas the right external auditory canal was erythematous, edematous, and exudative, with tenderness upon tragus palpation. The patient was diagnosed

with otitis externa and upper respiratory tract infection. Upon further questioning about underlying conditions, he reported no known medical history or chronic medication use. However, he maintained a lifestyle characterized by poor self-care, smoking 2.5 packs of cigarettes per day, and neglecting oral hygiene, including not brushing his teeth. The patient was advised to improve oral hygiene by regularly brushing his teeth and using a tongue scraper (the textured plastic reverse side of a toothbrush), along with reducing smoking. At the follow-up visit 15 days later, the black hairy tongue had resolved. Given the patient's 40 pack-year smoking history, it was determined that poor oral hygiene and smoking-induced disruption of the epithelial turnover cycle were the primary contributors to the condition.



Picture: Black Hairy Tongue

Conclusion

Family Medicine is a specialty that evaluates patients holistically, regardless of their presenting complaints. Through comprehensive assessment, frequent follow-ups, and preventive care,

family physicians can significantly enhance patients' quality of life and facilitate early diagnosis of various conditions. As demonstrated in this case, a minor clinical finding that even the patient was unaware of could be effectively addressed through simple interventions. The ability to raise patient awareness and improve health outcomes underscores the crucial role of history-taking and physical examination in primary care.

Keywords: Black Hairy Tongue, Lingua Villosa Nigra, Poor Oral Hygiene.

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Child Neglect and its Final Endpoint: A Case Lost Due to Sepsis

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Introduction

Poster Presentation – PP573

Child neglect is the failure of those responsible for the child's care to provide physical, psychological, medical, educational or other services and to protect the child from danger, even though the child's basic needs can be met (1).

Sepsis is a life-threatening condition in which a dysregulated host response to infection leads to organ dysfunction (2). Pediatric sepsis is a major public health problem, causing an estimated 3.3 million deaths worldwide each year (3,4). In neglected children, even simple infections are more likely to progress to sepsis (4).

In this study, we aimed to raise awareness about child neglect and its consequences by presenting a case who was not admitted to any health institution and whose autopsy revealed sepsis due to pneumonia.

Case Report

A six-month-old male infant, born to an 18-year-old mother via normal vaginal delivery, with no known illness, medication or hospitalization history, was found dead in his crib and brought to the morgue of a university hospital for a forensic autopsy. In the anamnesis, it was learned that his father was under arrest and that he lived with his grandfather, grandmother and mother.

It was learned that the baby seemed tired and coughed continuously for the last week and they did not apply to the hospital. Physical examination revealed decreased skin turgor tone and anterior fontanelle was depressed. The autopsy revealed a diffuse infective appearance and multiple hemorrhage areas, more in the right lung. Histopathologic examination of the lung tissue revealed hemorrhage in intraalveolar and interstitial areas and findings consistent with pneumonia. Microscopic examination of the specimen obtained by lung tissue biopsy revealed 1-2 gram (+) bacilli/cocci and leukocytes in each field. Lung tissue culture and blood culture grew Klebsiella pneumoniae. The cause of death was evaluated as sepsis due to pneumonia and its complications.

In this case, it is apparent that the family was not sufficiently interested in the health status of the infant. Despite recognizing respiratory symptoms, the infant was neglected by not providing medical support.

Conclusion

Child neglect and delayed access to health services is a major cause of preventable child deaths. Increasing the awareness of families, easing access to health services and strengthening child protection mechanisms will contribute to the prevention of these cases. In this perspective, it is necessary to raise awareness of families on child health, to expand parenting educations and to more effectively supervise children at risk by social services. It is necessary to raise public awareness, strengthen early intervention mechanisms and improve cooperation between health institutions and social service units in order to protect child health. A multidisciplinary medical approach is necessary to prevent deaths from preventable causes such as infection in neglected children. Considering that family medicine physicians perform the follow-up of healthy children and the first-line diagnosis and treatment of pediatric cases in our country, it is of critical importance to raise the awareness of family physicians about child neglect.

Keywords: Child Neglect, Sepsis, Paediatric Deaths

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Identifying And Treating Trigeminal Neuralgia Correctly

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Trigeminal neuralgia is a neuropathic disorder in the ‘painful lesions of the cranial nerves and other facial pain’ subclass of the current international classification of headache disorders (ICHD-3). It is characterised by severe pain that significantly reduces the patient's quality of life and is known as ‘suicidal illness’ due to the high suicidal tendency of patients. Since the symptoms are similar to many other diseases, the prevalence of the disease in the community is thought to be considerably higher than reported. All studies on the treatment of trigeminal neuralgia to date have emphasised that early intervention plays a major role in pain control. It is common to associate the symptoms of trigeminal neuralgia with dental pain. When patients first consult their physician about pain, dental causes may come to mind. Moreover, if the misdiagnosis is continued by the dentist, it is seen that the tooth or teeth in the area are treated with root canal treatment or even extracted. This situation both causes damage to the patient with wrong treatments and delays the diagnosis of the disease. Therefore, it is important that family physicians, who are consulted as the first-line physicians, have knowledge about trigimenial neuralgia and add it to the differential diagnosis of similar pains. The aim of this presentation is to clarify the diagnosis and treatment of trigeminal neuralgia according to the current literature.

Keywords: Trigeminal Neuralgia, Facial Pain, Trigeminal Nerve, Trigeminal Nerve Diseases

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Management of Abnormal Menstrual Bleeding Caused by Etonogestrel Contraceptive Intradermal Implant

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Poster Presentation – PP581

Irregular uterine bleeding is a common side effect in women using intradermal implants with etonogestrel (ENG) for contraception and has become one of the most common reasons for discontinuation of contraception. Before starting any form of contraception, women should be counselled about possible changes in both short- and long-term bleeding patterns. On the other hand, it is important to consider the possibility of pregnancy and sexually transmitted infections in all women presenting with irregular bleeding using contraception, regardless of the contraceptive method. ENG-intradermal implants, one of the progestogen-only contraception methods, is a method that can be placed under the arm in the office environment with a simple surgical intervention and provides contraception for 3 years. Irregular bleeding in women using progestogen-only contraception is primarily due to an atrophic and unstable endometrium. High-quality evidence for managing irregular bleeding with progestogen-only contraceptive methods is often lacking. There are a number of strategies that can be used to terminate bleeding episodes in women using long-acting, progestogen-only contraception. However, none of these strategies have been shown to affect long-term bleeding patterns. Different pharmacological approaches are available in the literature, including combined hormonal contraceptives taken continuously or periodically for three months; five-day mefenamic acid 500 mg treatment; five-day tranexamic acid 500 mg treatment; norethisterone 5 mg 21-day cyclic treatment; and doxycycline

treatment. Although contraindications are encountered in the application of combined oral contraception and Norethisterone 5 mg 21-day treatments containing estrogen, considering the fear of venous thromboembolism in women who prefer only progestogen-containing method; Tranexamic acid, Mefenamic acid, Doxycycline treatments are seen as more preferable treatment options. However, if the bleeding pattern remains unacceptable for the woman, an alternative contraceptive method should be considered. In our study, we aimed to compare the responses of 3 different treatment options (Norethisterone 5mg 21 days; Tranexamic acid 500 mg; Doxycycline 100 mg) for 32 female patients with ENG-intradermal implants who presented with irregular uterine bleeding between March 2023 and September 2024. Although 3 different treatment options provided improvement in the symptoms of the patients, it is understood that they are not sufficient in the treatment of long-term bleeding irregularity in accordance with the literature information and that patients presenting with irregular uterine bleeding usually want to prefer alternative contraception methods.

Keywords: Etonogestrel, Contraceptive Implants, Uterine Bleeding, Side Effect

Pseudohypoparathyroidism: Diagnosis, Follow-Up, and Treatment in Family Medicine

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Introduction and Aim

It is a disorder characterized by the development of hypocalcemia and hyperphosphatemia as a result of the target organ's failure to respond to parathyroid hormone. Pseudohypoparathyroidism Type 1A can be recognized in patients with findings characteristic round facial appearance, frontal bossing, short stature, obesity, brachydactyly and mental retardation, while in Types 1B and 1C the phenotype and intelligence level are normal.

Case:

A 14-year-old male patient was admitted to our clinic with complaints of general body pain, muscle pain, numbness in the hands, and a feeling of contraction.. The patient had round facial features. Contractions were seen in both hand muscles and short-lived but repetitive.

The patient's vital signs were consistent with his age, he had no fever, normal respiratory sounds, good general condition, height was 164 cm, weight : 46.2 kg. He had no family history and diagnosed with pseudohypoparathyroidism 2 years ago.

The patient's pulse records were examined, and in the tests performed 2 years ago when she first applied with the same complaints; Calcium: 4.5 mg/dl, Parathyroid hormone: 721 ng/l, Phosphorus: 8.3 mg/dl, Alkaline phosphatase: 686 u/l. Therefore, pseudohypoparathyroidism

was considered in the patient and calcitriol was started, and vitamin D and magnesium were added to the treatment.

In the ongoing process, he did not use his medications regularly and did not go to check-ups for the next two years. After our patient applied to our polyclinic, phosphorus was detected as 7.2 mg/dl and calcium as 7.2 mg/dl. Thereupon, the patient was referred to the pediatric emergency clinic.

On the same day, she was admitted to the children's ward with a preliminary diagnosis of hypocalcemia Calcium: 6.8 mg/dl . After the ward follow-up, the values were adjusted and she was discharged with a prescription of calcitriol 0.25 microgram 3x1 tablet, calcium carbonate 2500 mg 3x1, 0.375 mg vitamin D 6 drops.

Conclusion:

In patients with low serum calcium, hyperphosphatemia and high PTH, PHP should be considered first. In patients without characteristic phenotypic appearance and mental retardation, PHP type 2 should be diagnosed; in patients with PHP type 1A, PHP type 1A should be diagnosed.

Parenteral calcium and oral Ca and active vitamin D replacement therapy should be given for life. In the family physician, which is the first point of contact, the diagnosis and follow-up of patients with these complaints should be done together with the endocrinologist. Family medicine enables us to provide uninterrupted health care services by following the diagnosis and treatment processes of our patients in a reliable and easily accessible way, with regular check-ups and medication management.. In this way, we closely monitor the health status of our patients, provide early intervention, and ensure that the treatment processes are carried out regularly and effectively.. As in this case, a person-centered and comprehensive family medicine approach helps us manage chronic diseases.

Keywords: Pseudohypoparathyroidism, Family Medicine

Tuberculous Peritonitis and Hypercalcemia in a 15-Year-Old Girl Patient Suspected to Have Meigs Syndrome

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Poster Presentation – PP594

Abstract: Peritonitis is inflammation of the visceral and parietal peritoneum. It may be due to infectious, autoimmune, neoplastic or chemical causes. The most common cause of tuberculous peritonitis is Mycobacterium tuberculosis. It reaches the gastrointestinal system and lymphatic tissues through bacteremia. Although the lymphatic tissue is involved during the primary infection and can progress to symptomatic disease, it is often seen as reactivation of latent infection. Here, we present tuberculous peritonitis and subsequent hypercalcemia in a 14-year-old girl with abdominal pain, abdominal distension and weight loss. In patients presenting with abdominal ascites, tuberculosis should also be considered in the differential diagnosis of peritonitis agents. Depending on the clinical condition of the patient, tuberculosis treatment should be given for at least 6-9 months after the diagnosis of tuberculosis is made.

Keywords: Weight Loss, Child, Ascites, Peritonitis, Hypercalcemia, Tuberculosis

From Curiosity to Dependence: Exploring Youth Smoking Initiation and Family Physician-Based Strategies

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Tobacco use remains a major global public health challenge, with smoking often beginning in adolescence, a period marked by identity formation, experimentation, and social influence. Despite widespread awareness of the health risks of smoking, many young individuals initiate tobacco use each year, laying the foundation for long-term nicotine dependence and increased risk of chronic diseases. Understanding the drivers behind youth smoking initiation is critical, as is strengthening the role of family physicians in prevention and early intervention.

Multiple interrelated factors contribute to smoking initiation in youth. Peer influence is among the strongest predictors: adolescents are significantly more likely to smoke if their friends do. Social modeling by parents or siblings who smoke further reinforces the perception that smoking is normal or acceptable. Additionally, tobacco marketing—whether direct or indirect through movies, social media, or product placement—continues to glamorize smoking, subtly influencing attitudes and behaviors.

Psychological and emotional factors also play a crucial role. Teenagers experiencing anxiety, depression, low self-esteem, or academic stress may turn to smoking as a perceived coping mechanism. A lack of effective emotional regulation strategies or access to mental health support can heighten vulnerability. Socioeconomic challenges, including poverty, family dysfunction, or unstable home environments, further increase the likelihood of early initiation.

Once established, smoking habits become difficult to break due to the addictive nature of nicotine and the reinforcing psychosocial patterns associated with tobacco use. Although some young smokers express a desire to quit, many underestimate the difficulty of cessation and overestimate their ability to stop later in life. Without targeted intervention, adolescent smoking often persists into adulthood.

Family Physician-Based Strategies

Family physicians are in a pivotal position to prevent smoking initiation among youth. As accessible, trusted healthcare providers, they can identify at-risk adolescents during routine consultations, provide anticipatory guidance, and engage in open conversations about the health and social consequences of tobacco use. Early, non-judgmental dialogue that includes motivational interviewing techniques can enhance awareness and resistance to peer pressure.

Educational efforts should not be limited to the adolescent alone. Counseling parents about the impact of their own smoking behaviors on their children, both through direct exposure and modeling, is essential. Family physicians can also collaborate with schools, community leaders, and public health institutions to support broader preventive strategies, such as smoke-free environments and youth-centered campaigns.

In cases where young individuals have already initiated smoking, family physicians play a vital role in supporting early cessation. Brief counseling, behavioral support, and when appropriate, pharmacological interventions tailored for adolescents can improve outcomes. Continued follow-up and support are key to sustaining cessation and preventing relapse.

In conclusion, preventing youth smoking requires a proactive, multi-dimensional approach that includes the family physician as a central figure. By addressing the psychosocial, environmental, and behavioral factors that contribute to smoking initiation, and by providing individualized support for cessation, family physicians can help protect future generations from the harmful consequences of tobacco use.

Keywords: Dependence, Youth, Smoking, Family Physician

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A Rare Case of Klippel-Trenaunay Syndrome in Primary Care: Multidisciplinary Management and Follow-Up

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Introduction and Aim

Klippel Trenaunay Syndrome is a rare disease with an unknown etiopathogenesis, characterized by cutaneous hemangiomas, congenital venous anomalies, skeletal and soft tissue hypertrophies. It is mostly seen sporadically, but there are cases reported in the literature to be caused by an autosomal dominant gene defect. Somatic mutations in the PIK3CA gene have been found to be associated with the disease. It is characterized by excessive development of the affected bones, hemangiomas, thrombocytopenia, regional arteriovenous fistulas, lymphatic and venous malformations, deep vein thrombosis and thromboembolism, especially in childhood. Although there is no definitive cure, various treatments are used to manage the symptoms.



Patients with Klippel Trenaunay Syndrome, whose severity varies from person to person, face various physical and psychological difficulties, and with early diagnosis and appropriate treatments, the risk of complications decreases and their quality of life increases.

Case:

A 24-year-old male patient applied to our Family Health Center for dressing due to ulcerated, bleeding, and discharge lesions under his right knee. The patient had ulcerated, bleeding,

discharge lesions and edema on his entire leg from under his right knee to his ankle. (Figure 1, Table 1)

There was limited movement. The toes were edematous. Our patient was diagnosed with congenital Klippel Trenaunay Syndrome with cardiology and plastic surgery follow-up. According to the recent Femoral Angiography report, there were non-thrombosed varicose veins related to the Vena Saphena Parva in the posterior left leg. Our patient was being followed up by cardiology due to high-output heart failure. The patient, who regularly used Aldosterone Antagonist 25 mg 2x1, Furasemide 40 mg 2x2, Metaprolol 50 mg 2x1, had a history of antibiotic treatment every 2-3 months due to bleeding and infection in the wounds on the left leg.

After cleansing the patient's wounds with physiological saline, they were dressed with Rifampicin and Lidocaine using sterile gauze and covered according to the cardiovascular surgeon's recommendations. (Figure 2, Table 2)

Conclusion:

Klippel Trenaunay syndrome is a disease that must be managed together by many disciplines such as dermatology, cardiovascular surgery, cardiology, family medicine and psychiatry. Although it is rarely encountered in primary care, family medicine is at a key point in guiding patients and managing the disease process. It will be beneficial for our patients to monitor the blood values and wound conditions of these cases and to follow up in coordination with other branches in Family Health Centers where our patients can easily apply.

Keywords: Klippel-Trenaunay Syndrome, Multidisciplinary, Family Medicine, Management

Approach to Pregnancy Complicated by Diabetic Embryopathy: Case Report

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Diabetes mellitus is the most common endocrine disorder today. Pregestational and gestational diabetes are comorbidities that create adverse conditions for pregnancy. During the intrauterine period, the fetus and placenta are exposed to various degrees of vascular damage due to irregular blood glucose levels. Although high maternal glucose levels are significant contributors to adverse fetal outcomes, even diabetic mothers with regulated glucose levels remain at risk for adverse perinatal outcomes. Congenital malformations, early pregnancy losses, preterm birth, preeclampsia, increased cesarean section rate, cardiac and noncardiac congenital defects, stillbirth, macrosomia, neonatal hypoglycemia, neonatal respiratory distress, jaundice and perinatal mortality are among the complications with an increased risk in diabetic conditions. It has been observed that the risk of congenital malformations is correlated with the increase in Hemoglobin A1c (HgA1c), which allows the evaluation of the long-term glycemic status of diabetic patient. In addition to obstetric complications, the risk of congenital malformations with genetic and epigenetic factors also increases in the Pregestational Diabetes patient group compared to normal.

Congenital malformations that may occur due to diabetes; cardiac, renal, gastro-intestinal system, central nervous system, genitourinary system and skeletal system anomalies. We

present a case of diabetic embryopathy in a fetus with a 6-year history of Pregestational Diabetes Mellitus with no glycemic control and early 2nd trimester evaluation. We explained with ultrasound findings, X-ray scanning, photos of terminated fetus and our patient management.

Beyond detecting and managing fetal complications arising from diabetes during the intrauterine period, especially in pregestational diabetes, achieving glycemic control before pregnancy and educating the patient are of vital importance.

Keywords: Pregestational Diabetes Mellitus, Diabetic Embryopathy, Skeletal Anomaly, Scoliosis, Phocomelia, Hemivertebra, Sacral Agenesis

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Teenager Had Syncope Twice Due to Brugada Syndrome

Bora Baltacıoğlu, Melis Simla Baltacıoğlu

Poster Presentation – PP608

Introduction

Brugada syndrome (BrS) is an "inherited" condition characterized by predisposition to syncope and cardiac arrest, predominantly during sleep. The prevalence is ~1:2,000, and is more commonly diagnosed in young to middle-aged males. Electrocardiogram (ECG) findings support variable extent of depolarization and repolarization changes, with coved ST-segment elevation ≥2 mm and a negative T-wave in the right precordial leads.

Case

A 19-years-old female patient applied to emergency department with history of syncope twice last night and the morning before she applied to emergency medicine. On physical examination, the general condition of the patient was good, cooperative, oriented and her Glascow coma score was (GCS) 15. Vital signs showed; bodt temperature 36,6°C, heart rate of 85 beat/minute, blood pressure of 125/80 mmHg and sPO2 of 97%. Heart and lung sounds were normal. Electrocardiograph showed that she has ST segment elevation >2mm in V1-V3 followed by a negative T wave. It is often referred to as **Brugada sign**. She had no history of chronical or congenital diseases. The patient was referred to an advanced center for further treatment. An ICD was implanted to this symptomatic patient.

Discussion

BrS is a sodium, calcium, or potassium channelopathy that was first described in 1992; it can be sporadic or familial, with a suspected autosomal-dominant inheritance pattern, and it is a major cause of sudden death in relatively young people with no evidence of structural heart disease. Women with BrS are also more commonly asymptomatic, have fewer spontaneous ECG changes, and a more favorable risk profile. The mainstay of therapy for symptomatic patients with BrS is placement of an ICD.

Keywords: Brugada Syndrome, Syncope, Emergency Medicine

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The Role and Potential of Healthy Life Centers in Social Prescribing

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Poster Presentation – PP612

Introduction

Today, the factors influencing individual health are not limited to biological dimensions but also encompass social, psychological, and environmental determinants. This multidimensional perspective necessitates that health systems move beyond solely treating diseases and instead develop holistic solutions to enhance individuals' quality of life. Social prescribing is a personalized model that extends beyond clinical interventions by connecting individuals to community-based resources, activities, and support services to address their practical, social, and emotional needs, directly affecting their health and well-being. This approach helps reduce the clinical burden on healthcare services and empowers individuals to have greater control and engagement in their own lives.

Healthy Life Centres (HLCs) in Türkiye are structures that deliver preventive health services, aim to improve individuals' healthy lifestyle skills and operate with multidisciplinary teams. This presentation examines the role of HLCs as potential components within the social prescribing process. It explores the alignment between the services provided by HLCs and the principles of social prescribing, their integration with community resources, and their contribution to improving individuals' quality of life.

Materials and Methods

This study is a qualitative conceptual analysis based on a non-systematic review of national and international literature on social prescribing and HLC practices. Models from countries with advanced social prescribing practices, such as the United Kingdom, were reviewed in detail and compared with the structure of HLCs in Türkiye. Based on the conceptual findings, policy development and implementation recommendations were formulated, and inferences were made regarding how HLCs can be integrated into social prescribing processes.

Results

The fundamental characteristic of HLCs is their focus on health promotion and improving quality of life rather than disease-centered care. These centers employ professionals from various disciplines, such as psychologists, social workers, dietitians, physiotherapists, and health education nurses. This multidisciplinary structure allows for a biopsychosocial evaluation of individual needs and aligns closely with the core components of social prescribing. Services such as psychological support, nutritional counseling, and physical activity programs make HLCs an ideal platform for social prescribing referrals. Furthermore, these services contribute to positive lifestyle changes and strengthen social connections by fostering interaction with the individual's social environment.

Conclusion

Integrating HLCs into the social prescribing system has the potential to meaningfully enhance individuals' quality of life, reduce the overall burden on the healthcare system, and strengthen preventive health services. The findings indicate that HLCs offer a suitable infrastructure for social prescribing through their service scope and interdisciplinary operation. However, realizing this potential within institutional policies requires strategic adjustments, including awareness-raising training for HLC staff, the development of referral algorithms, and implementing digital monitoring systems.

Keywords: Social Prescribing, Non-Medical Prescribing, Social Determinants of Health, Primary Health Care

Introduction

Today, factors affecting individual health include biological, social, psychological, and environmental dimensions. For this reason, it has become important for health systems to offer holistic solutions to improve the quality of life of individuals, not only to treat disease. Social prescribing, which recognizes that people's health and well-being are often determined by a range of social, economic, and environmental factors, aims to address people's needs holistically and to support individuals to have more control over their health (1). This approach addresses the broader determinants of health and well-being beyond traditional medical interventions (2). The increasing demand for non-medical care services and the recognition of the positive effects of these services on individual health have led to a greater role for social prescribing in health systems (3).

Socioeconomic, environmental, and cultural factors such as income level, education, employment, housing, and social support are social determinants that directly affect the health of individuals. These determinants directly affect the incidence of chronic diseases, mental health problems, and general quality of life. It aims to connect individuals to activities, groups, and support services in their communities through a personalized and holistic approach (4). Social prescribing directs individuals to community-based resources and support systems by targeting the symptoms and the social reasons behind them.

Healthy Life Centers (HLCs) are structures that support preventive health services, focus on developing healthy life skills of the individual, and provide services with multidisciplinary teams. HLCs have great potential in social prescribing practices and are candidates to be a natural component of this process. Practices such as psychological support, nutrition

counseling, and physical activity programs directly overlap with the referral areas of social prescriptions. With these aspects, HLCs offer an ideal environment where referrals can be made within the scope of social prescriptions. In this paper, the place, potential, and development possibilities of HLCs in social prescribing practices are discussed. In addition, the contributions of the effective use of these centers to public health are emphasized.

Materials and Methods

This study is a qualitative conceptual analysis based on a non-systematic review of national and international literature on social prescribing and HLC practices. The models of countries with advanced social prescribing practices, such as the United Kingdom, are reviewed and compared with the HLC structure in Turkey. Based on the findings obtained at the conceptual level, recommendations for policy development and implementation are presented, and inferences are made on how HLCs can be integrated into social prescribing processes.

Results

Within the scope of social prescribing practices, it is aimed to meet not only the medical but also the social, emotional, and lifestyle needs of individuals. HLCs provide individuals with services that include clinical treatment, support lifestyle changes, and address social needs. In this respect, they have the potential to overlap directly with social prescribing.

Pregnancy School

Pregnancy schools conducted within the HLC are one of the effective intervention areas where guidance can be made within the scope of social prescription. Pregnancy classes are structured education programs equipped with multidimensional content, such as providing information about the pregnancy process, anxiety management, nutrition, physical activity, and birth preparation (5). Directing pregnant individuals to these schools within the scope of social prescription not only positively affects their health-related awareness and lifestyles but also contributes to the prevention of conditions such as social isolation and psychological stress that may be experienced during pregnancy by enabling social interaction with individuals with

similar experiences (6, 7). This situation becomes even more critical, especially for individuals who experience their first pregnancy or have a weak social support system. In this context, HLC pregnant schools are considered one of the model intervention examples that can be integrated into the social prescribing system and contribute to strengthening individual health outcomes and community-based preventive health services. In addition, health professionals working in these classes - from disciplines such as midwives, nurses, dieticians, psychologists, and physiotherapists - can assess the needs of the individual with a biopsychosocial approach and refer to other services when necessary.

Women and Reproductive Health Counselling

Family planning is a practice that enables individuals to be protected from unwanted pregnancies, to regulate the time between pregnancies, to have children when and as many children as they want, and to have children for individuals who do not have children (8). Family planning services offered in HLCs stand out as a strong intervention area that can be integrated into the social prescription system with its personalized counseling, social support, life planning, and empowering approach toward women's health (5). Family planning services are a basic service area that overlaps with the social prescribing approach as they strengthen life control in social, psychological, and economic aspects while supporting the individual's fertility decisions. HLC professionals (midwife, nurse, psychologist, social worker) can assess the individual holistically and direct them to other support services when necessary.

Physical Activity Counselling

It is stated that individuals may face many health problems in the future because they show less movement behavior and continue to live with obesity (9). Physical activity counseling practices in the HLC guideline directly overlap with the social prescription approach. Exercise programs planned individually by physiotherapists contribute to physical health goals and social components such as lifestyle change, social participation, and individual empowerment (5).

The service can be accessed by referral from a family physician or individual application by the health professional-based referral model, which is the fundamental element of the social prescription process. In addition, plans for different age groups, people with disabilities, and people who lead sedentary lives can be integrated into social prescription with goals such as reducing social isolation and improving quality of life beyond physical well-being. The emphasis on counselor cooperation also provides an important basis for multidisciplinary social prescribing models.

Nutrition Counseling

Nutrition Counseling is an important practice offered at Healthy Life Centers and is directly related to the social prescribing approach. The processes of assessing individuals' dietary habits, creating personalized healthy eating plans, and supporting lifestyle change overlap with the main goals of social prescription, which are individual awareness, improving quality of life, and strengthening control over health (9). This service, accessed by referral from a family physician or individual application, aligns with the professional referral mechanism that forms the basis of the social prescription model.

In addition, dietitians' support to individuals in nutrition counseling on issues such as combating obesity, reducing the risk of chronic diseases, and awareness of eating behaviors contribute to the individual's physical and social welfare and aim to develop sustainable health behaviors (5). In this respect, nutrition counseling in HLCs is an important intervention area within the scope of social prescription.

Child and Adolescent Health Counseling

Child and Adolescent Health Counseling, offered by child development specialists, provides guidance services on parent education, adaptation problems in adolescence, peer relations, school success, and psychosocial development, increases the child's participation in social life, and enables families to become more active in supporting their children (5). This service contributes to the goal of supporting the individual's holistic well-being in life, which is one of

the basic principles of social prescription. The collaboration of child development professionals with other HLC professionals (psychologists, social workers, etc.) strengthens social prescriptions' multidisciplinary and protective function by making it possible to recognize the developmental risks of children and adolescents early and direct them to social support mechanisms.

Mental Health Counseling and Social Work

Since unhealthy lifestyles, such as social isolation and mental health problems, negatively affect the health and condition of the individual, social prescribing focuses on the social, emotional, and practical needs of the individual in changing the treatments (2). Mental Health Counseling provided by psychologists and social workers in Healthy Life Centers includes socialization and developing life-starting skills while ensuring sustainable well-being; it directly overlaps with social prescribing practices by carrying the potential to direct these individuals to appropriate social activities, support services, and community services.

Social workers determine the needs of society and research the wealth resources (social, financial, health, sports, etc.) of the service areas and create a social support map at the provincial level by meeting with relevant individuals, institutions, and organizations (5). Individuals' connections with social assistance systems in order to solve the social (neglect and/or abuse and domestic violence, etc.) and economic problems experienced by disadvantaged patient groups and their relatives receiving health services promptly. The analysis of social consumption of macro-level social service interventions and the improvement of solutions to these problems are parallel to social prescribing (10).

Tobacco and Substance Addiction Counseling

Smoking, alcohol, and substance abuse are a serious public health problem worldwide. The importance of social support in the fight against addiction has been shown in the literature (11). Healthy Living Centers (HLC) can be considered as a concrete component of social prescription practice with comprehensive counseling and behavior change programs to support individuals

in getting rid of tobacco and other substance addictions (5). In addition, local public training, support groups, and cooperation with non-governmental organizations strengthen the social environment of people affected by addiction, thus reducing relapse rates.

Cancer Early Diagnosis, Screening, and Education Center (KETEM) Consultancy

Public training given by midwives and physicians at KETEMs and individual information training such as breast self-examination make KETEMs a screening tool against breast, cervical, and colon cancer and a part of gaining community-based health behaviors (5). The diagnosis and treatment process is stressful for individuals diagnosed with cancer; psychosocial support improves the quality of life by strengthening the coping skills of the patient and family (12). These services offered at HLC are important to social prescribing and contribute to early diagnosis and post-diagnosis.

Case Coordinators as Local Link Workers

Definitions of social prescribing highlight three core components: a referral from a healthcare professional, a consultation with a link worker, and a referral to a third sector organization (13, 14). The link worker, who is at the center of social prescribing, refers individuals to non-medical support and assesses their needs by working in collaboration with all local partners (4). In the UK, social prescribing link workers are included in primary care networks so that every individual can access social prescribing services through family medicine. Although there is no direct, systematic equivalent of this concept in Turkey, case coordinators are functionally closest to this role and potentially adaptable.

In HLCs, case coordinators coordinate services to facilitate access to planned health services and increase patient engagement. Working in collaboration with family physicians, case coordinators carry out tasks such as appointment follow-up, patient information, and promotion of HLC services (5). For this function to be practical, job descriptions should be revised according to social prescription, a referral and follow-up system should be established, staff

should be trained, and institutional cooperation with local community resources should be ensured.

Conclusion

With their expert staff, such as psychologists, dieticians, physiotherapists, and lifestyle-oriented services, HLCs offer a strong infrastructure for social prescribing practices and constitute an excellent opportunity for social prescribing practices in Turkey. HCPs working in integration with primary care can increase the applicability and service continuity of social prescribing by enabling family physicians to identify social needs early and provide guidance. Establishing systematic collaborations between HLCs and primary health care services and non-governmental organizations such as municipalities, public education centers, and voluntary organizations may increase the impact of social prescribing (13). Integrating HCPs into the social prescribing process may improve individuals' health outcomes and reduce the burden on the health system. In conclusion, HCPs are a natural pilot area for social prescribing practices in Turkey.

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The Role of Primary Care Physicians in the Diagnosis of Conduct Disorder: A Case-Based Forensic and Psychiatric Approach

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Poster Presentation – PP629

Introduction and Background

Conduct Disorder (CD) is a psychiatric condition typically arising in childhood, marked by persistent aggression, rule violations, destructiveness, and lack of empathy. According to DSM-5, diagnosis requires at least three problematic behaviors within 12 months, and one in the past 6 months (1). Early warning signs include truancy, animal cruelty, lying, and stealing (2). Violent parenting increases symptom severity and broadens the risk to others (3). Children may initially present with enuresis, attention issues, or deceitful behaviors, often reflecting early CD stages (4). Physical abuse and parental psychopathology are among the strongest risk factors (5).

While behavioral improvement may follow parental education, violent environments often lead to worsening symptoms (3). Primary care physicians are critical in identifying early signs, evaluating risk, and initiating timely referrals to psychiatric services (6).

This poster highlights the physician's role in recognizing CD—especially in cases linked with domestic violence—and presents a case to emphasize responsibilities in forensic and psychiatric domains.

Case Report

In October 2024, a 10-year-old girl, G.D.K., was brought to the emergency room by school staff after claiming her mother had beaten her with a stick. Physical examination revealed

multiple bruises. A later forensic assessment documented bruises at various healing stages. The incident followed the mother witnessing the child taking money from her older sister's bag. During psychiatric evaluation, the mother reported ongoing behavioral issues: lying, theft, verbal aggression, irritability, and running away. In a separate interview, G.D.K. disclosed frequent physical abuse from her mother and attempts of strangulation by her older brother. She also reported school bullying, peer isolation, and absenteeism. She attributed her stealing to unmet needs and described recurring nightmares involving her abusers. Mental status examination revealed mild depressive affect, predominance of guilt-related thoughts, and sleep disturbances. She was diagnosed with Conduct Disorder and Subclinical Depressive Features. In line with Child Protection Law No. 5395, medical, psychological, and educational measures were initiated.

Conclusion

Children with CD are more vulnerable to domestic violence, endangering both their health and social development (3). This case underscores the critical role of primary care physicians in early detection and intervention. Prompt action not only safeguards the child but initiates a broader healing process, with potential benefits for the wider community (2,6).

Keywords: Conduct Disorder (CD), Childhood Psychiatric Disorders, Behavioral Disorders, Family Medicine, Psychiatric Evaluation, Forensic Evaluation

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The Impact of Continued Smoking on Health Status in Patients with Chronic Obstructive Pulmonary Disease (COPD)

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Poster Presentation – PP633

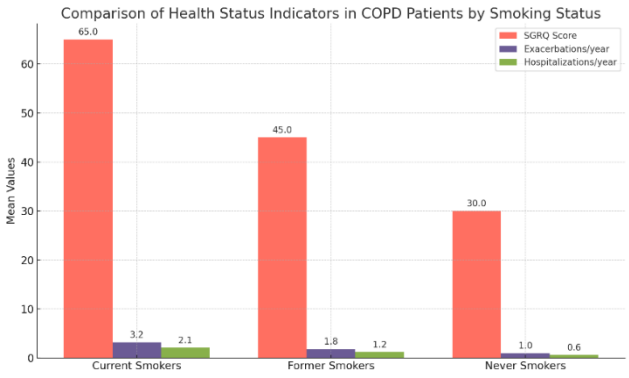
Chronic Obstructive Pulmonary Disease (COPD) is a progressive, life-limiting condition most commonly caused by long-term exposure to tobacco smoke. Smoking cessation is universally recognized as the most effective intervention to slow disease progression and improve outcomes. However, a significant proportion of patients continue to smoke even after receiving a formal diagnosis of COPD. Understanding the reasons behind this paradoxical behavior and its impact on health status is critical for improving disease management and patient prognosis.

Patients with COPD who continue smoking often face a complex interplay of psychological, behavioral, and physiological factors. Nicotine dependence is a primary driver; it exerts strong addictive effects on the brain's reward system, making cessation extremely difficult. Additionally, patients may experience fatalism, denial, or low health literacy, which can contribute to the perception that quitting will no longer make a difference once the disease is established. Mental health issues such as depression, anxiety, and social isolation are also more prevalent in this population and can serve both as consequences and causes of continued smoking.

The continuation of smoking in COPD patients has a profoundly negative impact on their health status. It accelerates the decline in lung function, increases the frequency and severity of exacerbations, and raises the risk of hospitalization and mortality. Moreover, ongoing smoking sustains systemic inflammation, worsens comorbidities such as cardiovascular disease and cancer, and diminishes the efficacy of pharmacological treatments including corticosteroids and bronchodilators.

Patients who persist in smoking often report poorer health-related quality of life (HRQoL) compared to those who quit. Instruments such as the St. George's Respiratory Questionnaire (SGRQ) consistently demonstrate worse scores in domains such as symptom burden, activity limitation, and psychosocial impact among current smokers. Furthermore, smoking perpetuates a cycle of physical inactivity, emotional distress, and social withdrawal, all of which compound disease burden.

Addressing continued smoking in COPD requires more than simple counseling. Effective interventions must combine behavioral therapies, pharmacologic aids (such as nicotine replacement therapy, varenicline, or bupropion), and ongoing motivational support. Tailored, multidisciplinary approaches that integrate respiratory care with mental health services show the greatest promise. Additionally, addressing patient beliefs, enhancing disease awareness, and building therapeutic alliances between healthcare providers and patients are essential components of successful cessation programs.



Graphic 1: Comparison of Health Status Indicators by Smoking Status in COPD Patients

The graphic compares key health status indicators among COPD patients based on their smoking status. Current smokers demonstrate significantly higher St. George's Respiratory Questionnaire (SGRQ) scores, more frequent annual exacerbations, and increased hospital admissions compared to former and never smokers (Graphic 1).

In conclusion, continued smoking among patients with COPD represents a major barrier to effective disease management. Beyond its physiological harm, smoking undermines the psychological and social well-being of patients, severely impacting their overall health status. A deeper understanding of the drivers of smoking behavior in this population is necessary to design patient-centered, empathetic, and sustained cessation interventions. Promoting smoking cessation should remain a central goal in the holistic care of COPD patients.

Keywords: Smoking, Chronic Obstructive Pulmonary Disease, Health Status

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Nursing Care Plan for a Pediatric Patient with Crohn's Disease: A Case Study

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Introduction and Aim:

The patient, D.Ü., is currently 8 years old. There were no maternal illnesses during pregnancy. D.Ü. was delivered via cesarean section with a birth weight of 3600 grams. In 2022, the patient was admitted to the emergency department with high fever and cramp-like abdominal pain. He was hospitalized in the pediatric ward for 38 days for infection treatment. Since then, he has been receiving inpatient treatment during disease flare-ups. The patient recently presented to the hospital for the removal of a hemangioma located on his right wrist. The aim of this study is to present a nursing care plan tailored to the needs of a child diagnosed with Crohn's disease.

Materials and Methods:

This study was conducted in a hospital in Adana, Türkiye. The nursing care plan covers the period between April 7 and May 5, 2025.

Results:

The patient weighs 24 kg and is 124 cm tall (25th–50th percentile). He experiences cramp-like abdominal pain during the day and is reluctant to take his medications. Vital signs were within

normal limits: pulse 98 bpm, blood pressure 96/60 mmHg. Based on the evaluation, the care plan includes pain management, nutritional support, hydration, infection prevention, and emotional coping strategies.

Conclusion:

This case highlights the importance of multidisciplinary collaboration among healthcare professionals in addressing the complex needs of pediatric patients with Crohn's disease.

Keywords: Pain management, Crohn’s disease, Patient education, Nursing, Multidisciplinary approach

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A Case Report of a Newborn with Esophageal Atresia and Anal Atresia

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Introduction and Aim

Congenital anomalies such as esophageal atresia and anal atresia are rare but critical conditions often presenting in the neonatal period. When combined with prematurity, these malformations pose significant challenges in diagnosis, surgical management, and postoperative care.

Esophageal atresia is the result of improper development of the esophagus or trachea during the embryonic period, leading to a discontinuity in the esophageal passage. Anal atresia, a congenital malformation characterized by the absence of an anal opening, typically occurs between the 4th and 16th weeks of gestation. While both conditions are compatible with life, they require prompt diagnosis and timely surgical intervention to prevent life-threatening complications.

In this case report, a premature neonate diagnosed with both esophageal and anal atresia is presented. The aim is not only to discuss the clinical presentation and management of these anomalies but also to identify relevant nursing diagnoses and outline care approaches based on the clinical findings and medical diagnosis of the neonate.

Case Presentation

A female infant, Azra, was born via cesarean section at 32 weeks of gestation on October 8, 2014. Birth anthropometrics were as follows: weight 2000 grams, length 38 cm, and head circumference 32.5 cm. The family history included consanguinity.

At birth, the infant did not cry, appeared hypotonic and cyanotic, and was immediately intubated and connected to mechanical ventilation. A central line was established, and total parenteral nutrition (TPN) was initiated. Physical examination revealed excessive secretions and inability to swallow saliva. An imperforate anus was also noted.

The patient was diagnosed with esophageal atresia and anal atresia. At 24 hours of life, the pediatric surgery team performed primary esophageal anastomosis with fistula repair and created a colostomy. Enteral feeding was started via a nasogastric tube, delivering 5 cc of formula eight times daily. The mother, experiencing postpartum depression, declined to provide breast milk. On the 10th day of hospitalization, the infant developed a fever of up to 38.5°C.

Physical Examination

- **General Appearance:** The neonate was intubated, hypotonic, cyanotic, and had poor skin turgor, attributed to prematurity and elevated body temperature.
- **Head and Neck:** Head circumference was 32.5 cm. Both fontanelles were open. Neck control was limited due to hypotonia.
- **Eyes, Ears, Nose:** No signs of infection or structural anomalies were observed.
- **Oral Cavity:** Presence of secretions and impaired swallowing ability.
- **Thorax and Abdomen:** No anomalies or tenderness noted.
- **Genital and Anal Regions:** Female genitalia were normal; however, anal atresia was present.
- **Neurological Examination:** Hypotonia and absence of crying at birth raised concerns regarding central nervous system function. Reflex assessment was not documented.

- **Cardiovascular and Respiratory Systems:** The infant showed signs of circulatory and respiratory compromise. She required mechanical ventilation and had persistent oral secretions.
- **Gastrointestinal and Genitourinary Systems:** Colostomy was present; bowel movements occurred through the stoma. No information was available on urinary output.
- **Musculoskeletal System:** No deformities or joint abnormalities were noted.
- **Metabolic/Endocrine:** Nutrition was maintained through TPN and NG feeding.

Laboratory Findings

Laboratory tests revealed elevated C-reactive protein (CRP) and white blood cell (WBC) count, suggesting systemic inflammation or infection. Hemoglobin was slightly reduced, indicating mild anemia. Hematocrit, calcium, and sodium values were within reference limits. Given the elevated inflammatory markers, continued monitoring was deemed necessary.

Vital Signs at Day 10

- **Temperature:** 38.5°C
- **Heart Rate:** 158 bpm
- **Blood Pressure:** 60/30 mmHg
- **Respiratory Rate:** 38 breaths/min

Discussion

This case illustrates the complexity of managing a premature neonate with dual congenital anomalies—esophageal and anal atresia. Immediate airway stabilization and surgical intervention were crucial for survival. The inability to feed orally and the need for total parenteral nutrition highlight the nutritional challenges in such infants. Additionally, the psychosocial component, such as maternal postpartum depression, may influence neonatal care.

Elevated CRP and WBC levels warranted careful surveillance for sepsis or postoperative complications. Multidisciplinary care, including neonatology, pediatric surgery, nutrition support, and mental health services for the mother, is vital for improving outcomes in such high-risk neonates.

Conclusion

Premature neonates with multiple congenital anomalies require prompt diagnosis and a coordinated, multidisciplinary management plan. Esophageal and anal atresia, although rare in combination, should be considered in neonates with feeding difficulties and absent anal openings. Early surgical intervention and supportive care can significantly impact survival and recovery.

Keywords: Anal Atresia, Nursing Care, Neonatal Surgery, Esophageal Atresia, Neonatal Anomalies

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Severe Acute Bronchiolitis in a Premature Infant Due to RSV Infection: A Case Report

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Acute bronchiolitis is an inflammatory disease of the lower respiratory tract, predominantly affecting children under the age of two. It is most commonly caused by Respiratory Syncytial Virus (RSV), although other viral agents such as influenza, parainfluenza, adenovirus, and human metapneumovirus may also contribute. The pathophysiology involves epithelial cell necrosis, mucosal edema, and increased mucus production, leading to obstruction of small airways, resulting in hypoxemia and atelectasis.

This case report presents a 25-month-old male patient, B.Y., who was born prematurely at 34 weeks of gestation. He was admitted with complaints of cough, decreased appetite, fatigue, fever, and respiratory distress. On physical examination, tachypnea, intercostal retractions, nasal flaring, wheezing, and lethargy were observed. Vital signs revealed a body temperature of 38.4°C, tachycardia, and oxygen saturation of 88%, indicating hypoxemia. Laboratory investigations showed leukocytosis (16,800/mm³), elevated C-reactive protein (CRP: 65 mg/L), and procalcitonin (2.1 ng/mL), suggesting a concurrent bacterial infection. RSV was detected via nasopharyngeal swab, and chest X-ray revealed infiltration in the right lower lobe, leading to a diagnosis of secondary bacterial pneumonia.

The patient was treated with intravenous fluids, supplemental nasal oxygen, antibiotics (cefotaxime), antivirals (ribavirin), and bronchodilators (salbutamol). A nasogastric tube was inserted for nutritional support. Continuous monitoring of respiratory parameters, hydration status, and body temperature was carried out. The patient's family was educated about the disease and informed about infection control and hygiene practices.

By the third day of hospitalization, the patient showed clinical improvement with resolution of fever, reduced oxygen requirement, increased oral intake, and overall better general condition. A total hospital stay of seven days was planned. This case highlights the potential severity of RSV infection in premature infants and underscores the importance of comprehensive nursing care guided by accurate nursing diagnoses.

Keywords: Acute Bronchiolitis, Respiratory Syncytial Virus (RSV), Nursing Care

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Nursing Management of Severe Dehydration in an Infant with Prolonged Diarrhea: A Case Report

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A.H is an 11-month-old male infant. His birth weight was 3200 grams, birth length 46 cm; current weight is 7.6 kg, height 72 cm, and head circumference 43.9 cm. There is no parental consanguinity. The mother is 20 years old, and this is her first pregnancy. The infant has been exclusively breastfed. The mother did not bring the baby for routine vaccinations scheduled at 9 months of age. There is no known hereditary disease in the infant's medical history.

The infant had been experiencing diarrhea for 10 days. For the first four days, he was irritable and crying continuously; however, his crying gradually decreased and his activity levels declined progressively. During this period, the infant was not given fluids and was fed less frequently.

Upon admission to the emergency department, the infant was lethargic and unresponsive. Clinical signs included absence of tears, sunken eyes, dry mouth, deep and rapid breathing (32/min), tachycardia (110/min), hypotension (60/40 mmHg), and a normal body temperature (36.7°C). Initial emergency management included the administration of 500 mL of 0.9% NaCl isotonic fluid over one hour. Laboratory investigations—urinalysis, complete blood count, biochemistry, and blood gas analysis—were initiated. However, the infant was referred to another facility before test results could be obtained.

This case study aims to identify appropriate nursing diagnoses and develop a care plan based on the infant's clinical findings and primary diagnosis.

Keywords: Diarrhea, Dehydration, Nursing Care, Fluid and Electrolyte Balance