How to Choose Title and Keywords for Manuscript According to Medical Subject Headings

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Abstract

Background: Title and keywords are the two most important parts of a manuscript. The words or phrases used in the title or keywords should be selected wisely for a wider dissemination of the article. Medical Subject Headings (MeSH) terms are used to index article in MEDLINE/PubMed. Hence, choosing the title and keywords according to MeSH would be a better choice for authors. Aim: The aim of this article was to provide a technical guide for selecting words and phrases for title and keywords of an article according to MeSH terms. Methods: The most frequently used words in a manuscript can be identified by the help of word cloud technique. We showed an example of making a word cloud from the text of a manuscript. The method of searching MeSH terms in a manuscript text was shown with an example. Writing title and keywords with amalgamation of these two methods was described. Conclusion: This tutorial showed the use of two freely available tools on the World Wide Web (word cloud and MeSH on demand) for choosing title and keywords for a manuscript. This brief description would help authors in wider dissemination of research knowledge to the targeted audience.

Keywords: Biomedical research, internet, MEDLINE, publications, PubMed

INTRODUCTION

Medical literature is expanding its wings day by day. In an age of the internet, researchers can search the targeted literature right from their desk on a personal computer connected to the internet.1 The common practice is to search on the internet with some relevant words or phrases in different search engines (e.g. Google, PubMed). A single search may give us thousands of results. Segregating these results according to interest may be a challenging task. An informed researcher may use some controlled words or phrases for searching the medical literature. Medical Subject Headings (MeSH) are widely being used for searching the medical literature for reference articles.2,3 Commonly, the published literature in a journal is indexed according to its words or phrases in the title and keywords. Hence, choosing effective keywords for manuscript is important for proper indexing of the article.4 Authors often neglect this part during manuscript preparation. An author’s success is reflected by higher number of citations of the article. To get a citation, the article must be reached to the reader through the search engine.5 Many of the journals now mandate the authors to choose keywords according to MeSH.6 Hence, in this article, we briefly described the method of choosing words or phrases for title and keywords according to MeSH terms.

METHODS

For the description, first, we are presenting the methods of searching the words or phrases according to the word cloud method. Then, we show the method of finding words and phrases according to MeSH terms obtained from MeSH on demand website. After that, we combine these two methods for reinforcement of the strength of the words or phrases.

The title and keywords

The title is one of the most important segments of an article. A reader first looks for the title of the article, and then decide its relevancy to her/his interest.7 Hence, a careful selection of title

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is of paramount importance for an article. Inappropriate title may reduce the chances of visibility of the article despite rich content of the article. If the title is not having corresponding words or phrase according to its content, the article may not come under the search result. Hence, it is suggested to use a catchy title, but whenever possible with words or phrases, according to MeSH.\[8\]

Keywords are words or phrases which are used to index articles. It helps to identify the content of the article.\[9\] If you remember the last time when you searched on the internet for a literature, you entered some words in Google or PubMed and searched. Everybody else does it like that. Hence, as an author, you need to provide that words tagged with your article to get picked up by the search engines. For an author, it is desirable to get the paper read by other researchers or peers for wider dissemination of research knowledge. This helps to get a new citation too. Hence, keywords are important to authors for a proper circulation of the article to the interested readers. Most of the journals request the author to provide three to five keywords. Some journals request three to eight keywords. Hence, it is suggested to keep at least 8–10 keywords ready with relevancy serial before submission of the article.

**Finding frequently used words in a manuscript**

It is possible for an author to list some of frequently used words manually. However, a word cloud is another option where most commonly used words in the manuscript can be obtained without any manual effort. A word cloud is presented as a cloud-like structure of words with varying size of the most frequently used words according to its number in the text. There are several websites, from where authors can get the word cloud for the manuscript text.

For an example, we took https://worditout.com/word-cloud/create website.\[10\] The steps are the following [Figure 1]:

1. Copy the text of the manuscript from the word processor (e.g. Microsoft Word, Open Office Writer)
2. Make sure the computer is connected to the internet. Open an internet browser (e.g. Mozilla Firefox, Opera) and open the website: https://worditout.com/word-cloud/create and paste the text in the text box
3. Click on “Generate” button below the text box and wait a while
4. The word cloud will be displayed on the screen. You can save it or take a screenshot for further reference.

For an example, the text of the most popular article of this journal was copied, and text cloud was created from the above website. The word cloud is shown in Figure 2.\[11\] Authors can choose words from the generated word cloud according to its size and relevancy.

**Finding Medical Subject Headings terms in a manuscript**

The United States National Library of Medicine provides the service of searching MeSH terms from the manuscript free of cost through their website – “MeSH on Demand.”\[12\] Only manuscript in English can be searched for MeSH terms as of now. A single search allows 10,000 characters. Hence, for a whole manuscript check, several searches may be needed according to the length of the manuscript.

To get a suggestion for keywords for the manuscripts in MeSH terms, authors may follow these simple steps as follows [Figure 3]:

1. Copy the abstract (or manuscript) text from the word processor (e.g. Microsoft Word, Open Office Writer)
2. Make sure the computer is connected to the internet. Open an internet browser (e.g. Mozilla Firefox, Opera) and open the website: https://meshb.nlm.nih.gov/MeSHonDemand and paste the copied text in the text box on the website
3. Click on the “Search” button and wait for sometime
4. MeSH terms will be shown on the right side of the text box. Either copy the words or phrases or click on “Export Data” to save the suggested keywords in a “.txt” file.

![Figure 1: Steps for searching most frequently used word in a manuscript by word cloud (Step 1: copy text from the manuscript, Step 2: paste the text in the text box on the website, Step 3: click on the “Generate” button, and Step 4: save or take a screenshot of the word cloud)](image)

![Figure 2: An example of a word cloud of a manuscript](image)
For an example, the first 10,000 characters starting from “introduction” of the most popular article of this journal was copied. Then, it was searched on the MeSH on demand website, and part of found MeSH terms are shown in Figure 4.

In addition, the website also shows MEDLINE/PubMed articles related to the submitted text on the bottom of the text box. These can be used as a reference literature.

**Combination of word cloud and Medical Subject Headings terms**

A combination of word cloud and MeSH can help to boost the relevancy of words for the title and keywords. For the combination, first, make a word cloud of the most frequently used words in the manuscript with the help of any software or website according to choice. Then, search the MeSH terms present in the manuscript from MeSH on demand website. After that, make a list of words from these two sources. Now, compare these two lists and choose the most relevant words or phrases for the title and keywords for the manuscript.

**DISCUSSION**

The methods described in this article are a suggestion to the authors. They can use it for their future articles. If a journal does not ask the author to submit keywords according to MeSH terms, the author has the freedom to choose the keyword according to their choice.

The words used in the title of the article are automatically captured by indexing agencies. Moreover, the keywords are additional scope to tag your article with other relevant terms. Hence, using the same words or phrases both in the title and in the keywords is not a wise choice.

Wider reach of the journal article is not only important for the individual author but also beneficial for journals. It helps the journals to boost the Impact Factor of the journal.

Whatever may be the condition, the authors should think about the strategy of searching adapted by a reader or peer. It is not always possible to get an idea about how the world searches literature. However, it is possible to sort out how the authors themselves might search the same literature. For a knowledge of internet search trends, the authors can use the Google trends and find the latest search trends of a particular word or phrase. This website even helps in comparison of search trends among different words and phrases. It may help authors to choose among words for title and keywords. For an example, if the search trends are compared for “aerobic fitness” and “cardiorespiratory fitness” on the Google trends, it shows the result as given in Figure 5(a). However, it should be taken into consideration that Google search is used by both researchers and nonresearchers.

A number of research articles related to a particular keyword can also be obtained from the PubMed. If “aerobic fitness” and “Cardiorespiratory fitness” are searched separately in PubMed, year-wise published article with those keywords can be obtained from the right side of the search result pages as shown in Figure 5(b). These results may be considered for an informed choice of the keywords for the manuscript.

**Limitation**

This article is only meant for technical help to the authors. We did not compare the keyword potential of MeSH terms versus non-MeSH terms for reaching readers. Further studies are required to establish this comparison.

**CONCLUSION**

This technical note described the method of searching words for the title and keywords of a manuscript with the help of word clouds and MeSH terms. Both of these are freely available for users on the corresponding website. Hope this miniature guide would help new authors for choosing the appropriate title and keywords effectively.
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There are no conflicts of interest.

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