Investigating factors affecting the provision of information resources services in the central libraries of medical sciences universities: voices from Iran libraries of medical sciences

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Abstract

Purpose: The libraries of medical sciences universities have much more diverse goals and services beyond public imagination, so providing services related to information resources is one of the most important challenges facing these organizations.

Methodology: The present study is applied research based on its purpose and descriptive-analytical in type of method. The study used the semi-structured interview method to obtain the factors affecting the provision of health information resources services. Sampling was conducted based on a purposeful method and experts' viewpoints. The sampling was based on the fuzzy Delphi technique which aimed to provide a solution for the issues. A researcher-made questionnaire was used to check the factors obtained from 62 central libraries of medical sciences.

Findings: In general, 6 types of services including tools for exploring the online book registration network, selection tools, interlibrary loan, free educational tools, additional book publishing tests and content evaluation determined as health information resource services in specific central libraries and 8 factors of providing services specialized bibliographic review by librarians, services in the form of consultation to users, dissemination and provision of selective information services on Persian and Latin sources, overcoming the weaknesses of librarians without library education, increasing the diversity of medical science library services, using new technologies to compensate for deficiencies and lack of resources, improving the social function of the library as a social institution and various electronic services such as databases and digital resources were identified as the factors influencing the provision of health information resources.

Conclusion: Various factors may affect the provision of health information resources services in universities of medical sciences, the most important factors include improving the social functions of libraries.

Keywords: information resource management, health information resources, library, university, medical sciences

Introduction

Libraries are one of the most important pillars of human society that provide people with the service regardless of race, gender, social class, age, ethnicity, and religion. Those services, which are provided using public funds, promote awareness and people are educated (Suharso, 2018). By providing those services, libraries can play a significant role in promoting the culture, social, political, and economic development of society (Kamali, 2019).

Employment of library and information resources and services has always been a challenging issue since libraries changed from cultural postures to knowledge acquisition along with information communication centers. Regarding those developments librarians held the idea of educating the library user in finding and tracking information they need on their daily activities. The earliest evidence of library user education was reported at Harvard College in the 1820s (Tiefel, 1995). These early librarians were professors with part-time library appointments who educated students on the academic purposes of libraries. The practice gained acceptance and in the late 1800s, separate courses were reported at the university of Michigan, Azarian Root at Oberlin College and others. In America, Lubans (1974) reported a number of cases where a variety of methods were used to train library users. Library instruction in academic libraries is one of the methods used to highlight information literacy.

Globally, Libraries and librarians have the opportunity to provide dignity for individuals and form relationships that will make the library an important part of their lives, both publically and academically. It is worth noting that theoretically a better planning model and a more strategic communication and discourse, along with library organizations' commitment to eradicating barriers to inclusivity, are an essential part of building an enthusiastic working culture as well as raising awareness, thus offering support mechanisms in order to reach all members of our diverse communities. While the diversity of both patrons and library staff should be reflected in the diversity of libraries' solutions, nevertheless the following success elements are evident in more inclusive library service (Racelis, 2018).

The services granted by the university library would comprise borrowing library resources, creating a suitable environment for studying, providing an opportunity to access theses, using databases, reference questions, accessing the Internet, and participating in related programs and workshops of the library(Harley et al,2001). The most important goal those libraries follow is to provide services and various information resources in the form of different media to meet the needs of the public in equal conditions (Fernández et al, 2018). However, what should be considered in the provision of information resource services would be the extent of libraries' success in providing services toward the collection of resources and providing access to information, the second stage the implementation extent of those services should be tracked on par with the needs of the clients. Considering this important point results in members' return and encouragement in using resources and services (Farhadpoor& Hourizadeh, 2021).

The study was based on such objectives as establishing students' awareness of the library and information resources which affects utilization of library services and resources, determining the students' level of acquaintances with the library and information resources' organization, and how it affects utilization of library services and resources, and determining the extent with which information communication technology (ICT) facilities affects utilization of library services and resources; therefore, necessity is highly felt those objectives are met for better promotion of the work done in this field. Thus, the present study attempts to respond to the question concerning how the provision of information resources and services of the central medical University library can be optimized.

Literature Review

The library in a community provides a unique service that should be accessible to everyone. The primary purpose of a public or community library is to further democracy, equality and social justice, unlimited access to information, cultural trends, and public knowledge contribute to a meaningful and informative process. Generally, numerous factors are involved in providing library services out of which the most important ones include technical resources, human resources, researchers' perceptions of the library; leadership support, and communication, coordination, and collaboration.

A study conducted in the libraries of Tehran University based on the perspective of international students showed that the provision of library services was limited to the delivery of textbooks, the resources and services of the library do not meet the expectations of students, and the library only served as both comfortable and quiet place to study (Hariri et al, 2013).

It is worth noting that embodied libraries of university systems, potentially provide appropriate facilities which not only increase students' learning power indirectly but basically lead students towards creativity and innovation (Isfandyari-Moghaddam et al, 2013). Librarians feel that they provide students with proper services and sufficiently recognize their needs, while they sometimes provide poor quality services with untrusted resources (Mohindra & Kumar, 2015). In a study on the services provided by Ferdowsi University of Mashhad libraries, it was found that users' satisfaction in connection with visual and audio sources was lower than the average. While the librarians considered the services of the university libraries to meet the needs of the students, there was still a significant difference between the knowledge of librarians and international students (Barghi Torghebeh et al, 2020).

Alongside the remarkable advances made in different fields of medical sciences, the amount of specialized medical information has increased. Therefore, the emergence of centers for the collection and dissemination of medical information in medical universities has become a necessity. These centers are known as central medical libraries (Saberi, Jahangiri & Pazooki 2020). Medical libraries help universities and hospitals in proceeding with their ultimate mission, which is to provide clients with the best possible information and services. (Bradley, 2008). In the first half of the twentieth century, the existence of medical libraries was restricted to some bookshelves, but after the Second World War, libraries developed dramatically and their necessity for academic activities was taken into account (Holst, 1991). In recent

years, the rapid growth of basic science and clinical medicine has underlined that it would be way important for both academics and practitioners working in hospitals to obtain information concerning medical advances that seemingly happen almost daily. Rapidly increasing medical advances were a major reason for building libraries in universities and medical centers because the personal collections of medical personnel no longer met information needs .Today, medical libraries also play a crucial role in educating doctors; medical decisions are not based solely on a doctor's prior knowledge; rather it is necessary for physicians to refer to the medical literature .In general, medical libraries play a dynamic role in shaping the health culture of today's society and toward a better future (Saberi, Jahangiri & Pazooki, 2020). Considering the importance of standards and their impact on creativity, efficiency, and productivity, medical libraries can improve efficiency and effectiveness in providing services to physicians, students, medical staff, hospital workers, and patients (Yaminifirooz & Noshinfard, 2013).

The findings of a study suggested that as many as 9 main risks could challenge service provision in medical science libraries, they include the existential value of the library, collecting stuff, information technology, issues related to human resources, laws and regulations, management, financial issues, evaluation and access to information(Rahmani, 2019). Moreover, students use libraries only as a resort to study since they may not be able to interact properly with the academic librarians in receiving their services due to various reasons, such as depression, anxiety and loneliness.

The issue of providing services concerning information resources is one of the most important challenges libraries of medical sciences universities face since they have much more diverse goals and services to grant. Libraries do not seem to function properly in all aspects of providing information resources services, so this study was conducted with the aim of investigating the factors affecting the provision of health information resources services in the central libraries of medical sciences universities. Based on the literature the analysis goes through the fact that health managers and policymakers can plan and decide on the best alternatives for the provision of more effective information resource services in the libraries of medical sciences universities as well as obtaining better consequences relying on their tasks.

Method

This mixed-method study was carried out in 2021 within two phases. The first phase employed a semi-structured interview to identify the factors affecting the provision of information resource services in the libraries of medical sciences, and the second phase used a classic Delphi technique to provide solutions.

Phase one

This phase comprised 10 individuals who participated in a semi-structured interview. The sampling method was purposeful and continued up to the complete obtaining of information. The criteria for selecting experts were university professors and managers who had familiarity with the services and functions of university libraries, as well as specialists who were proficient in the research topic with an experience in the related field. The interview was conducted in a semi-structured way since it was not possible to have a face-to-face interview with all the experts. To analyze the obtained findings, initially, the information from the semi-structured interviews was carefully examined, and tabulated; concepts for this study were initiated through the meaningful ordering of sentences in different lines.

At this stage, the collected data through interviews were reviewed several times, its different aspects were examined and the hidden concepts in the collected data were recovered. According to the content, these concepts were coded in conceptual categories representing an independent

concept; they include such items as Open code (according to the information obtained from the interviews with experts, 6 types of health information resource services were extracted from it), Verbal statement (interpretation of what the experts represented about health information resource services), Interviewees code (to each interviewee was assigned a certain code from I1 to I10).

Phase two

The second phase where the classic Delphi technique was used included the experts who participated in a virtual panel, they reached a consensus through negotiation the brainstorming technique and identified 8 alternatives as solutions to the challenges of providing health information resources services where they subsequently formed a questionnaire. The validity and reliability of this questionnaire were confirmed based on the opinions of three members of the scientific faculty of information science and epistemology. Sampling was conducted based on the census method. The study population consisted of 62 managers of the central libraries of the medical sciences universities of Iran. The questionnaire containing demographic information was sent to the participants through e-mail.

Also, an email containing a reminder message was re-sent after 10 days to those who did not respond to the questionnaire. The average of the collected questionnaires was calculated using the fuzzy method, the results were included in the second questionnaire and sent to the participants again, and the average of the responses was calculated using the fuzzy method. In this study, based on the opinion of experts, a critical score of 50 was considered as selection criteria, in other words, items that scored less than 50 were excluded at the end of the study.

Findings

Based on the texts taken from the interviewees and their qualitative analysis, the main concepts were extracted and coded in conceptual categories that actually represent an independent concept (Table 1).

Based on the findings of this study, the services of health information resources in the central libraries of medical sciences universities were categorized into 6 main groups including tools for exploring the online book registration network, selection tools, interlibrary borrowing, free educational tools, additional publishing tests, and content evaluation.

Table 1. Health information resource services in central libraries of medical sciences universities

Axial code Open code		Verbal statement	Interview code	
	Tools for exploring the online book registration network	Programs employed to automatically explore resources on the Internet	I4, I5, I8, I10	
Health information	Selection tools	Tools employed to access information properly	I6, I7	
services	Interlibrary borrowing	Shared online system allowing inter-library loan of resources in libraries	I3, I5, I6	
	Free educational tools	Optical discs, guides, and indexes used by librarians and library users	I ₆ , I ₇ , I ₈ , I ₁₀	
	Educational book publishing tests	The technique of testing additional book publishing, providing an opportunity for libraries to evaluate a new resource	I ₈ , I ₄	
	Content evaluation	Evaluating the content of books deciding on whether or not to buy resources for libraries	I ₁ , I ₂	

In the second phase, the fuzzy Delphi method was used to determine and finalize the factors affecting the services of health information resources of central libraries of medical sciences, following which 8 main factors were identified as the most effective and after the fuzzy average obtained and de-fuzzified based on the opinion of experts. The services of health information resources in these libraries included the provision of specialized bibliographic review services by librarians with 58% de-fuzzification mean, consulting services to clients 51%, dissemination and provision of selective information services on Persian and Latin sources 73%, overcoming the weakness of uneducated librarians Librarianship 54%, increasing the variety of services of medical science libraries 66%, using new technologies to compensate for deficiencies and lack of resources 71%, improving the social function of libraries 78% and types of electronic services such as databases and digital resources with 63% mean. Among all these factors, improving the social functions of libraries was recognized as the most important factor in providing services of health information resources in the central libraries of medical sciences (Table 2).

Table2. Factors affecting the provision of health information resources services in central libraries of medical sciences universities

No	Suggestions	Phase 1		Phase 2		The
	55	Fuzzy mean	Post-defuzzification mean	Fuzzy mean	Post-defuzzification mean	difference between phase 1 and 2
1	specialized bibliographic review by librarians	(0.32, 0.57,0.86)	0.58	(0.39, 0.64,0.39)	0.64	0.06
2	Consultation services to the users	(0.33, 0.50, 0.70)	0.51	(0.08,0.25, 0.50)	0.28	-0.23
3	dissemination and provision of selective information services on Persian and Latin sources	(0.52, 0.75, 0.52)	0.73	(0.66, 0.91, 0.98)	0.88	0.15
4	overcoming the weaknesses of librarians without library education	(0.33, 0.54, 0.75)	0.54	(0.17, 0.38, 0.63)	0.39	-0.15
5	increasing the diversity of medical science library services	(0.53, 0.75, 0.90)	0.66	(0.38, 0.63, 0.87)	0.63	0.02
6	using new technologies to compensate for deficiencies and lack of resources	(0.35, 0.60, 0.59)	0.71	(0.54, 0.79, 0.98)	0.78	0.08
7	improving the social function of the library institution	(0.44, 0.69, 0.84)	0.78	(0.53, 0.78, 0.94)	0.74	0.09
8	various electronic services such as databases and digital resources	(0.36, 0.61, 0.82)	0.63	(0.46, 0.71, 0.90)	0.69	0.02

Discussion

The present study indicated that the library and information services as well as accessible resources through medical central libraries are underutilized, especially electronic resources which are highlighted among them. The study findings show that e-books, and e-journals- remain largely underutilized. This is a major concern to the University administration in general and the library administration in particular. The university has invested extensively in resources- human, financial, and machinery to develop an integrated library and information services of global standards. Continued underutilization of e-resources amounts to a waste of effort. The main reasons attributed to the underutilization of these resources are students' lack of library and information skills, collectively referred to as information literacy. For optimum utilization of academic library information services and resources, University administrators, coordinators, and librarians among other stakeholders should ensure that the users are empowered with information literacy skills of the highest order by developing user education programmes appropriate for their environment. The eight factors identified by the study as being influential in the provision of information resources services in Iranian central libraries of medical sciences universities (Loftin, 1983). Individuals have to attain competency with the lower level to be motivated to pursue the higher one.

Efficient and effective utilization of electronic information environment demand that users develop skills in employing advanced search strategies. Knowledge of the information environment will enable users to focus on the best information source to approach for the impending need whereas, knowledge of ICT will enhance the quality of their work by sharing and exchanging information directly and through electronic media. Libraries without elaborate user education programme are overwhelmed by users' too much reliance on library staff for assistance to find needed information accessible through different sources of integrated library services. The designing of a library user education programme that incorporates all the stakeholders, can assure optimal utilization of the wide range of information resources available through the library and information services. Faced with the challenge of offering quality education and training embodied in the aspiration of medical students, faculty members, and medical staff as useful members of society, universities should ensure those members have interacted with an adequate content of information and knowledge in their domain through appropriate educational information programmes.

The present study was conducted with the aim of investigating the factors affecting the provision of health information resources services in the central libraries of Iranian medical sciences universities. This study identified, 6 factors as the main counts of health information resources services along with 8 main factors affecting the provision of those services. The first effective factor was the provision of specialized bibliographic review services by librarians. Najafqolinejad and his colleagues conducted a study aimed at improving the service to the national library's clients, drawing on the results obtained from 50 librarians and clients that participated in two brainstorming sessions, the study found that creating brochures and guides, simplifying processes, lack of reliance on Librarians help, and user training are the most important factors in improving the provision of library services (Najafqolinejad et al, 2020).

The present study is consistent with the fact that Librarians must provide not only information but also solutions and alternatives concerning information challenges. This way, the library can make its users aware of its facilities and capabilities in order to provide consulting services and guiding users, especially in the face of difficult searches. This study identified consulting services to users as the second most effective factor in providing information resources services. According to the consensus of Chinese students in the United States, four factors of human resource improvement, development of reference resources, development and editing of library guides, and preparation of brochures can be effective in the development of providing services (Shao et al, 2013).

The present research is in vein with the assertion that the need to strategies and initiate competitive intelligence systems as a vital tool or source for health information services by medical librarians due to the increasing information needs of the health care services(Zakari & Nongo, 2016). Given that libraries play an important role in providing services to the users of organizations and specialized centers, the need to identify the types of services provided by those libraries is felt more than ever. The findings of this study are in line with O'Neill and Gil Foyle's(2015) in terms of the distribution and provision of selective information services of Persian and Latin sources as an effective alternative in providing services from health information source; they suggested using common terms so that they can be easily understood by the clients and avoiding the specialized librarian terms in all different contexts or in the conversation between the librarian and the client are other facilitating factors in providing services(O'Neill & Gullfoyle, 2015).

The findings of the present study are also consistent with results obtained by Mikas et al (2015) where it was suggested that librarians who have master's degrees in librarianship are familiar with the principles and techniques of this profession, they have knowledge of different parts of the library, they are acquainted with online references and information centers possessing more privileged knowledge to provide services and consequently to provide professional services they are more skilled than other individuals educated in other fields. Of course, attending various training courses planned by their organization, librarians who have studied in other fields can eliminate some of the existing weaknesses and shortcomings which have led to the gaps with other librarians (Gerolimos et al, 2015).

In general, speed, memory, and very high accuracy in providing, accumulating, and retrieving information with the help of computers and saving the human workforce count as justifying reasons for the libraries and information centers to use new technologies. The study conducted by Zakian and Ghaffari(2019) on the medical sciences libraries of Shahid Beheshti University shows that there is not a balance in the distribution of resource services hence using Information technology as an alternative to solve this challenge, can partially compensate for the lack of other resources(Taghi Zadeh et al, 2020). The results of this research are also consistent with the current study, which finds it desirable to use new technologies in the library to compensate for the deficiencies and lack of resources.

Since library is a social institution and has been created to cater to the needs of society, it can be said that the improvement of the social function of the libraries is considered the most important factor in providing services of health information resources for the central libraries of medical

sciences. This way, the findings of a study suggest that the organizational culture and the characteristics of human resources may influence the type of services provided in university libraries (Ishimura& Bartlett, 2014). The results of the research conducted in this direction, consider the fact that convenient access, a vibe learning environment, and a variety of learning resources as the issues that contribute to the improvement of the provision of library services; those factors cannot be achieved without improving the social performance of libraries (Zakari & Nongo, 2016).

It is worth noting that the distribution and provision of selective services of Persian and Latin information sources, as well as the provision of specialized bibliographic review services in medical science libraries will eliminate the weakness of librarians who lack library education and have not received specialized training in this field. On the other hand, the use of new technologies to compensate for the lack of resources and the use of electronic services such as databases and digital resources in medical science libraries, as well as the provision of consulting services to the users of those libraries may increase the diversity of medical science library services, ultimately those factors will seek to improve the social function of medical science libraries.

Conclusion

Undoubtedly, in today's organizational competitive context, those organizations and institutions can achieve continued existence and growing development which found their activities on the correct and appropriate quality of their services and products with an aim to satisfy customers and users.

The libraries of medical sciences universities are considered a part of the country's higher education system, which are of special importance as providers and distributors of specialized information for the country's medical community. Improving the quality of services of those sensitive scientific centers has a fundamental role in realizing the goals of society in the field of

health and public health. Therefore, those centers should consider solutions to provide better services of information sources. This study identified 8 factors affecting the quality of providing resource services the use of which can increase the productivity of central libraries of medical sciences universities. The organizational attitude towards health information resource services is not only considered as a kind of asset resource in the library but also as a means to manage all kinds of resources, it is used in medical science libraries, hence, from the two aspects of management and resource services they have a special value in central libraries, and this value is not practical unless the effective factors and necessary information are provided to library managers. Since the health information services and resources in the medical sciences libraries are needed by the medical community and the subcategories related to the medical field, therefore, the managers of the central libraries of medical sciences can eliminate the weaknesses and strengthen the motivation to achieve the main goals and optimal training of people related to the health system relying on those factors affecting the better provision of services and expressing the shortcomings to the higher authorities and the ministry.

The findings of this study can help managers and policymakers in the health sector to plan more successfully in providing updated resources and the needs of the user community, which will of course improve the provided services resulting in user satisfaction. The findings of the present study also pave the way for academic courses to think of university syllabus for the advancement of the library science goals, especially in the field of health. The results of this study cannot be generalized to the libraries of other countries due to limitations such as the lack of an integrated communication system between libraries and executive organizations, as well as the difference in Iran's library system from other countries, and the lack of necessary technological infrastructure.

Also, the findings of this study have implications for academic libraries with regard to information-seeking behavior of their users. Specifically, they affect university library instruction programmes, accessibility of resources, information skills of users, and instructional leadership of academic administrators. It is a fact that users over rely on library personnel for help in their learning activities and using information resources. This places librarians in a key position where users and faculty information behavior is concerned. Due to the fact that public libraries are in contact with different groups of people, it is suggested a similar study is conducted in public libraries, and since the results of this research are practical, doing other research in the libraries of various institutions and organizations to improve the level of providing library services is suggested.

Suggestions

The suggestions follow that_

- 1. Accessibility is a key factor that affects users' choices of resources and services. Librarians are required to provide appropriate library skills programmes that are easily accessed within a user-friendly environment.
- 2. Although users have varying abilities and experiences related to finding and using resources, librarians can be providing instruction throughout the workshops at all levels, targeting users who are not familiar with university libraries.
- 3. Librarians need not shoulder the burden of instruction but can work with academic staff to help educate the users regarding the resources available and how to find them.

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