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Letter Open Access

General comparison of scientific databases of Scopus, PubMed, and Web of Science

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Dear Editor

Today, various scientific databases are available to journals and researchers around the world, and here we compare the content and various practical aspects of the 3 main scientific databases, including Scopus, PubMed and Web of Sciences, which have attracted the most attention.

The Institute of Scientific Information (ISI) of Thomson Scientific, which was introduced in the early 1960s, can be considered as the oldest scientific database. Web of Science covers the oldest publications, as its indexed and archived records back to 1900. Web of Science is developed by Thomson Scientific, a division of Thomson Corporation, a privately held company in USA. It is known mainly through the annual release of the journal's Impact Factor. Although the impact factor is heavily criticized, it is still the most widely used index available for evaluating journals. This database is active in all fields, it has high credibility in medicine and is of interest to clinicians and medical researchers. Web of Science is a database that is not free and requires an access fee and provides almost no data on open access papers. This database is searchable and displays the search results as a list of 10 to 50 items per page. It is also worth mentioning that the citation analysis provided by Web of Science has better graphics and more details than the Scopus citation analysis.[1]

The National Library of Medicine (NLM) in the United States introduced Medline as the first interactive searchable database in the field of medicine in 1971, this database was later more progressed and in 1997 the PubMed database was introduced and became one of the most popular and authoritative search resources. The internet has become a place for doctors and medical researchers. PubMed is free and provides open access to all interested clinicians, researchers and practitioners as well as the general public. PubMed mainly focuses on medicine and biomedical sciences, while Scopus and Web of Science covers most of scientific fields. The only database that does not provide citation analysis is PubMed! PubMed allows for a larger number of keywords per search, and PubMed search results can be displayed in a list of 5 to 500 items per page, and if available, the list can be presented with an abstract. Its ease of use, free availability, and the power it has gained over the years have made it the most widely used source of information in the biomedical field, and now archiving more than 6 million articles. One of the main advantages of PubMed over Scopus or Web of Science is that it is easily updated not only with printed literature, but also with literature that has been submitted online in early editions by various journals prior to print publication. In contrast, Scopus and Web of Science are easily updated for printed literature, but do not include early online versions.[2]

This time in Europe, in 2004, Scopus databases were launched on the Internet and focused on enhancing citation analysis. The Scopus database was developed by Elsevier, which combines the features of PubMed and Web of Science. These combined features allow for greater use, both for medical literature research and academic needs (citation analysis). Access to this database is not free and requires an access fee, although reviewers of several Elsevier medical journals are entitled to one month's free use. Scopus is a database that indexes a large number of journals compared to the other 2 databases. Scopus includes papers published since 1966, but information on citation analysis is only available for papers published after 1996. Scopus search results can be displayed as a list of 20-200 items per page, and documents can be saved in a list and/or can be exported, printed or emailed. In addition, Scopus has written search tips in 10 languages. Scopus includes a wider variety of journals than PubMed and Web of Science, and its citation analysis is faster and includes more paers than Web of Science citation analysis. In other words, for citation analysis, Scopus provides about 20% more coverage than Web of Science.[3]

In the end, it can be said that a lot of efforts and creativity have been taken for the development and progress of these 3 main scientific databases, including Scopus, PubMed and Web of Sciences, and of course, the need for systematic reconstruction and strengthening of the strengths and eliminating the weaknesses of each is felt.

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Competing interests

None.

Abbreviations

Institute of Scientific Information: ISI;

National Library of Medicine: NLM.

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