Euras J Fam Med 2022;11(4):185-8. doi:10.33880/ejfm.2022110401 **Review**

# The Importance of Keywords and References in a Scientific Manuscript

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## ABSTRACT

Keywords and references may appear in the background of the article structure, but they are crucial at every stage, from planning the study to citation. Correctly chosen keywords and references increase findability, improve the quality of the research, convey valid information to the reader, make reading enjoyable and increase the number of citations. Writing guidelines have been developed as a requirement for these issues. Writing guidelines provide rules for many stages of the article such as title, abstract, keywords, text content, table and figure layout, and rules for citation of references. Preparing an article using writing guidelines avoids confusion and helps to present information in a standardized way. Thus, publishers and authors present their work to the scientific world in an organized manner.

**Keywords:** research activities, manuscript, publishing, authorship, medicine in literature

## The Term Keyword

Keywords are words or phrases related to the topic, chosen after the end of the manuscript writing process. They point to the information sought in the mass of information and help the researchers (1). The first "keyword" as a word was used in 'Michel Breal's Semantics: Studies in the Science of Meaning'. In its current meaning, it was first used by Raymond Williams in his book “Keywords: A Vocabulary of Culture and Society” (2).

Keywords in the text, usually given immediately after the abstract in the medical manuscripts, provide indexing in the literature and aim to capture the main lines of the study. Internet-based search engines scan the words in the article, especially in the title. For this reason, the presence of keywords in the title of the article increases the findability of the article. Therefore, the most appropriate keywords should be chosen from the words allowed.

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The number of keywords that can be used per article is determined by the publishers (usually between 3-10). More than one keyword can be searched for the topic, so all compatible keywords should be specified as much as possible. Keywords can be nouns or noun phrases; it is not appropriate to use words such as adjectives, pronouns, or prepositions. To choose the most suitable words, authors should analyze the subject and purpose of their study; synonyms are also used if necessary (1).

## How to Choose the Appropriate Keywords

Certain sources should be used when selecting a keyword. The US National Library of Medicine (NLM) is the most important one of these sources. If the selection is made from the NLM - Medical Subject Headings (MeSH) tree, which was created especially to list PubMed citations, the right words will be used to be scanned in the international literature. The MeSH tree is constantly updated (3). Additional information on the use of MeSH can be found in the Learning Resources Database of NLM (4). In Turkey, a search can be made through Türkiye Bilim Terimleri (Turkish Scientific Terms) to select keywords. The founding purpose of Turkish Scientific Terms is to create equivalents for MeSH and currently contains 192,000 terms (5). Eurasian Journal of Family Medicine (EJFM) and Turkish Journal of Family Practice, the official publication of the Turkish Association of Family Physicians (TAHUD), also recommend these sources for keyword selection (6,7).

## The Journey Through References

The search and selection of references, which is one of the building blocks of scientific research, is very important at every stage of study conduction. In the formulation of research questions, the construction of methodology, the discussion of findings and the conclusion, previous research is cited and used. References have special spelling rules both in the text and at the end of the scientific manuscript. These rules are detailed in writing guidelines (8).

## Guidelines for Scientific Writing

The guidelines aim to ensure standardization in article writing, to facilitate readers' access to the references used, to prevent plagiarism, to show that adequate research has been done and ethical behavior has been demonstrated, and ultimately to give academic credibility to the owner of the reference used (9,10). The most commonly used guidelines can be listed as follows (8):

- American Medical Association (AMA) Style: Medical sciences
- American Psychological Association (APA) Style: Behavioural and social sciences
- The Bluebook: The Law
- Modern Language Association (MLA) Style: Language and cultural studies
- Council of Science Editor Documentation Style (CSE): Physical, chemical, biological and astronomical sciences
- The Chicago Manual of Style (Editor's bible, Turabian Style): Publishing, editing and writing
- Associated Press (AP) Stylebook (Journalists' bible): Journalism
- The Canadian Style: A guide to fluent and correct spelling produced by the Canadian government for the general public.

These guidelines are produced to ensure standardized writing of references such as articles, books, magazines and newspapers, brochures, television programs, websites, letters and e-mails, interviews and theses (11,12). One of the most important points for publishers is standardization in the articles or books they publish. Standardized writing will facilitate access to information and increase the reputation on indexes. For this reason, in many scientific peer-reviewed journals, the first step in article evaluation is the technical evaluation in which spelling standardization is ensured. Articles that are confirmed to comply with the spelling rules can proceed to the next stage in the evaluation process.

### Citing of References

Not all kinds of information can be cited as a reference. To use the item as a reference, the author (institution or person), title, place of publication (journal, book title, website, etc.), and date of

publication are required. If available, volume, issue, page numbers, digital object identifier (DOI) number, and an internet address that can provide more detailed information should be given (13). In short, the reference should be accessible or proven to exist.

The references used in the medical research should be up-to-date (within the last 5 years if possible) and written in accordance with the writing rules of the journal to be submitted. If this condition is not met, the research article may be sent back to the authors for rewriting or rejected at the initial stage. For this reason, great attention should be paid to spelling rules and the use of up-to-date references. When researches such as theses or congress papers prepared in the past years are to be published in a journal, the update of references must be done. If necessary, the text should also be updated.

The writing rules of the journal to which the manuscript is planned to be submitted should be carefully examined, and the manuscript text and references should be reviewed and adapted for the journal. A few days spent at this stage is not a waste of time; on the contrary, it will prevent months of delay in the evaluation process or rejection of the work. Detailed information about the writing rules of journals can be obtained from the journal or publisher to which the manuscript is to be submitted. In general, publishers provide their writing rules through their websites under the title of "Information to Authors" or "Article Writing Rules", etc.

In the scientific community, quality is the most sought-after attribute and publishers strive for quality. To increase the quality of an article, ensure findability, and get more citations, the choice of keywords should be appropriate. The use of references that are up-to-date, appropriate to the research, and in compliance with the spelling rules also increases the quality of the study and contributes to the scientific environment at a high level.

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