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Open access ensures effective information retrieval of medical literature in e-databases

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Full Text

Scientific information is both a researcher's greatest output and technological innovation's most important resource. The rising cost of journal subscription is a major force behind the emergence of the open access (OA) movement. The emergence of digitization and Internet has increased the possibility of making information available to anyone, anywhere, anytime, and in any format. The major benefits of OA include: Researchers and students gain increased access to knowledge, publications receive greater visibility and readership, the potential impact of research is heightened, increased access to and sharing of knowledge leads to opportunities for equitable economic and social development, intercultural dialogue, and has the potential to spark innovation. OA improves the speed, efficiency, and efficacy of research as also OA enables computation upon the research literature. [1]

With this backdrop, it is heartening to note that biomedical scientists are increasingly gaining access to medical literature for a variety of assignments like writing a research paper or a research proposal or even staying current with advances in biomedical field. Thanks to OA, a number of sources are now available in the biomedical field apart from PubMed (http://www.ncbi.nlm.nih.gov/pubmed), which provides free access to the largest biomedical resource available and is updated daily. Specifically, PubMed listed 5,645 journals (as on January 1, 2013) indexed from various countries. [2] A total of 42 (0.74 %) journals are included from India (also as on January 1, 2013). [3] Encouragingly, the national initiative by the Indian Council of Medical Research (ICMR) funded project, 'National database of Indian medical journals' by the National Informatics Centre Services Inc. (NICSI), New Delhi, provides among others, a bibliographic database of about 100 prominent peer - reviewed Indian biomedical journals indexed from 1985 onwards through indMED (http://indmed.nic.in/, accessed on January1, 2013) as also full text of 63 Indian biomedical journals (medIND). [4] It supplements international indexing services like PubMed. It simply means one gets 45,928 records using 'contraception' as the key word in PubMed, while another exclusive 170 Indian records using 'contraception' as the key word in indMED.

[INLINE:1]

The global scenario of OA journals is equally encouraging. Specifically, the Directory of Open Access Journals (DOAJ) currently provides (as on January1, 2013) 8,518 OA free, full text quality controlled scientific and scholarly journals from 121 countries including India. United States tops the tally with 1,270 OA journals, followed by Brazil (801), United Kingdom (575), India (463) and Spain (442). Just 22 countries with more than 100 OA journals each account for 6,672 (78.33%) OA journals. [5] More importantly, from medical information retrieval angle, here also one gets 527 records using 'contraception' as the key word as was found with PubMed and indMED. In fact, the open access week during 22-28 October 2012 offered an excellent opportunity for the scientific and technological community to OA awareness. [6] Significant developments in OA publishing have taken place in recent time like the US National Institutes of Health (NIH) Public Access Policy. [7] The NIH Public Access Policy ensures that the public has access to the published results of NIH funded research. It requires scientists to submit final peer-reviewed journal manuscripts that arise from NIH funds to the digital archive PubMed Central upon acceptance for publication. To help advance science and improve human health, the Policy requires that these papers are accessible to the public on PubMed Central no later than 12 months after publication.

Equally important is various search engines for retrieving scientific literature. Two of the widely used search engines viz. Google Scholar [8] and Scirus [9] provide 443, 000 and 956,566 records, respectively, using 'contraception' as the key word. Needless to say, there will be a great degree of duplication among searched records. One can easily reduce/refine the number of relevant records by using the facility of advanced search as also applying Boolean method (named after the 19 th century British mathematician George Boole, who devised a mathematical approach to logic). It allows the user to specify keywords combined with the operators AND, OR, and NOT. The major drawback of this strategy is that the returned documents are not ranked in any way: If numerous documents are retrieved, the user must scan each one visually to determine how relevant it is to the query. However, in PubMed one can use MeSH (Medical Subject Headings) for an effective search.

Some other important sites/ initiatives are summarized below.i) Free Medical Journals (http://www.freemedicaljournals.com/, accessed on January 1, 2013) provides free access to 3,316 medical journals. ii) Public Library of Science, PLOS (http://www.plos.org/, accessed on January 1, 2013) is a nonprofit publisher and advocacy organization. Every article published by PLOS / PLOS journals [PLOS ONE, PLOS Biology, PLOS Medicine, PLOS Genetics, PLOS Computational Biology, PLOS Pathogens and PLOS Neglected Tropical Diseases] is open-access- freely available online for anyone to use. iii) BioMed Central (http://www.biomedcentral.com/, accessed on January 1, 2013) publishes 241 peer-reviewed open access journals. Research articles published in BioMed Central's journals are freely available online to the entire global research community. They are available via BioMed Central's website, the National Institutes of Health's electronic depository of full text articles, PubMed Central, as well as in many other major international archives. iv) Open J-Gate is a free database of open access journals, launched in February 2006, hosted by Informatics (India) Ltd., Bangalore, India. Informatics started the metadata aggregation from OA journals as part of the development of Gate. J-Gate links to full-text of articles from more than 18,000 journals at present. Open J-Gate currently aggregates metadata from more than 4,000 OA journals published in English language around the globe. Open J-Gate indexes articles from all available e-journals in the OA domain, both from scholarly and popular domain, peer-reviewed or reviewed professional magazines, and trade and industry journals. Right now, the site is under construction (http://www.openj-gate.org/, accessed on January 1, 2013).v) H Net Foundation (HON) (http://www.hon.ch/, accessed on January 1, 2013) promotes and guides the deployment of useful and reliable online health information, and its efficient use. Created in 1995, HON is a non-profit, non-governmental organization, accredited to the Economic and Social Council of the United Nations. For 15 years on the essential question of the provision of health information to citizens, information that respects ethical standards. To cope with the unprecedented volume of h available on the Net, the HONcode of conduct offers a multi-stakeholder consensus on standards to protect citizens from misleading health information. HON i Geneva, several European projects, the French National Health Authority (HAS) and the ProVisu foundation. HON is also supported by the Geneva Hospital s

Added to above, equally important is the availability of numerous subscription-based databases. The important ones include The Cochrane Library, Thomson Reuters' Web of Science (for Journal Citation Reports for Impact Factor, IF of journals, Science Citation Index Expanded for citations, etc.), Elsevier's SciVerse Scopus, Embase, etc. However, The Cochrane Library (an independent high-quality evidence for health care decision making) (http://www.thecochranelibrary.com/view/0/FreeAccess.html#India, accessed on January 1, 2013) is freely available for all residents of India to access full contents online, thanks to sponsorship provided by the ICMR. One must also try the other subscription-based databases or else be an institutional member of the ERMED (Electronic Resources in Medicine) Consortium, an excellent initiative of the National Medical Library, New Delhi (http://www.nmlermed.in/, accessed on January 1, 2013).

Lastly, the trick of the trade is to look out for the most relevant and recent publications, preferably primary literature, keeping in mind the global scenario. Now, OA movement is there to help in this arduous taskth , or rather, Open Knowledge [1] is perhaps the best term of all to use to indicate the scope of what is trying to be achieved.

Disclaimer

The author's views expressed in this Editorial do not necessarily reflect the views of the ICMR, New Delhi.

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