

## The Disregard for the Use of Standardized Keywords in Turkish Medical Publishing: A Brief Critique

Türk Tıp Yayıncılığında Standardize Edilmiş Anahtar Kelime Kullanımının Göz Ardı Edilmesi: Kısa Bir Kritik

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### Introduction

A keyword is a word or group of words that represent the text in an article in a concise form. Selecting appropriate keywords is essential for ensuring that articles remain accessible on the internet. Well-chosen keyword ensures that the article is discoverable over time (1,2).

In Turkish medical literature, the English and Turkish keywords need to convey the same meaning. To synchronize these keywords, the preference is to use the Medical Subject Headings (MeSH) search engine. The MeSH search engine is used to align these terms effectively. MeSH thesaurus is a controlled and hierarchically organized vocabulary produced by the National Library of Medicine (NLM). It is used for indexing, cataloging, and searching for biomedical and health-related information. MeSH includes the subject headings appearing in MEDLINE/PubMed, the NLM Catalog, and other NLM databases. (3) The MeSH database serves as a potent tool for conducting precise searches by utilizing MeSH headings and subheadings. MeSH terms function as a thesaurus encompassing all the concepts found within medical literature. (4) Because its terms are defined by multiple terminologies, it allows researchers to quickly and easily access numerous articles with minimal information.

There are no studies in contemporary Turkish medical academic literature evaluating the scope of keywords in articles and the compatibility of English equivalents with MeSH. The purpose of this study is to determine and report the extent to which keywords used in the examined articles are equivalent to MeSH.

### Methods

This study was conducted within the "DergiPark" system, which significantly supports national academic publishing. The scanning was carried out between September and December 2023 by two researchers. The research focused on publications between January 1, 2022, and December 31,

2022, encompassing a total of 43 journals and 1743 articles. Selection criteria for journals included a minimum of 3 years of academic publishing, issuance of at least 3 editions in 2022, printing of a minimum of 4 original articles per issue, and having English abstracts and keywords. Only those adhering to eligibility criteria in the scanned journals and publications were included in the study.

Three types of articles were examined: original articles, case reports, and reviews. The study investigated factors such as the language of the article and whether MeSH compliance was based on the journal's own spelling rules. Each keyword in these scanned articles was individually searched in the MeSH database, directly following the author's spelling format. For example, if all keywords matched MeSH terms, 100% compatibility was noted; otherwise, if any of these keywords did not match MeSH, the compatibility was considered zero. At the end of the study, the proportion of keywords that were MeSH compliant was determined according to article and journal specifications. Evaluating the language of the articles is crucial for ensuring harmonization between English and Turkish articles. Many journals require keyword alignment with MeSH as part of their spelling rules. The exploration of MeSH compliance in the journal's spelling rules serves as a measure of whether or not authors are attentive to the journal's guidelines. The study aims to comprehensively evaluate all these variables.

### Statistical Analysis

The descriptive statistical analysis of collected data was analyzed with IBM SPSS Statistics 17 (SPSS Inc. Released 2008. SPSS Statistics for Windows, Version 17.0. Chicago: SPSS Inc.). Frequencies, means and standard deviation were calculated. Pearson's chi-squared test was used to test whether the difference between the two groups and the p-value is less than or equal to 0.05 was accepted as the level of significance.

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## Results

In this study, 43 journals have been scanned (Table 1). Journal characteristics are provided in Table 2. Of the 1743 articles included in the study, 376 were identified as 100% compatible with MeSH. The MeSH compatibility of articles in journals is shown in Table 3. Of the 376 articles compatible with MeSH, 185 are in English and 191 are in Turkish. It has been determined that the coherence of the articles written in Turkish exceeds the MeSH compliance of the articles written in English (Table 3). Meanwhile, 43 of the 30 journals have specified a framework rule in the spelling regulations of MeSH compliance, and it has been found that 280 articles in these journals comply with the aforementioned spelling framework.

**Table 1.** The names of scanned journals

Abant Medical Journal
Acibadem University Health Sciences Journal
Acta Media Alanya
Acta Medica Nico Medica
Ahi Evran Medical Journal
Akdeniz Medical Journal
Aksaray University Journal of Medicine
Anatolian Clinic the Journal of Medical Sciences
Anatolian Journal of Emergency Medicine
Archives of Clinical and Experimental Medicine
Archives of Current Medical Research
Atatürk University Faculty of Medicine Journal of Surgical Medical Sciences
Aydın Journal of Health
Balıkesir Health Science Journal
Black Sea Journal of Health Science
Bozok Medical Journal
Dokuz Eylül University Medical Journal
Duzce Medical Journal
Eskisehir Medical Journal
ESTUDAM Public Health Journal
Fenerbahçe University Journal of Health Sciences
Hippocrates Medical Journal
Institute of Health Sciences Journal
Journal of ANKEM
Journal of Continuing Medical Education
Journal of Cukurova Anesthesia and Surgical Sciences
Journal of Dependence
Journal of Harran University Medical Faculty
Journal of Integrative and Anatolian Medicine
Kafkas Journal of Medical Sciences
Maltepe Medical Journal
Manisa Celal Bayar University Journal of the Faculty of Education
Medical Journal of Gaziosmanpasa University
Medical Journal of Ankara Training and Research Hospital
Medical Journal of Mugla Sitki Kocman University
Medical Journal of Western Black Sea
Mersin University School of Medicine Lokman Hekim Journal of History of Medicine and Folk Medicine
ODU Medical Journal
Phoenix Medical Journal
The Journal of Geriatric Science
The Turkish Journal of Forensic Medicine
Tıp Eğitimi Dünyası
Troia Medical Journal

**Table 2:** Evaluated characteristics of scanned journals

SCANNED JOURNALS FEATURES		PERCENTAGE (%)
Indexing in TR INDEX	Yes	55.81 %
	No	44.18 %
Sustainability of a journal (Publishing lifespan)	Less than 15 years	76.74 %
	More than 15 years	23.25 %
Journals asking about MeSH compatibility as a writing rule or format	Yes	69.76 %
	No	30.23 %
Issue released in 2022	Three	83.72 %
	More than three	16.27 %

**Table 3:** MeSH compatibility percentages according to characteristics of the scanned articles

SCANNED ARTICLE FEATURES (n: number of articles)	Showing compatibility with the MeSH (%)	p-value
Indexing in TR INDEX	Yes (1212) 21.20 %	0.237
	No (531) 22.41 %	
Language of the article	Turkish (862) 22.15 %	0.231
	English (881) 20.99 %	
Journals asking about MESH compatibility as a writing rule or format	21.92 %	0.188
	Yes (1277) 20.60 %	
	No (466)	
Journal articles according to the number of issues released in 2022	21.59 %	0.245
	At least 3 (1408) 21.49 %	
	More than 3 (335)	

## Discussion

A regulated vocabulary created by the NLM is the MeSH thesaurus. In contrast to keyword searching, which often instructs a database to look for specific keywords in the titles and abstracts of papers (or other user-specified fields), MeSH terms let users locate articles in PubMed or MEDLINE that are on a given topic.

To better comprehend psychosocial MeSH terms and to provide guidance on whether to include both search strategies in an information literacy session or how much time should be spent on teaching each search strategy, De Mars et al. compared the recall and precision of MeSH-term versus text-word searching. The findings of their study demonstrated the advantages of MeSH search techniques for precision and recall. However, if an author is writing a manuscript or developing an idea for which there is no

MeSH term yet, or if they have reason to believe that not much has been written about the subject, then there is likely no MeSH term, and over 1.5 million articles in PubMed are not indexed with MeSH for MEDLINE. (5) We can now conclude that MeSH words are only largely sufficient if MeSH expands its breadth and is updated yearly.

According to the results of our search; considering the statistical data, 1367 of the 1743 articles, which were scanned on the DergiPark site, found no MeSH compliance. The aim of this study is to determine and report the extent to which keywords used in the examined articles are equivalent to MeSH. Based on this aim, it was determined that some medical-oriented journals in DergiPark in 2022 did not pay due attention to keyword selection. Some journals did not prioritize compliance with the MeSH indexing. The continuation of these results in the following years may lead to reduced accessibility, limited analysis of the literature, information clutter, and decreased readability of the article.

#### **Limitation**

The keywords of Turkish and English articles were searched using the MeSH search engine. Keywords for Turkish articles have not been additionally queried in the TBT (Turkish Science Terms) search engine. This could be considered a limitation.

#### **Conclusion**

Therefore, it is recommended that authors utilize relevant MeSH terms related to the topic. Understanding the significance of using terms mapped to MeSH terms and employing the PubMed search technique will help Turkish readers maximize the use of available MeSH terms, ultimately leading to more effective and well-informed searches.

#### **Explanations Section**

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