

Health information literacy: librarians' role

R Rathinasabapati, Librarian, Tuberculosis Research Centre, Mayor VR Ramanathan Road, Chetpet, Chennai 600031; rrathinasabapati@trcchennai.in; (Tel) 28369637

National Seminar on Information Literacy and Higher Education (published in CD), 29-30 January 2007, Technical Sessions; Session-3, Information Literacy & Libraries paper-3.

“as many as half of adults in all social-economic levels struggle with health literacy” – Wall Street Journal, July 3, 2003

Abstract

Information Literacy is an important attribute in achieving life-long learning. It is a key issue in a knowledge based society, particularly in health care. The drive for health information literacy is the widespread recognition of the need for information and knowledge skill to succeed in a knowledge-based society. The health information professionals have to play an important role to promote health information services to practitioners, researchers, nurses as well as patients. This paper focuses on the important roles of health librarian on the promotion of information literacy.

1. Introduction

Information literacy is a set of competencies that enables individual to recognize needs for information and have the ability to locate, evaluate and use the needed information effectively. It is an important attribute in achieving lifelong learning, because it contributes to informed decision based on critical reasoning and thinking. The recent development in the public health informatics is an interdisciplinary field, and dissemination of

this health knowledge has brought new opportunities for collaboration between health and academic library. To enhance the information literacy on public health discipline is an important task nowadays. The National Library of Medicine defines, public health informatics is the systematic application of information and computer sciences to public health practice, research and learning*. Improved literacy will always brings out a better component in improving public well being and pursuit of preventive health and appropriate management of diseases.

2. Definition

According to the American Library Association, “Information literate [people] are not only able to recognize when information is needed, but they are also able to identify, locate, evaluate and use effectively information needed for the particular decision or issue at hand. The information literate person, therefore, is empowered for effective decision making, freedom of choice, and full participation in a democratic society”. In addition information literacy needs critical thinking skill. Hannelore Rader remarked that librarians are uniquely qualified to assume an active role in the new environment because of their skills in collecting, evaluating, organizing and providing access to information. Increasingly librarians will become involved in health information education program, sometimes in close cooperation with researchers too at the lab itself.

3. Health Information Literacy

Health literacy relates to the degree to which people can obtain, understand and process basic health information and services and then act on appropriate health decisions. It is one of the crucial, enabling capabilities that could contribute to the realization of the goals of healthy people [1].

* <http://www.higher-ed.org/AEQ/mo2283fe04.htm> (26/12/2006)

Further, health information literacy is the set of abilities needed to recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyze, understand, and use the information to make good health decisions [2]. The acquisition and assessment of information with scientific facts to execute knowledge based strategies leading to healthy lifestyle. The health informatics is a discipline that applies information technology to public health science.

4. Quality of health information

In today's information society, acquiring a vast of information is relatively easy. Information literacy, a new economy skills set and a solution to information overload. The problem confronting researchers' lies in sifting through, evaluation and interpretation of this mass of information in terms of reliability, validity and relevance. Information labeled or packaged as health information is not valid reliable or relevant information; the principles of information literacy must be considered and applied. Information is power; health information is much more power. There has always been a knowledge gap between health professionals and their patients. The health information literacy will only change the long established patterns of relationship between the health professionals and the consumers. Information literacy implies conscious and systematic attention in developing the capacity to effectively define an information need, use research tools and process to identify and locate such information, assess it, learn from it, and communicate an analysis and synthesis of information in response to that need [3].

5. Online health resources

Nowadays the information superhighway plays a vital role to provide a variety of information on health. Unexpectedly either the practitioners or

the researchers could not find time to trace out the relevant sources. They may have to spend more time on getting information on the net might be with duplication of efforts. Here the librarians' role is unavoidable. Librarian is the information literacy teacher for their real efforts to be made successful. The long standing role of librarians is in teaching the effective use of libraries and information resources, particularly e-resources. Sharing of this responsibility must include a commitment to participate in the delivery of reliable, relevant and valid health information.

5.1 Impact of Information Technology

According to the World Health Organization "Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity"[4]. The digital divide is the result of the health information era. Computer literacy is increasingly viewed as an enabling skill. The information literacy and computer literacy are interrelated. Both involve critical thinking, although acquiring computer literacy involves skills in knowledge and understanding of how to use hardware and software. There is a significant relationship between the information literacy and information technology, particularly in relation to health information. Access to information technology today influences access to health information for all potential user groups ranging from health professional to patients. Health science librarians were among the first to provide database search workshops to clinicians, researchers and students in health profession. When discussing the delivery of health information is not only important to consider to whom the information is delivered but also the appropriateness of its content and format. Librarians have to move out of the library into classrooms, labs and clinics those are almost networked now digitally ofcourse increasingly with wireless. Health information continues to lead the way in digital availability and accessibility. Because of the proliferation of health information via information technology, information literacy is a very real issue across a variety of user groups from students in health profession to health professionals and even patients.

5.2 Online Open Access Health Resources

Nowadays open sources are getting more popular. For an example PubMed is a database of bibliographic information drawn primarily from the life sciences literature. It is the US National Library of Medicine's database covering the fields of medicine, nursing, dentistry, health care system and veterinary medicine. The file contains over 16 million citations from MEDLINE and other life science journals for biomedical articles dating back to the 1950's [5]. PubMed coverage is international and most records are from English language sources. It is available free of charges on the internet and it is most widely used international database by researchers, clinicians, students and mostly health librarians. The Medline on CD-ROM is available in most of the libraries in developing countries due to cost and infrastructural factors.

Another example is PubMed Central. It is a free digital archive of biomedical and life science journal literature, being developed and managed by National Center for Biotechnology Information in the National Library of Medicine, US. PubMed Central aims to fill the role of a world class library in the digital age. It is not a journal publisher. NLM believes that giving all users free and unrestricted access to the material in PubMed Central is the best way to ensure the durability and utility of the archive as technology changes over time [6]. One more example is BioMed Central. It is an independent publishing house committed to providing immediate open access to peer reviewed biomedical research. All original research articles published by BioMed Central are made freely and permanently accessible online immediately upon publication.

Apart from PubMed Central and BioMed Central the sites like High Wire Press; IndMED (Indian literature); Open Access Journals on Health Sciences; Free Medical Journals; Free Medical e-Books and World Health Organization sites are offering free access to health literatures. Recently more international publishers came forward to provide free full-text access to their published journal literature after some time from the date of publication - after six months, after twelve months etc-. It is the librarians'

smartness to locate, download and provide the maximum reliable information through the digital environment.

5.3 Online access to health information in developing countries

The global health research addresses a small fraction of health priorities of developing countries viz., infant mortality, nutrition and infectious diseases. The health information need for developing countries is different from developed countries. There are differences for even accessing the information between developing nations and developed nations. There are number of difficulties being encountered in using the information technology for delivering information to improve health in developing countries. Some of them are inadequate and unreliable communications infrastructure; uneven local and regional connectivity; lack of access to information technology by health professionals and lack of skills for using information technology.

Even in this information rich age, researchers from developing countries are not able to communicate their research as widely as their colleagues in other developed countries. Even though the Indian contribution in the areas of biomedical research and health care has been significant, a small fraction of the research resources are being indexed in some International Bibliographic databases. The ICMR-NIC Biomedical Information Centre has designed and developed a database named IndMED. This site provides full-text access to biomedical Indian journals' literature as ever like before. This is one-step-ahead in the publishing industry's history in India offering free full-text access to health resources to boost further research. This will remove access barrier for Indian health resources. This would be of much helpful for the health librarians those who are facing cost constraints for their libraries' resource development.

Further, most of the developing nations' publications are not being indexed in the Medline and its equivalents. It has been noticed by the health professionals, researchers etc in African countries. The Association of

Health Information and Libraries in Africa with the technical support of the World Health Organization has produced an international index to African health literature and information sources. The index is called African Index Medicus (AIM). This is another example for regional index for valuable health information.

It has long felt need for access to what has been published on health issues in developing countries and need some kind of solution for addressing this need. Every developing country should come forward to publish any such kind of systems mentioned above, would only be the ideal solution for effective dissemination of health resources in their own countries as well as at a global platform.

5.4 Quest to make search simpler through search engines / Directories

It is not too difficult to get information on the Net. All you need to type the keyword on the search bar on any search engines like Google, Altavista, Indegene, Lycos, etc. The site will do the rest and splash vast information on the screen. The question would be which of the results really the user is looking for. Sometimes this may end up on the first page itself; sometimes it may takes up to tenth page even. On a punch against a keyword, normally the search engines look billions of web pages on the net. Then it shows all the matches it finds; this may run into few lakhs. Even after this the result might not have what is actually looking for. So it is necessarily to know how exactly the information has to be retrieved from the sea of web pages.

Search outfits normally offer three kinds of search facilities: search engines, search directories and metasearch engines. Search engines are simply web robots that sweep their way through the different corners of the internet, gathering information about billions of web pages. These robots does it tag the web pages and store the related information in huge databases. One good example is google.com, which has already indexed

two billion web pages. Secondly, a search directory indexes a web site based on an independent description of a site. Even though the directories are performing many of the functions of a search engines, their indexing format is different. The main difference is that the directories do not spider the site to gather information about it. Instead they rely on a few text entries, typically a site title, domain name and description to determine which keywords describe your site. It determined by a level of visitors and the link popularity / page rank. Simply a directory organizes web sites by subject, and is usually maintained by humans instead of software. There are two ways of sites to be included in a web directory's listings; either the site owner submit the site to the web directory, or the directory's editor will eventually come across the site(s). Some examples for directories are Google Directory, Yahoo Directory and Web World Directory. Thirdly the metasearch engines goes one step further and queries multiple search engines juicing out as much information as possible and combines the result from all. It effects the user is not using one search engines rather a combination of many search engines to optimize web searching; clusty.com; dogpile.com; MetaCrawler are few such examples for metasearch engines.

6. Librarians' role

Information literacy is the ability to use information properly. Information literacy has become an important element in health research. The step-by-step process of achieving information literacy is crucial in an era where knowledge could be disseminated through a variety of media. Librarians have key roles to play in the development of an information literate practitioners, researchers as well as patients beyond the walls and networks. A librarian should know where to find, what is needed, know how to validate the information and its source, and know how to use the information correctly. Health librarians could become more effective to trace out the information literature more precisely and prepared to work in information-rich, problem solving environments. Moreover it determines

the urgency, granularity of details, level of certainty required for an acceptable answer. An information professional is one who:

- recognizes the need for information
- formulate questions based on information needs
- identifies potential information sources
- develop successful search strategies
- accesses sources of information using online technology
- organizes information for practical application
- has critical thinking capacity
- evaluates real requirement of the user needs

A librarian should become a role model for information literate. Motivation to access proper information begins with this role model. The responsibility for helping people become information literate is best shared across a campus. Librarian and researchers can collaborate with the information literacy goals for their institutional research. On the other hand the librarian can share in campus-wide collaborative efforts to develop and achieve health information literacy goals.

Library will have to be recognized as key to successful implementation of resource-based learning and research. Researchers will need skills of their own to facilitate resource based research. They must become health information literate themselves, comfortable with a variety of resources available. Whereas, a library should become a hub of any institution, there the equity of access to resources increases. Equity of access must be guaranteed in all institutions. Increasingly, work and learning are combined, that leads to more flexible arrangements in research. Generally it's a trend towards lifelong learning as like research field; the continuous process of innovating new things by the researchers for the healthy environment. In a knowledge economy researchers need to be refreshing their knowledge on a regular basis. Since they may not find time to search and learn new things published, the librarians have to proactively satisfy their need on information. This will facilitate comfortable research. Computational technology will fulfill all such requirements. Adding

digital portfolios to the ever increasing amount of health information platform leads to better research environment.

7. Conclusion

Health literacy related to the degree to which people to obtain, understand and process basic health information and services and then act on appropriate health decisions. The effective dissemination of public health literacy play an important role in the decision of the general public in seeking preventive health measures and health care services. A policy must be taken at a national level in every country to introduce a system to access the rich information by every citizen either through library facilities or through community services. During human life cycle at the initial stage, parents should accept their responsibility to develop a value for information by reading to children and discussing what has been read. Parents must value information and be able to demonstrate to their children the effective strategies for accessing, evaluating and using information. At the educational institutes level the teachers and the librarians have to become information literate for the students. Further the institute needs information rich environment to fulfill the literacy policy where many resources are available. Sharing of resources between the library and the students and public or consumers will become increasingly important. Rising cost and evolving technologies will automatically call for rethinking of traditional systems. There will always be costs to accessing information but it must be determined at what point the payment will have to be made at what level. In every nation, Government should make a commitment to ensure all research institutions have equal and regular access to health information by assuring adequate e-resources. This only will provide better health environment in the country. The electronic information is not so much a highway as it requires considerable rooting and searching. Searchers will find a key word search and then prompts to continue on; but to save time only if the searcher knows how to make proper use of descriptors. Here the librarian will have to play a smart role to acquire

wealth of required knowledge with valuable time limit. Those who know how to access and provide quality information are likely to be more successful in the competitive professional career.

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Published in the “**National Seminar on Information Literacy and Higher Education**” (published in CD), 29-30 January 2007, Technical Sessions; Session-3, Information Literacy & Libraries paper-3.