

In Search Of Malaysia: Pubmed, Google Scholar Or Scopus?

Cheong Lieng Teng

Abstract

In this review article, the author illustrates the advanced searches for “Malaysian” health and life sciences publications. Examples of searching are made on PubMed, Google Scholar and Scopus. The strengths and weaknesses of these services are compared.

IeJSME 2008: 2 (2): 5-8

Keywords: Literature search, PubMed, Google Scholar, Scopus, database.

Literature search is an essential step in the research process. Adequacy of literature review relevant to the local context is especially critical at both ends of this process: at the initial steps when we identify and refine the research question, as well as at the point of interpreting the significance of our research finding. As a journal reviewer and editor, I have observed many authors who do not adequately cite Malaysian literature. In this article, I illustrate how researchers can improve their literature search for Malaysian scholarly literature, with searches made for the year 2007 using commonly used databases and online resources.

PubMed

PubMed,¹ the publicly accessible version of Medline, is a biomedical database maintained by the National Library of Medicine (NLM), USA. With 18 millions citations from over 6000 biomedical and life sciences journals from the 1950s, it is one of the largest and probably the most widely used biomedical database. Its usefulness has been enhanced by its free full text links, either via participating publishers or PubMed Central² (as of 21st Oct for 2008, 2.5 million free full text articles are accessible). Currently, three biomedical journals published by Malaysian professional bodies are being indexed: *Medical Journal of Malaysia* (Publisher: Malaysian Medical Association, indexed from 1953), *Malaysian Journal of Pathology* (Publisher: Malaysian College of Pathology, indexed from 1979) and *Tropical Biomed* (Publisher: Malaysian Society of Parasitology and Tropical Medicine, indexed from 2004). The fourth one which I shall include as “Malaysian” journal is the

Asia Pacific Journal of Public Health, a regional journal with its editorial office in University of Malaya (Publisher: Asia-Pacific Academic Consortium for Public Health/SAGE, indexed from 1987)

Searching PubMed

Users can search PubMed by text words, MeSH terms, author's name, journal name, author's affiliation, year of publication, and many others. Novice can take online tutorial to learn how to maximise the search capability of this database.³ The less sophisticated users may want to use the Advance Search features or by clicking appropriate tick boxes within “Limits”. Alternatively, users can input search term together with search tags, and combine them with Boolean operators (AND, OR, NOT) – they must be in capital letters (all other search terms and search tags are not case sensitive). Search tags, entered inside square brackets, limit searches to specific part of the PubMed citations. Some useful search tags are: [ti] (Title), [tiab] (Title/Abstract), [ad] (Address), [mh] (Mesh Terms), [pdat] (publication date), and [ta] (Journal Title). A more complete list of search tags is available in the PubMed website.⁴

Searching PubMed for Malaysia

In Table 1, I have shown some PubMed search results. By combining text word searching with address or journals, the users can specifically look for Malaysian publication on a specific topic.

λ #1 looks for Malaysia in the author's address (affiliation) for articles published in the year 2007. As PubMed include only the address of first author, this search will miss Malaysian institutions that are secondary authors. PubMed include the author's address as provided, thus this search will miss publication originating from Malaysia where the word “Malaysia” has been omitted by the author.

λ #2 looks for Malaysia in the MeSH Terms published in the year 2007. MeSH (Medical Subject Headings) is the controlled vocabulary designed by PubMed to indicate the subject matters or concept contained in the article. As MeSH Terms are assigned by indexers in National Library of Medicine, there is a delay of

Department of Family Medicine, International Medical University, Seremban, Negeri Sembilan, MALAYSIA

Address for Correspondence:

A/Professor CL Teng, Department of Family Medicine, Clinical School, International Medical University, Jalan Rasah, Seremban 70300, Negeri Sembilan, MALAYSIA

Email: Cheonglieng_teng@imu.edu.my

their inclusion in PubMed. Very recently included articles may not have been assigned MeSH Terms yet.

- λ #3 looks for Malaysia in the address or MeSH Terms published in the year 2007.
- λ #4 looks for articles published in four journals published from Malaysia in the year 2007. I have used the journal abbreviations assigned by NLM, although searching using the full journal titles will retrieve the same search results. This search unfortunately includes articles that are published by non-Malaysian institutions or authors publishing in these four journals. However, it will include articles published by Malaysian institutions where the printed addresses do not have the word Malaysia (omission of country name is common for national medical journals).
- λ #5 looks for “Malaysia” in title or abstract or MeSH published in the year 2007.
- λ #6 combines the searches for all the above. #6 looks for the occurrence of Malaysia in the article title, article abstract, MeSH Terms, “Malaysian journals” as well as “Malaysia” in the authors' affiliation. However, this search will include citations from non-Malaysian articles published in the “Malaysian journals”.

Table 1: Sample PubMed search results

SEARCH	MOST RECENT QUERIES	RESULT
#1	Search malaysia[ad] AND 2007[pdat]	712
#2	Search malaysia[mh] AND 2007[pdat]	320
#3	Search (malaysia[ad] OR malaysia[mh]) AND 2007[pdat]	829
#4	Search (med j malaysia[ta] OR malays j pathol[ta] OR trop biomed[ta] OR asia pac j public health[ta]) AND 2007[pdat]	197
#5	Search Malaysia OR 2007[pdat]	898
#6	Search #5 OR #6	982

Beyond PubMed: Is Google Scholar the answer?

As shown above, searching for biomedical articles originating from Malaysia by using PubMed is somewhat laborious and is likely to be incomplete. This is because very few biomedical journals from Malaysia are PubMed-indexed, the author supplied address may also be incomplete (e.g. University of Malaya, Kuala Lumpur, but no mention of Malaysia), and the delay or inaccuracy of indexer derived MeSH Terms.

Web browsers that perform full text search of all web pages, e.g. Google, potentially contains the most complete electronic archive of information. Google has a special section called Google Scholar⁵ that captures mostly scholarly articles and web pages. A search using the Advance Search function of Google Scholar for Malaysia, limiting to “Medicine, Pharmacology, and Veterinary Science” and the year 2007, retrieved 2740 hits (search date 21st October 2008).

Several features have made Google highly popular as a search engine. It is vast (in July 2008, Google reportedly indexed I trillion unique URLs),⁶ very rapid, links to free full text where available and deliver highly accurate result. However, academic librarians have heavily criticised Google for the lack of transparency in the way it rank the web search results.⁶ There is a limited way in which the searchers can modify their Google searches – it is rather difficult to search separately for journal articles and conference proceedings, for example. As a result of its full text indexing feature, the number of hits for any search is can be painfully large, thus it is frustrating to scroll through many pages if the first few pages do not contain what one is looking for. Google Scholar thrives due to its “quick, easy, almost free” way of searching for articles. It still does measure up for serious kind of searching.

Scopus

Scopus is a subscription-based research database maintained by Elsevier.⁷ With 36 millions records from some 16,000 journals and other sources, it is said to be the largest database. The collection encompasses all domains, including life sciences, health sciences,

physical sciences and social sciences. Currently 21 Malaysian journals are indexed in Scopus, of which eight are classified as Life Sciences and Health Sciences and journals; they are

1. Asia-Pacific Journal of Molecular Biology and Biotechnology
2. Journal of Tropical Forest Science
3. Malaysian Family Physician
4. Malaysian Journal of Medical Sciences
5. Malaysian Journal of Medicine and Health Sciences
6. Malaysian Journal of Nutrition
7. Medical Journal of Malaysia
8. Malaysian Journal of Pathology

Scopus is unique in that it correctly identifies the institutions of authors that take into account the variation of their names (e.g. “Universiti Sains Malaysia” includes “University Science Malaysia” and “Science University of Malaysia”). A search on 20th October 2008, limiting to Life Sciences and Health Sciences journal articles (excluding conference proceedings) published in 2007 identified 1770 articles published from Malaysia (for the corresponding

period 712 articles were recorded in PubMed). The top 15 Malaysian institutions in Scopus, rank by their number of publications, is compared with the same from PubMed in Table 2. The ranking of institutions vary considerably between Scopus and PubMed, this is because the number and domain of journals included are very different (PubMed has fewer Life Sciences journals).

Final Remarks

There is as yet no comprehensive collection of all scholarly works in Malaysia that is freely accessible. The Malaysian Abstracting and Indexing Service (MyAIS),⁹ is a commendable effort in that direction. Launched in late 2007, it still has a long way to go (currently has only 2577 records, mostly are conference proceedings). There is a case to be made for all scholarly journals published in Malaysia to gain access to Scopus, and other major database. This will allow more comprehensive searching of Malaysian scholarly works. Many biomedical journals published in Malaysia¹⁰ are still not indexed in Scopus, among the notable omissions are: *Tropical Biomed*, *Neurology Asia*, and *International e-Journal of Science, Medicine and Education*.

Table 2: Life Sciences and Health Sciences journal publications in 2007

SEARCH TERM	SCOPUS (RANK)	PUBMED (RANK)
University of Malaya (include University of Malaya Medical Centre)	442 (1)	143 (1)
Universiti Sains Malaysia (include Hospital USM and School of Medical Sciences)	377 (2)	132 (2)
Universiti Kebangsaan Malaysia (include Hospital UKM and Faculty of Medicine UKM)	294 (3)	106 (3)
Univesiti Putra Malaysia (include Universiti Pertanian Malaysia)	294 (3)	50 (4)
International Medical University (include Clinical School IMU)	50 (5)	16 (7)
Universiti Malaysia Sabah	49 (6)	4 (13)
Forest Research Institute Malaysia	44 (7)	2 (15)
Universiti Teknologi Mara	38 (8)	11 (10)
Universiti Teknologi Malaysia	37 (9)	18 (6)
Universiti Malaysia Sarawak	32 (10)	7 (11)
International Islamic University Malaysia	30 (11)	19 (5)
Multimedia University Malaysia	30 (11)	12 (8)
Hospital Kuala Lumpur	29 (13)	6 (12)
Institute for Medical Research	21 (14)	12 (8)
Monash University Malaysia	21 (14)	3 (14)

Conflict of Interest: The author is the Chief Editor of Malaysian Family Physician, which has recently been indexed by Scopus, that is presently being reviewed in this article.

REFERENCES

1. PubMed. <http://www.ncbi.nlm.nih.gov/sites/entrez>
2. PubMed Central. <http://www.pubmedcentral.nih.gov/>
3. PubMed Tutorial. <http://www.nlm.nih.gov/bsd/disted/pubmed.html>
4. PubMed search field description. http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.section.pubmedhelp.Search_Field_Descr
5. Google Scholar. <http://www.scholar.google.com>
6. We knew the web was big ...25 July 2008. The Official Google Blog. <http://googleblog.blogspot.com/2008/07/we-knew-web-was-big.html> (accessed 18 February 2009)
7. Jacso P. As we may search - Comparison of major features of the Web of Science, Scopus, and Google Scholar citation-based and citation-enhanced databases. *Current Science*. 2005; 89: 1537-47.
8. Scopus. <http://www.scopus.com>
9. Malaysia Abstracting and Indexing Service. <http://myais.fsktm.um.edu.my>
10. Teng CL, Khoo EM. Malaysian biomedical journals on the web. *Malaysian Family Physician*. 2007; 2: 15-16.