Evaluation of Educational and Professional Information-Seeking Process and its Related Barriers among Nursing Students of Mazandaran University of Medical Sciences

Afshin MousaviChalak [1], Aref Riahi [2, *], Amin Zare [3]

[1] Department of Knowledge and Information Science, Payamenoor University, Tehran, Iran
[2] Department of Knowledge and Information Science, Young Researchers and Elite Club, Science and Research Branch, Islamic Azad University, Tehran, Iran
[3] Department of Knowledge and Information Science, School of Social Science, Razi University, Kermanshah, Iran

*** Corresponding author:** Aref Riahi, Department of Knowledge and Information Science, Young Researchers and Elite Club, Science and Research Branch, Islamic Azad University, Tehran, Iran. Email: Ariahi1986@gmail.com

Abstract

Introduction: Increasing information and recognizing its values in personal and professional life bring challenges and barriers for each person that how people can access to information and it is necessary for them to obtain some special skills in information-seeking process. This study aimed to examine information-seeking methods of nursing students of Mazandaran University of Medical Sciences and to identify their barriers to access to information.

Methods: In this applied and descriptive cross-sectional study., statistical population included all 366 bachelor and master nursing students of Mazandaran University of Medical Sciences (two faculties of nursing in Sari and Behshahr cities). To collect data, a researcher-made questionnaire was used, which had 5 sections including demographic information, motivations of information seeking, resources and channels of obtaining information and also barriers of access to information. The questionnaire distributed among all the students in 2016 and 310 ones, which answered completely, were analyzed. The data were analyzed using descriptive statistics by the SPSS software.

Results: Results showed that the most important motivation of the students to access and search their own information was "performing their homework (educational activities)". The results of this study showed that "Books" and "Journals" with averages of 4.10 and 3.91 and also "general searching engines such as Google, Yahoo, and MSN" were identified as the most important resources and channels to access information. Also, "university equipment problems" were mentioned by the nursing students as the most challenges in their information-seeking process.

Conclusions: This study shows that nursing students need to receive information from the formal and valid channels to increase the quality and quantity of suitable information, related to their personal, educational, and professional life. Planning and making policy by management and masters of Mazandaran University of Medical Sciences can be useful for student access to information by developing banks and channels of information.

INTRODUCTION

In the recent years, an increase of information and finding out its value and importance in personal and professional life of people brings for them the challenge that how to access information and accessing the required information among a mass of available information requires special skills [1]. This means that capability of recognizing, obtaining and using information is necessary for everyone and in the new age that is titled as the information and communication age, all the activities, planning and policy makings are about information and accessing and also using it [2, 3]. Additionally, daily growth and expansion of novel communication and information technologies and their liters such as appearance

of E-books, digital books and more content of this resources in English language format, has doubled the necessity of studying how the people can access information and how to access required information [4] and has appeared a new field in science that is famous as information behavior. Information behavior is one of the most important subjects interesting for researchers for recognizing real needs and problems of individuals in accessing recovering and using information [5]. Specialists, students and generally academic community play a predominant and determinant role in improving scientific, social, health, economic infrastructure of various societies specially developed and industrial countries of the world, attention and recognizing their accessing entry to the required information, accessing, barriers and also problems in front of them in informing and the information-seeking process has a significant importance [6]. Studies of this field indicated that with respect to education and research, which is a necessity and basic application of colleges and today's scientific society, spending time on collecting information and accessing to it is a necessary problem [7] and scholars and researchers and more importantly students who are the most important actors of scientific community of societies and various countries of the world, need to access rapid, sufficient and precise information [8]. In fact, information and using it has always been an important problem and an inseparable part of students in education and research field during education period and they need proper information in the shortest time possible in order to improve their education plans [9]. It should be noted that the growth and spread of World Wide Web has created innumerable opportunities, such that it has affected every academic activity and even daily life of students [10]. Educational activities are significantly becoming web-based and computer-based and performing these activities without using these tools is very hard or even impossible [11]. This means that novel information and communication technologies have led to great changes in obtaining and seeking information [12-14] and have made access to interested information easy but with problems to some extent. Therefore, information needs of students has faced changes and spread proportional to change and expansion of formation of academic community and proper and scientific assessment of these needs and moving in a parallel path to these changes in way of devising proportional policies and precise planning in order to satisfy the wants of the students and recognize challenges in front of them. Students who have informing skills, and have some sufficient and oriented adopting capability of scientific information can optimally and effectively use science and knowledge of the day [15, 16].

Nursing students of this course require new and updated information to complete their course and prepare for their professional and business future and carrying out clinical activities such as detection, treatment and caring of patients. Since the information in medical field is becoming older rapidly, nursing students need to synchronize their knowledge to the latest advances and findings of this course so that they can use the useful and more efficient methods in caring and treatment of patients [17]. In fact, using scientific evidences in nursing profession is increasing daily. Nursing is a profession in which a wide range of information about health and caring for eradicating educational and clinical needs is required [18]. Also, studies indicated that nurses and nursing

students have trouble in the application based on evidences [19]. Their most important problem in use of research evidence is the lack of acquaintance with the way of searching information, determining resources and banks of related information and critical analysis of resources [20]. Therefore, knowing informing behavior of students in this field is significantly important to eradicate barriers and challenges in front of them and contributing to improve access to the required information and it is considered as one of the most important subjects of information behavior filed specially in the health and hygiene field. Therefore, since there has not been any research about informing behavior, information, and channels of information seeking, its goals and motivations, barriers and challenges in front of accessing information and generally informing behavior of students in medical, health and hygiene filed specially in nursing field so far, the aim of the current study was to investigate informing behavior of nursing students of Mazandaran University of Medical Sciences and the challenges and barriers in front of them in the information seeking process.

METHODS

This study was applied and descriptive cross-sectional study. Statistical population included all 366 nursing students (master and bachelor degrees) of Mazandaran University of Medical Sciences (two nursing faculties of Sari and Behshahr) who were selected by census sampling. A research questionnaire was designed for collecting information in relation to informing behavior of the students, which was edited by investigating internal and external studies and researches in relation to informing behavior. The questionnaire was designed in 5 parts and included 39 questions. The first part of the questionnaire included demographic information of the students. In the second part, the objectives and motivations of nursing students in obtaining information were investigated in 9 questions. The third part of the questionnaire was prepared in relation to resources of obtaining information by the students, which had 9 questions. In the fourth part, the channels that the students used to access information were examined in 13 questions and at the end of the questionnaire, the informing barriers among the students were examined by 8 questions. Visual admissibility of the questionnaire was confirmed by experts of scientific information and knowledge, nursing specialists and also scholars in the field of information seeking. Also, the Cronbach's alpha was calculated to confirm the questionnaire and its levels for the four sections of the questionnaire were 0.73, 0.93, 0.85 and 0.77, respectively. The questions were sorted by the Likert scale. Format of a typical five-level Likert scale included 1 (strongly disagree or very low), 2 (disagree or low), 3 (neither agree or medium) 4 (agree or high) and 5 (strongly agree or very high). The questionnaire was distributed among the students in 2016 and 310 questionnaires (84.7%), which were filled out completely, were analyzed. The data were analyzed using descriptive statistics by the SPSS software.

RESULTS

The mean age of the students (age range, 18-37 years) was 21.2. Table 1 shows demographic characteristics of the students.

Table 2 shows the objectives and motivations of students regarding their information-seeking methods. The results of this study showed that the objective of seeking information for most of the students was "performing lesson activities" (educational activities).

Table 3 shows resources and channels of obtaining information by the students. Results showed that students set the higher priority for "lesson books" and professional scientific journals" among information obtaining resources. Also, the results revealed that students set the higher priority for "public search engines" and "mobile phone social Medias" among channels of obtaining information.

Table 1: Demographic Characteristics of the Students

Variable	Redundancy percentage
Acquaintance with internet	
Weak	(4.5%) 14
Mediate	(%38.4) 119
Good	(%57.1) 117
Age, year	
Up to 20 years	(%34.5) 107
to 30 years 21	(%59.7) 185
Higher than 30 years	(%5.8) 18
Job status	
(Working(in a related job	(%12.9) 40
(Working(not related	(%22.9) 71
Not working	(%64.2) 199
gender	
Male	(18.4%) 57
Female	(%81.6) 253
Marital status	
Single	(%76.8) 238
Married	(%23.2) 72
Education degree	
Bachelor	(%89) 276
Masters	(%11) 34
Acquaintance with English language	
Weak	(%7.4) 23
Mediate	(%71.3) 221
Good	(%21.3) 66

Table 2: Objectives and Motivations of Students for Seeking Information

Goal of seeking information	Very low	Low	Mediate	High	Very high	Mean and standard deviation
Keeping information updated	(5.5%) 17	(16.1%) 50	(25.1%) 78	(31%) 96	(22.3%) 69	1.17 ± 3.48
Keeping position in education course	(%7.1) 22	(%13.9) 43	(%24.5) 76	(%24.8) 77	(%29.7) 92	1.09 ± 3.56
Recognizing resources of specialty	(%11) 34	(%11.6) 36	(%39) 121	(%14.8) 46	(%23.5) 73	1.34 ± 3.28
Finding answers for ambiguities and questions about nursing	(%9) 28	(%17.4) 54	(%26.1) 81	(%27.4) 85	(%20) 62	1.21 ± 3.32
Performing research works	(%2.9) 9	(%7.1) 22	(%21.9) 68	(%24.8) 77	(%43.2) 134	1.06 ± 3.98
Editing scientific article (conference/journals	(%17.7) 55	(%30) 93	(%25.5) 79	(%8.4) 26	(%18.4) 57	1.42 ± 2.80
Book editing	(%28.4) 88	(%32.9) 102	(%14.8) 46	(%13.9) 43	(%10) 31	1.02 ± 2.44
Thesis editing	(%7.4) 23	(%4.8) 15	(%23.2) 72	(%35.2) 109	(%29.4) 91	1.10 ± 3.74
Performing lesson activities (educational activities	(%5.2) 16	(%6.8) 21	(%13.2) 41	(%27.7) 86	(%47.1) 146	1.09 ± 4.05

Table 3: Resources and Channels of Obtaining Information by the Students

Resources of obtaining information	Very low	Low	Mediate	High	Very high	Mean and standard deviation
Reference books	18(5.8%)	33(10.6%)	40(12.9%)	130(41.9%)	89(28.7%)	3.77 ± 1.13
Lesson books	5(%1.6)	17(%5.5)	66(%21.3)	75(%24.2)	147(%47.4)	4.10 ± 1.08
Professional scientific journals	9(%2.9)	31(%10)	65(%21)	78(%25.1)	127(%41)	3.91 ± 1.19
Articles of conferences and seminars	45(%14.5)	38(%12.3)	68(%21.9)	103(%33.2)	56(%18.1)	3.28 ± 1.47
Profiles	31(%10)	64(%20.6)	88(%28.4)	79(%25.5)	48(%25.5)	3.16 ± 1.25
Theses	22(%7.1)	31(%10)	65(%21)	67(%21.6)	125(%40.3)	3.78 ± 1.22
Research plan reports	26(%8.4)	52(%16.8)	47(%15.2)	116(%37.4)	69(%22.2)	3.48 ± 1.31
Standards	34(%11)	84(%27.1)	37(%11.9)	95(%30.6)	60(%19.4)	3.20 ± 1.09
Databases such as PubMed	13(%4.2)	28(%9)	76(%24.5)	82(%26.4)	111(%35.8)	3.80 ± 1.11
Public search engines (Google/Yahoo/MSN)	6(%2)	8(%2.6)	17(%5.5)	130(%41.9)	149(%48)	4.31 ± 1.08
E-books and websites	28(9%)	29(9.3%)	68(21.9%)	102(32.9%)	83(26.8%)	3.59 ± 1.21
Free websites and electronic resources	38(%12.3)	43(%13.9)	45(%14.5)	103(%33.2)	81(%26.1)	3.47 ± 1.52
Email	23(%7.4)	30(%9.7)	37(%11.9)	94(%30.3)	126(%40.6)	3.87 ± 1.15
Mobile phone social media	10(%3.2)	13(%4.2)	42(%13.5)	79(%25.5)	166(%53.5)	4.22 ± 1.03
Social Media on the Web	24(%7.7)	38(%12.3)	34(%11)	124(%40)	90(%29)	3.70 ± 1.34
Visual-audio mediums	51(%16.4)	44(%14.2)	70(%22.6)	63(%20.3)	82(%26.5)	3.26 ± 1.29
Attending to internal seminars and congresses	43(%13.9)	32(%10.3)	56(%18.1)	79(%25.5)	100(%32.2)	3.52 ± 1.18
Sharing data bases of the university	27(%8.7)	16(%5.1)	119(%38.4)	101(%32.6)	47(%15.2)	3.40 ± 1.07
Help of scholars	31(%10)	27(%8.7)	99(%31.9)	71(%22.9)	82(%26.5)	3.47 ± 1.49
Help of nurses, doctors etc	9(%2.9)	33(%10.6)	85(%27.4)	86(%27.7)	97(%31.3)	3.74 ± 1.23
Help of friends, classmates etc	50(%16.2)	17(%5.5)	72(%23.2)	104(%33.5)	67(%21.6)	3.39 ± 1.12
Help of librarians (reference librarians)	13(%4.2)	39(%12.6)	35(%11.3)	106(%34.2)	117(%37.7)	3.89 ± 1.02

Table 4: Barriers of Obtaining Information by the Studied Students

Barriers and problems of obtaining information	Very low	Low	Mediate	High	Very high	Mean and standard deviation
Internet and network problems	(6.1%)19	(9.7%)30	(13.2%)41	(26.8%)83	(44.2%)137	1.04 ± 3.93
Accessing limits to the resources	(5.8%)18	(11%)34	(36.8%)114	(21%)65	(25.5%)79	1.07 ± 3.49
Cost and sharing and informing problems	(8.4%)26	(8.7%)27	(31.9%)99	(22.6%)70	(28.4%)88	1.23 ± 3.54
Low level of obtaining information skills	(3.9%)12	(6.4%)20	(15.8%)49	(31.3%)97	(42.6%)132	0.95 ± 4.02
Shortage of number of computers and software problems	(7.1%)22	(16.1%)50	(18.7%)58	(22.9%)71	(35.1%)109	1.17 ± 3.63
Problems of university's facilities	(2.6%)8	(4.8%)15	(22.9%)71	(20%)62	(49.7%)154	0.97 ± 4.09
Limitations of accessing to knowledge databases and daily scientific publications	(11.3%)35	(12.6%)39	(16.8%)52	(40.6%)126	(18.7%)58	1.07 ± 3.43
Lack of dominance to English language	(2.9%)9	(4.2%)13	(27.1%)84	(25.5%)79	(40.3%)125	1.06 ± 3.96

Table 4 shows barriers and challenges of obtaining information from a point of view of nursing students of Mazandaran University of Medical Sciences. The results showed that the students reported "academic facilities problems" as the most important problem and "low level of informing skills" as the least important problem among barriers of obtaining information.

DISCUSSION

Nursing students, as one of the most important student groups of medical sciences require to increase their ability and health level and their information in order to be successful in carrying out personal, educational, and professional duties. This increase of ability depends on successful and proper awareness and also the correct use of information resources and channels. This study aimed to investigate methods that nursing students of Mazandaran University of Medical Sciences used regarding gathering information, their objectives and motivations and also barriers in the way of obtaining information. Results of this study indicated that the nursing students seek information mostly for the goals of "perform-

ing lesson activities (educational activities)", performing research affairs and editing theses respectively. Since the education activities of students are one of the most important duties of students during education period, it should be stated that any type of ignoring in education subject can lead to waste of forces and facilities and causes plans and attempts to fail [21]R. Additionally it should be noted that the main mission of nursing education is to educate capable and apropos nurses who have the necessary knowledge, perspective and skills for maintaining and improving the health level of individuals in the society. Since accessing information has an undeniable role in development of awareness and knowledge of nursing students and their learning with respect to caring, students of this field has to learn how to act successfully in an educational environment and this success requires access of scientific and professional information. Moreover, the results of the related studies indicated that information had a special role in increase of awareness and success of students during their education period. The studies conducted by Najafloo et al. (2015) and Tury et al. (2015) pointed out that affairs related to education and improvements in educational level are the most important reasons of seeking scientific information by students and people of society and these studies are in accordance with the results of the present study [22, 23]. Performing educational activities and editing theses are always the most important concern and activities of students in their student field and period and they consider the researching as one of the most important tools of potential talents of students. This aspect is one of the most important issues that planners and policy makers must pay attention to. Nursing students also as one of the most important scientific and academic courses and an official profession require production of knowledge and science in order to improve. Nursing students require action based on research to use the findings of study in decision making, clinical activities and communication with others [24]. This process is impossible without acing accurate information. Recognizing information needs of nursing students in light of research and study and help them in how access the related information is one of the results of the current study. The students have mentioned the need to information related to researching as goals and motivations of seeking information and scholars and researchers and specialist (specifically librarians) can help them in this field. Studies indicated that research and performing scientific activities is one of the goals and motivations of students in seeking scientific information and this is in accordance with the findings of this study [25]. With respect to goals of students for information seeking, we can infer that all of information and motivations mentioned are in accordance with the general goal that is improving of information and health of students.

Result showed that the Internet as one of the most important entries of information used by the studied nursing students has a highly significant importance. In regard to this issue, we can note that multilateral spread of novel information and communication technologies, especially World Wide Web in the 21th century, had led to increase of information resources such as E-libraries, books and electronic journals, knowledge databases etc. Also, information entries such as E-mail, forums and social media play an important role in gathering information and transforming the way of collecting information from a traditional way to a modern way. Therefore,

Internet plays a significant role in accessing health information and the information required by students and academic society. The results of the Yangar et al. (2010) and Alijan poor et al. (2015) studies indicated that most of the students and even nurses search their required and related information in the Internet and use the Internet as a mean of meeting information needs and these results are in accordance with the current study [26, 27]. The findings of this study indicated that social media such as telegram, and what's up are the most important entries of obtaining scientific information by the nursing students. Mobile phone social media in today's world is one of the most important channels of obtaining information by various people. Increase of pocket PCs and smart phones, caused expansion of social media and since these tools are portable and relatively cheap, they are effective on rapid access to information and ease of connectivity among people by these programs. Doctors, nurses and students of medical sciences require rapid and real-time access to information such as medical reference resources, medical information, information of diseases and latest researches carried out in the specialty field of medical and they need this access without time and spatial limit. Therefore, they can use social media, which is installed on smart and portable phones to have access to the required information. Studies carried out in this field indicated that the social media and phone networks have affected the daily trend of users to the world and consequently access to information [28] and this is in accordance with the findings of the current study that emphasize on this issue. Librarians also as one of the most important elements of information in today's information society can play a significant role and since consulting with librarians and specialists of informing have an important share in student's acquaintance with scientific information and printed and electronic information resources, attention of officials of university to experienced librarians and use of potentials and capabilities of them can be a great help for students in having access to the required information. Regarding barriers and problems of being informed and obtaining information by the studied students, the results indicated that the problems with the academic facilities is in the highest level. Universities of medical sciences are one of the most important centers of clinical research education in the country and they need to provide the conditions for their students and researchers. The academic centers of medical sciences play a critical role in transforming the students into lifetime learners that will be sent to the society as aware citizens. By such perspective in the level of universities of medical sciences, not only we will have the requirements for entering into such a society but also the students will obtain valuable scientific and practical experiences in recognizing sufficient methods for using information resources. Therefore, proper planning and policy making seems necessary by the university and the related officials in order to eradicate the barriers and challenges in the way of obtaining information.

The results indicated that most of the students considered the lack of dominance to English language as an impediment factor in obtaining information and since the resources and information of nursing field and generally medical sciences are published in English language, it is recommended that educational courses related to English language and information seeking in English language knowledge databases will be held for the nursing students so that the condition will be provid-

ed for accessing and using scientific educational information resources for the nursing field students in a better form. Studies in this field emphasize on the importance and the significant role of English language (as the science language in today's scientific society) on improving of the informing skill level of students and this is in accordance with the findings of this study [29]. Inability in recognizing, searching and generally low level of informing skills of nursing students who are being studied is another impeding factor that students referred to as a challenge in the way of information obtaining process. Nursing profession like many of medical science courses is directly related to the health and hygiene of people and the role of information and the way of having access to it in this profession is undeniable. Nursing students need to make decision about subjects related to treating diseases of patients and answering their questions in order to carry out clinical activities and prepare for performing their professional duties [30] and this requires having access to correct information. Nursing students need to learn the way of obtaining information in order to be transferred from academic environment to treating environment and they have to learn information obtaining skills properly in their own educational course so that they can act successfully in performing their professional duties. Investigating the studies of this field indicated that educating the methods of gathering information, reference librarians etc., in their educational period is an approach that can affect students' information skills and this is in accordance with the findings of this study that emphasize on the importance of informing skills.

At the end, it can be concluded that the nursing students need to receive the latest information through the official and valid resources and entries for increasing the quantitative and qualitative levels of sufficient information and the information related to their own personal, educational and professional lives. Suitable planning and policy making by the officials and managers of Mazandaran University of Medical Sciences regarding the easing access of students to information resources through providing various information resources including books, printed and electronic journals, and also easing access of students in use of educational and hardware facilities including expansion of internet bandwidth, holding computer and English language educational courses, holding educational courses of informing skills, holding educational courses of information transcript and computer information transcript, and attempting on eradicating the barriers and challenges in the way of the students can provide the condition for improving and daily increasing awareness of students and consequently increase of their educational and professional turnover.

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CONFLICTS OF INTEREST

There is no conflict of interest to be declared.

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ETHICAL CONSIDERATION:

Issues, Informed consent, conflict of interest, plagiarism, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been considered carefully by the authors.

AUTHOR CONTRIBUTIONS

All authors participated in the study design, literature review, data collection, analysis, and editing of the manuscript.

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