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Evidence-based medical librarianship in Iran: an introduction

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Abstract

There are various barriers for physicians to practice Evidence-Based Medicine. Librarians working in hospitals and medical school libraries can cooperate with physicians to facilitate the Evidence-Based Medical Practice (EBMP). Do hospital/medical libraries enjoy subject specialist librarians? What are the problems of librarians to support physicians in EBMP in developing countries? This study aims at finding the state-of-the-art of subject specialist librarians among clinical/Medical libraries of Iran focusing on the Evidence Based Medical Practice (EBMP).

Keywords

Subject specialist librarians; Subject librarians; Evidence-Based Medical Practice (EBMP); Informationist; Iran

Introduction and Background

Specialization is an approach to overcome the ambiguous problems and endless questions that human societies and professions encounter. However working together within an interdisciplinary and interconnected concept is indispensable approach for today's sophisticated information era, considering the very changing nature of information. Increased growth in the availability and variety of information and information resources regardless of shape, space and time, on the one hand, and a variety of information needs of consumers, on the other hand, require subject specialization in any fields and subfields. Especially health care setting with evidence based approaches like *Evidence Based Medicine (EBM)*, *Information Therapy (Ix)*, *Health Consumer Information (HCI)* need subject specialists in library and information services. A subject specialist librarian can facilitate availability of evidence and information available through systematically reviewed databases, literatures, journals, wikis, blogs, and other unconventional sources of information at the right time.

There are many barriers for physicians to practice evidence-based medicine. Librarians can play a vital role supporting evidence-based medical practice through searching, organizing, evaluating, reviewing and offering evidence to physicians at the moment of care.

Previous researches conducted in Iran ([Zarea, 2006](#)) and India ([Zarea & Mohan, 2008](#)) to find out the physicians attitude towards EBMP, their knowledge and perception about sources of evidence, and the methods that they apply to appraise evidence showed that physicians have little knowledge of reliable sources of evidence and systematic reviews in both countries. Physicians stated that they are familiar with EBM and they apply evidence in their practical

decision making but their answers to the questions about sources and methods of appraising showed that they have little practical experience about EBM due to lack of EBM knowledge, lack of familiarity with reliable sources of evidence and review such as Cochrane database, lack of ability to find best current evidence from huge amount of literatures, lack of time to search, appraise and apply evidence in their daily practice. The inferences of the studies indicated that there is a crucial need to support EBMP through library service to overcome the above mentioned barriers and problems. In the recommendation of the later article ([Zarea & Mohan, 2008](#)) it was suggested "Every hospital library should be provided with Evidence-Based Medical Librarians (EBML) who have been trained in medical library and information science and medical terminology with particular emphasis on EBM. Any department in a hospital may have its own special Evidence-Based Medical Librarians (EBML). EBMLs should participate in the practice of going on rounds and noting patients' problems in order to provide physicians with specific and qualified evidence. EBMLs should have the authority to access patients' electronic medical records (EMR) in order to be able to search for right and relevant evidence" at right time.

The results of the above mentioned studies sparked the author's curiosity to find out whether the librarians working in Iranian clinical/medical libraries are trained and equipped to support the physicians by serving as subject matter experts in Evidence-Based Medical practice.

The concept of subject librarian in the context of health science is not new in medical librarianship. The concept has already been developed and identified by Lamb in 1971 in the medical librarian framework ([Lamb, 1982](#)). However, the need for specialization and sub-specialization in the medical science and practice especially considering new approaches like evidence-based medicine and information therapy the need for subject librarianship is more important than ever.

"Subject librarians are typically information professionals with an expertise or focus in a specified area of study, and have an advanced degree in addition to their degree in Library and Information Studies or equivalent" ([Chavez, 2008](#)). In the sense of evidence-based medicine a subject librarian is information professional who has been trained in medical terminology in the specific field of medicine, biostatistics, and research methodologies applicable in health/medicine, review of the literature in international languages as well as local/national language, in addition to the medical library and Information Science degree or equivalent.

It is obvious that librarians as information professionals play a unique role in gathering, organizing, and coordinating access to the best available evidence, information sources for the health providers, physicians, and patients to help a right decision making processes and EBMP ([Marshall, 1992](#); [Veenstra, 1992](#); [Giuse, et al., 1998](#); [Giuse, 1997](#); [Murphy, 2000](#); [Beverley, Booth & Bath, 2003](#); [Bexon & Falzon, 2003](#)). There are clinical settings today in which nurses, pharmacists, or librarians provide specialized information services to a clinical team ([Giuse et al., 1998](#)).

In the traditional library environment searching for information is limited to the reference desk and library materials such as journals, books, and ultimately databases. But in today's library and information services' sense, the space of libraries have been extended beyond the library walls and space to the virtual environment to meet the community's specific requirements in the moment of need. Nowadays, availability of information is not limited to the libraries' holdings. Information at any level of understanding and any format is available for professionals as well as consumers. There may be equal opportunities for health professionals, health consumers, and health information professionals to access information through the Internet. But, the fact is that regarding the variety and frequency of information through literatures do physicians or consumers have technical ability and skills to access the health information through the Internet? Do they have same ability to find, locate, assess and use information? Do they have time and necessary background to know the best available and reliable information along with a lot of misinformation in the moment of care? The proliferation and variety of information is so far that a physician may not be able to review even the title of the literature published daily in specific field. Time pressure and need for evidence to make a right decision at the moment in

care may lead them to choose the fastest and easiest way of information seeking, e.g. consulting with colleagues and senior pathophysiologists. But relying on the personal memory and knowledge in the patient-centered medicine is risky, while the up-to-date information is available through literature, in both primary and secondary publications.

The curriculum and profession of library and information science has already developed to provide the information need of the societies and have proved its impact in health science area. [Deshpande & colleagues](#) (2003) naming the above mentioned approach an outdated model of the seeking behavior imply that "In a traditional ward round, clinicians draw on the experiences and knowledge of pathophysiologists to make decisions about investigations, diagnosis and treatment of patients. The evidence-supported ward round works in conjunction with this process, prompting members of the clinical team to modify decision making in the light of current valid evidence". [Davidoff & Flofrance](#) (2000) pointing out the barriers and limitation of searching evidence and information directly by physician states that "We believe it's time to face up to the fact that physicians cannot, and should not, try to do all or even most medical information retrieval themselves", proposed the new role for clinical librarians in the concept of "informationist" who must learn the practical, working skills of retrieving, synthesizing, and presenting medical information and should have the skills of functioning in a clinical care team. The new concept "informationist", coined by Medical Specialist rather than library science specialists, created new waves in library literatures in a way that Medical Library Association (MLA) endorsed the concept by holding a two days conference and taskforce on "exploring the informationist concept with health sciences librarians, physicians, nurses, pharmacists, educators, accrediting agents, and health care administrators" in 2001 ([Shipman](#), 2007). Then in 2002 they worked on the informationist concept more seriously by holding conference, task force and an open forum with [Davidoff & Florance](#) to explore and define the training needs, training sources, funding implications, credentialing requirements, employment potentials, and publicity and promotion requirement. As the consequence of conferences and discussions the MLA Board of Directors proposed a name change for the new health professional to reflect a more universal health sciences practice context. The new name for the professional was "Information Specialist in Context (ISIC)" to reflect practice environments in nonclinical as well as clinical settings: educational centers, research laboratories, pharmaceutical companies, public health agencies as well as consumer health resource centers. The new ISIC name emphasizes that work is accomplished within a specialized environment or context. Although the concept subject librarian, created and recreated to emphasize the importance of the specialist librarian/subject librarian, it is not clear that what is the practical reaction of clinical/medical libraries at least in developing countries. Therefore the study carried out with the following objectives:

1. How many subject specialists are working in the clinical/medical libraries in Iran?
2. Are Librarians working in the clinical/medical libraries have trained in special services such as evidence-based medical library practice?
3. Is there need for description or employment of subject specialist librarians in the clinical/medical libraries?

Methodology

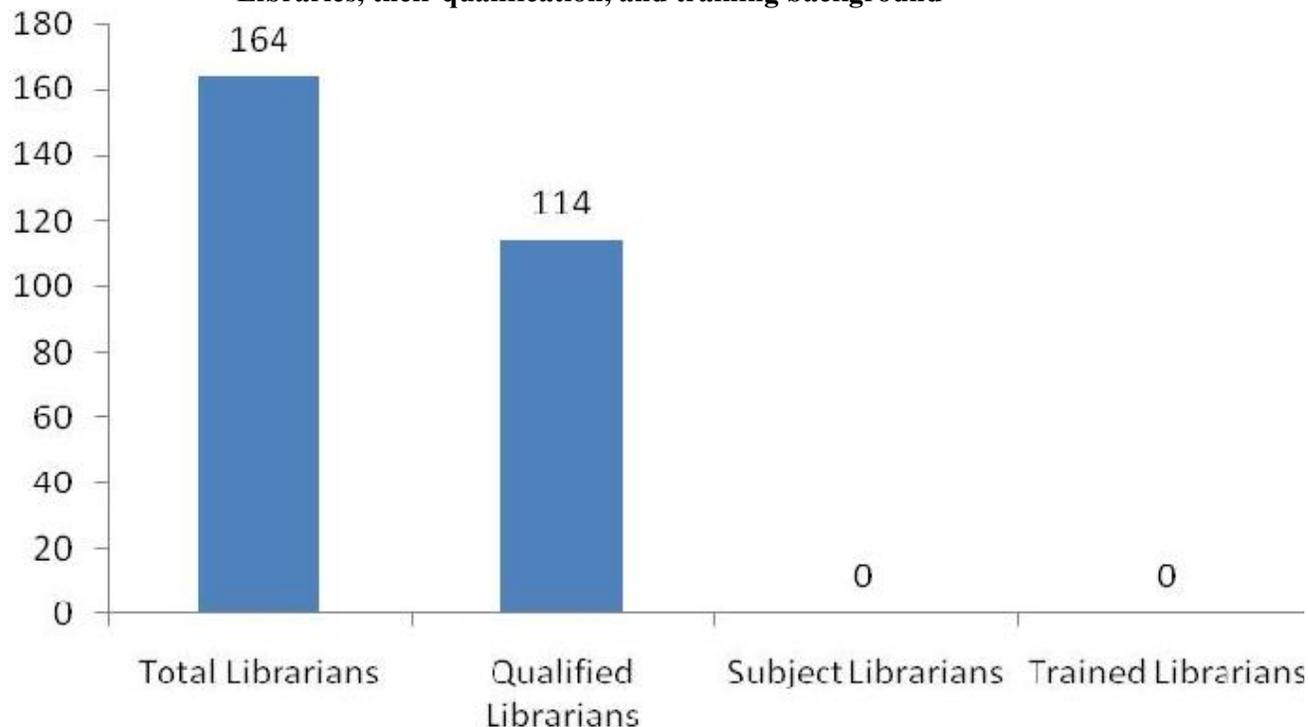
A survey study was carried out to find out whether clinical/medical libraries are equipped with subject specialist and trained librarians to support EBM program. The questionnaire tool was used to gather data from the libraries in Iran. The questionnaire administrated to 70 medical and nursing school libraries and hospital libraries as well, 43 responses were returned. Data analyses were done using MS Excel.

Findings

To find out state-of-the-art of libraries and qualification of librarians in specific information needs such as EBM, a question posed on how many librarians are working in the library, and how many of them are qualified?

According to responses gathered from total number of 164 librarians working in 43 libraries, 69.55% (114 librarians) are qualified by medical library and information science degree or equivalent (Figure 1). Only 4.6% (two Libraries) stated that they do not have qualified librarian in the library.

Figure 1. Total number of librarians and subject librarians working in Clinical medical Libraries, their qualification, and training background

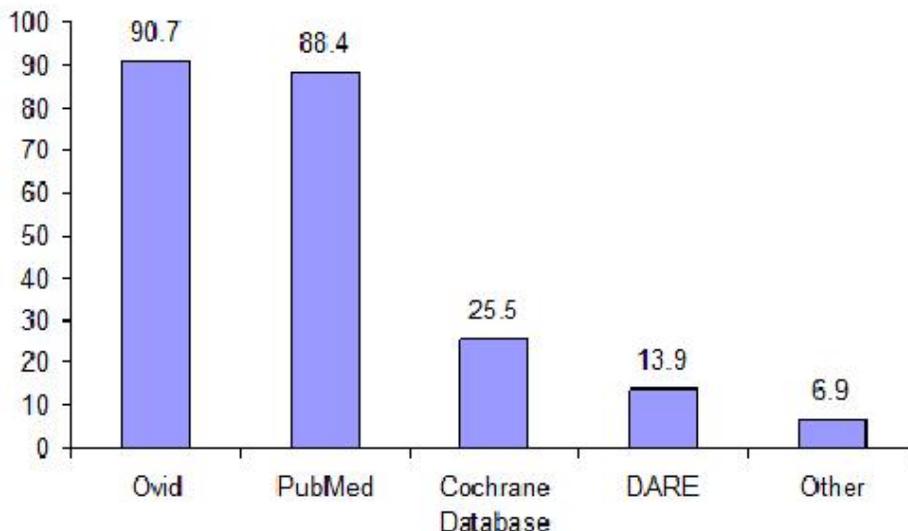


However, findings (figure 1) showed that libraries have no subject librarian and librarians working in the library have not trained to support specific information service such as Evidence-Based Medical practice.

They were asked do they have specific services to support EBM? Of respondents 41.8% stated that they have specific services to support EBM. However just 4.6% referred to specific service such as training programs about searching information/evidence from special sources of evidence and using PubMed and electronic journals web sites.

To find out the expertise/familiarity of librarians with the concept of EBM they were asked whether they know how to review or appraise literature to find current best evidence? Of respondents only 2.3% stated that they know how to review and appraise the literature for best evidence, in contrast 97.7% said that they do not know how to review and appraise literature in the context of EBM. About information resources used by librarians to find the best available evidences they were asked which resources they use to find best current evidence from literatures? of respondents 90.7% referred to Ovid, 88.4% to PubMed, 25.5% to Cochrane database, 13.9% to DARE, 6.9% to other sources like ACP journal as sources of best available evidence Scopus, e-journals websites like Elsevier Science Direct, etc.

Figure 2. Sources of evidence used by librarians



According to the data presented in the figure 2, librarians have knowledge about the sources of evidence, however they prefer to use Ovid and PubMed to find best available evidence rather than systematically reviewed databases such as Cochrane database, or DARE (Ovid's EBM reviews) (Figure 2).

To find out librarians technical opinion on the need for subject librarians in the context of health and medical science as well as need for Training programs for librarians working in clinical/medical libraries to support specific programs and keep tune with changes in field of medicine they were asked whether they agree "subject librarian" is necessary to support information needs of specific field and specific programs? (Table 1). Majority of librarians agreed that Subject Specialist Librarian is necessary need in clinical/medical libraries to offer special services like EBM. Of respondents 79.1 % stated that they cooperate with physician in practice of EBM. The majority of respondents (97.6%) agreed that they have problem in offering new/specific services and it is essential to train the librarians about specific services (95.3%).

Table 1. Librarian's reaction about EBM and their technical opinion

| Librarians opinion | Frequency | Percentage |
|--|-----------|------------|
| Co-operation with physicians in EBM | 34 | 79.1 |
| Need for training | 41 | 95.3 |
| Facing problem offering specific service | 42 | 97.7 |
| Need for subject librarian in the context of EBM | 42 | 97.7 |

To find out the likely problems that librarians face in offering specific services regarding EBM information service, they were asked to identify the likely problems if they have any in offering new/especial services like EBM? (Table 2).

Table 2. Problems librarians face in offering EBM and specific services

| Problems | Frequency | Percentage |
|--------------------------------|-----------|------------|
| Lack of organizational support | 42 | 97.6 |
| Lack of trained staff | 38 | 88.3 |
| Lack of time | 58 | 58.1 |
| Lack of resources | 16 | 37.2 |

The majority of librarians (97.6%) complained about the lack of organizational support for offering special services, 88.3% referred to lack of trained staff, and 58.1% to lack of time, finally 37.2% referred to lack of resources.

Conclusion

The study concludes that Clinical/medical Libraries needs subject specialist librarian trained in specific fields of the medicine to support new approaches and information needs of the field, especially it is indispensable need for Evidence-Based Medicine. Librarians have a good knowledge about sources of evidence but they do not enjoy organizational support and sufficient trained staff to support EBM. Consequently they face problems to better support the specific programs and needs of the medicine. They do not enjoy appropriate and necessary training program in the concept of EBM and they do not know how to review and appraise literature for best available reviews. While studies show that physicians have problem in finding best evidence due to various barriers such as lack of time, lack of training programs, the need for subject librarian who knows the resources, has skilled in reviewing and appraising literature and is familiar with concepts and needs of specific fields of medicine is essential for today's clinical / medical libraries.

Offering especial information service, considering its importance in patient safety is controversial without any training program and without having adequate and qualified staff. It is well known that librarians have unique skills and abilities in finding and organizing information. Many studies pointed out that organizations that are integrating information professionals into strategic planning initiatives recognize their necessity in gaining a competitive advantage in the information and knowledge age ([Florance, Giuse, & Ketchell, 2002](#)). In addition, a study conducted by SLA found that 85 percent of the companies ranked in the top 100 on the Fortune 500 list employed information professionals, compared to less than fifty percent of the companies ranked in the bottom 100.

It is concluded that the description of the subject specialist librarian in any field of medicine is necessary to encourage developing subject librarians in clinical/medical libraries. It is also suggested developing workshops and training programs for librarians in any new approaches in medicine such as EBM to facilitate a harmonized growth in medical sciences and medical library and information science.

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