

ORIGINAL RESEARCH**Study on the rate of using, awareness and satisfaction of scientific database by Mazandaran University of Medical Science student's and related factors to it**Afshin Mousavi Chalak¹, Aref Riahi^{2*}

1. *Assistant Professor, Department of Knowledge and Information Science, Payame Noor University, Tehran, Iran*
2. *PhD, Knowledge and Information Science, Young Researchers Club, Islamic Azad University, Science and Research Branch, Tehran, Iran*

*Corresponding Author:

Address: Knowledge and Information Science, Young Researchers Club, Islamic Azad University, Science and Research Branch, Tehran, Iran.

Email: ariahi1986@gmail.com

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Introduction: Scientific databases are one of the most important information resources in academic community and can play determinative role in different aims and goals of student. This study aimed to determine the rate of using, awareness and satisfaction of scientific database among student of Mazandaran University of Medical Sciences.

Materials and Methods: This study is an applied-survey study and has been done during the 2016-2017 educational period. Self-questionnaire that made according to review of internal and external resources about the subject (in 6-sections), and its reliability and validity being approved, distributed among 238 Students of Mazandaran University of Medical Sciences (Master, PhD, Doctors and Medical residents). To analysis data, we use descriptive statistics, statistical test and SPSS 16.

Results: Findings show that most of student use scientific database because of clinical activities (average of 4.27). Also we funded that most knowledge level of those students about database were ISI (average of 4.43) and they used Pubmed more than other database (4.30). Also the highest satisfaction rate of database was ISI (4.28) and "unfamiliarity with the English language "funded as the most barriers related to use of scientific database.

Conclusion: Rate of using, awareness and satisfaction of scientific database among student of Mazandaran University of Medical Sciences was more than average and close to high level. Mazandaran Medical Science University by planning and tacking suitable policy and also destroy of barriers and challenges can provided better conditions of student's using scientific database and created cause of growth of their scientific and professional developments.

Keywords: Information resource, Online database, Scientific database, Student.

Introduction

The rapid appearance and development of information and communication technologies results in large and huge variation of accessibility and knowledge obtaining by the people and changed it from a traditional form (stamp information resources) to a modern form (electronic information resources). (1) Novel technologies caused increasing expansion of electronic information resources and this influenced different aspects of people's life and caused growth and development of academic environments and knowledge of society in different societies of current age. (2) Moreover, today in industrial and developed countries of the world information resources based on novel technologies are vastly and saliently being used and experts and specialists of this field have confirmed its importance and essentiality. (3-4) Coherent knowledge databases are one of the most commonly and most frequently used information resources that researchers and academic communities and scientists of different countries are strongly interested in and have considered its vast usage as the requirement of development of their scientific studies and researches. Knowledge databases have developed in the last decades and in all aspects and stored scientific information resources in different formats and enabled quick search and retrieval of information through the access to Internet and sharing these databases for scientific society and researchers. (5) The use of databases has removed spatial and time accessibility and gives researchers the opportunity to search scientific information among thousands of journals and thousands of articles and different information resources using services available in database. (6) Quantitative and qualitative expansion of knowledge databases and their resources in the internet in addition to positive features and potential capabilities in satisfying information needs of experts and researchers of different fields of human knowledge, requires precise considerations for detection of the best resources and searching approaches and access to information and information needs and if people don't know what system and what methods they use for accessing the information in these databases and generally don't have full understanding of these knowledge databases they will have problems

while accessing proper and precise data. Knowledge databases also have different types in light of subjectivity (public, special subject area), access type (free or not free) presented information (entirely text, abstraction), resources (book, article, etc.) and many other aspects and in our country these databases are mostly used by academic community (researchers, experts, scholars, students and,..). (8-9) Databases related to medical field that are closely related to health and hygiene section and are used by medical sciences universities of our country are especially important. These databases include millions of documents and valid scientific resources and sometimes are purchased with a high cost by the medical sciences universities and this requires periodic investigation and evaluation of usage and convenience level from databases by the medical sciences universities' managers and officials. Additionally, scientific resources and articles of creditable knowledge databases are highly important for every academic group specifically students and higher level students can use these databases for educational activities, doing treatise and editing student thesis and increasing their awareness and knowledge in various fields. (10) PhD and supplementary education students in associated universities to health ministry as one of the most important elements of producing and consuming information of health filed need valid useful information in order to perform their educational and research jobs and also for preparing for performing caring and clinic activities and knowledge databases enable them to carry out high quality and creditable researches by using different studies in different fields of health and hygiene section in order to contribute to enhancing quantitative and qualitative level of medical filed researches and generally improving health level of individual of the society. For this, students have to be familiarized with creditable knowledge databases and proper usage of database's information based on searching skills and proper informing. Moreover, former studies indicated that being familiarized with English language and sufficient computer knowledge can play a significant role in their use of knowledge databases (11-12). Also, other studies indicated that librarians and specialists of informing as one of the most important entities

of information cycle can have a special and undeniable effect in proper use and improving of using level of students from knowledge databases by introducing these databases to students and make them familiarized with facilities and services of knowledge databases. Higher level of familiarization of students with knowledge databases and understanding the advantage of using these rich banks with respect to the large volume of information in internet cause students avoid wasting time and cost and let them be creative in enhancing the education quality (reviewing awareness level of students to computer software and use of these databases). (14) A set of studies performed in this field indicated that generally awareness level of students with knowledge databases and information banks is not very high and students are not familiar with searching methods and approaches in these databases (15-16). According to the presented contents and importance of knowledge database and due to the fact that there hasn't been any research so far about investigating the level of using, familiarization and satisfaction of student's with knowledge databases and recognizing reasons, barriers and information resources of scientific databases in academic community associated with the health ministry and since recognizing and using knowledge databases and banks significantly contribute to avoiding costs and optimum use of these information resources, current study is aimed to investigate the level of usage, familiarization and satisfaction of students of Mazandaran medical university with university's knowledge databases and recognizing goals, barriers and resources used by the students from this databases.

Materials and Methods

The current study is practical and was carried out by descriptive survey (cross sectional) method. The population of current research is all of the students of supplementary education of Mazandaran University of Medical Sciences in year 2016-2017, 260 of students were master's, PhD, professional PhD, specialist PhD Degree students chosen randomly as the samples of research based on Morgan volume determining table. For collecting information about the usage level of students from knowledge databases, reasons and motivations,

information resources used, the convenience level as well as challenges in front of students from the author's survey was used. The survey above was prepared based on studying literature and internal and external backgrounds in relation to knowledge databases and was designed in form of 42 questions and in 6 sections. The first section was about demographic information of students. The second section was about goals and reasons why students use knowledge databases and include 7 questions. The third section is dedicated to level of usage, familiarization and convenience level of students from 10 valid and frequently used knowledge databases. Section 4 and 5 are about information resources used and satisfaction level of students from university's databases respectively and each contains 7 questions. The sixth section of the survey is considered for barriers and challenges of using knowledge databases and collectively 11 questions were prepared with respect to them. The visual flux of survey was confirmed on the basis of opinion of experts in the information and knowledge and health information technology field and cronbach alpha was used for the last determination that was equal to 0.83 and survey reliability also was confirmed. The survey was distributed randomly among the study population and 238 surveys (91.5 %), which were properly filled, were investigated and evaluated and other surveys were ignored. Descriptive statistics (redundancy, average and standard deviation), t-test (averages comparison), Friedman test (rankings comparison) and variance analyze and also version 16 of SPSS was used.

Results

Demographic and background properties of students were as follows. Ninety-two persons were male students (38.7%) and 146 were females. Age average of investigated students was 27.3 and their age range was respectively 29 persons up to 20 years (12.2%) 113 persons 21 to 30 years (47.5%), 78 persons 31 to 40 years (32.8%) and 18 more than 40 years old (7.6%). Forty-two of the students were studying in health university (17.6%), 31 of them in nurse university (13%) and 54 of them in medical university (22.7%), 52 of them in paramedical university (21.8%) 26 of them in

medicine producing university (10.9%) and 33 of them were studying in dental university (13.9%). The education level of 84 students were master degree (35.3%), 49 of them PhD (20.6%), 92 of them professional PhD (38.7%), 13 of them were at medical specialist period (5.5%). 178 of the students (74.8%) had their personal computers or laptops and rest of them had not (60 of the students equal to 25.2%). The places where students used computer were respectively: home (133 students or 55.9%), university (53 students or 22.3%), dorm (34 students or 14.3%), cafe and other places (18 students or 7.6%). The computer usage of students per day was respectively: up to one hour (26 students equal to 10.9%), one to two hours (74 students equal to 31.1%), two to five hours (108 students equal to 45.4%) and more than five hours (30 students equal to 12.6%). Additionally, 24 of the students had a low and insufficient level of English language (10.1%), 140 of the students were in a mediate level (58.8%) and 74 of the students were in a good level of English language (31.1%) and the familiarization status of students with computer and working with it was respectively 14 students equal to 5.9% were weak, 80 students equal to 33.6% were mediate and 144 of them equal to 60.5 % were in a good and desirable condition. Table 1 shows the most important reasons and motivations for students of Mazandaran University of Medical Sciences in using information resources of the university.

Table 1, Goals of students of Mazandaran University of Medical Sciences for using university's knowledge databases.

| Goals of using databases | Very low | Low | Mediate | High | Very high | Standard and average deviation |
|-------------------------------------------------------------|------------|------------|------------|-------------|-------------|--------------------------------|
| Educational activities | 15 (6.3%) | 24 (10.1%) | 51 (21.4%) | 71 (29.8%) | 77 (32.4%) | 3.72 ±1.20 |
| Updating information and improving profession knowledge | 23 (13.9%) | 21 (8.8%) | 60 (25.2%) | 87 (36.6%) | 37 (15.5%) | 3.31 ±1.24 |
| Authoring and translating books and articles | 12 (5.5%) | 12 (5%) | 35 (14.7%) | 62 (26.1%) | 117 (49.2%) | 4.09 ±1.14 |
| Performing and editing journal and thesis | 13 (5.5%) | 10 (4.2%) | 36 (15.1%) | 39 (16.4%) | 140 (58.8%) | 4.19 ±1.01 |
| Performing research plans and innovations | 16 (6.7%) | 15 (6.3%) | 32 (13.4%) | 115 (48.3%) | 60 (25.2%) | 3.79 ±1.10 |
| Attending in internal and external conferences and seminars | 16 (6.7%) | 19 (8%) | 94 (39.5%) | 33 (13.9%) | 76 (31.9%) | 3.56 ±1.21 |
| Familiarization and performing clinical activities | 7 (2.9%) | 7 (2.9%) | 27 (11.3%) | 70 (29.4%) | 127 (53.4%) | 4.27 ±0.98 |

Results of Friedman test indicated that there is a significant difference between each reasons and motivations of students for using scientific information (sig=0.000). This means that students use databases mostly for goals of familiarization and performing clinical activities, performing and editing journal and thesis, authoring and translating book

respectively. In table 2, satisfaction, familiarization and usage level of students from each knowledge databases of university separately can be seen.

Table 2.Satisfaction, familiarization and usage level of students from knowledge databases of university

| Database | Very low | Low | Mediate | High | Very high | Standard and average deviation | |
|----------------|-----------------------|------------|------------|------------|------------|--------------------------------|------------|
| Science Direct | Usage level | 21 (8.8%) | 14 (5.9%) | 42 (17.6%) | 75 (31.5%) | 86 (36.1%) | 3.80 ±1.24 |
| | Familiarization level | 21 (11.3%) | 20 (8.4%) | 23 (13.9%) | 75 (32.4%) | 34 (34%) | 3.59 ±1.32 |
| | Satisfaction level | 16 (6.7%) | 28 (11.8%) | 39 (16.4%) | 38 (32%) | 67 (28.2%) | 3.68 ±1.38 |
| Wiley | Usage level | 9 (3.8%) | 30 (12.6%) | 52 (21.8%) | 75 (31.5%) | 72 (30.5%) | 3.72 ±1.14 |
| | Familiarization level | 19 (8%) | 29 (12.2%) | 39 (23.9%) | 44 (22.7%) | 99 (33.2%) | 3.91 ±1.28 |
| | Satisfaction level | 3 (3.4%) | 16 (11.8%) | 26 (26.9%) | 44 (19.3%) | 64 (38.6%) | 3.78 ±1.19 |
| Scopus | Usage level | 13 (5.5%) | 18 (7.6%) | 41 (17.2%) | 69 (29%) | 40 (8.8%) | 3.92 ±1.17 |
| | Familiarization level | 13 (10.1%) | 10 (9.2%) | 22 (23.1%) | 25 (25.1%) | 47 (34.5%) | 3.31 ±1.31 |
| | Satisfaction level | 7 (7.1%) | 11 (6.7%) | 24 (20.2%) | 34 (20.6%) | 44 (45.4%) | 3.63 ±1.12 |
| Springer | Usage level | 9 (3.4%) | 17 (5%) | 40 (14.3%) | 95 (34.9%) | 101 (42.9%) | 4.08 ±1.03 |
| | Familiarization level | 9 (3.8%) | 17 (7.1%) | 40 (16.8%) | 95 (39.9%) | 97 (32.4%) | 3.90 ±1.05 |
| | Satisfaction level | 13 (5.5%) | 10 (4.2%) | 24 (15.5%) | 44 (22.7%) | 54 (52.1%) | 3.75 ±1.02 |
| Proquest | Usage level | 13 (5.5%) | 22 (8%) | 37 (18.5%) | 67 (18.5%) | 99 (19.6%) | 3.99 ±1.22 |
| | Familiarization level | 21 (8.8%) | 20 (8.4%) | 28 (10%) | 48 (28.2%) | 111 (46.6%) | 3.87 ±1.20 |
| | Satisfaction level | 13 (5.5%) | 22 (9.2%) | 37 (15.5%) | 67 (28.2%) | 99 (41.6%) | 3.91 ±1.23 |
| Web of Science | Usage level | 4 (4.6%) | 5 (5%) | 13 (13%) | 46 (19.3%) | 88 (58%) | 4.21 ±1.01 |
| | Familiarization level | 4 (2.5%) | 6 (2.8%) | 19 (8%) | 39 (23.5%) | 51 (63.4%) | 4.43 ±0.96 |
| | Satisfaction level | 2 (2.1%) | 8 (3.4%) | 29 (16.4%) | 48 (20.2%) | 138 (58%) | 4.28 ±0.98 |
| Pubmed | Usage level | 2 (2.9%) | 18 (7.6%) | 38 (8.8%) | 74 (17.6%) | 63 (63%) | 4.20 ±1.02 |
| | Familiarization level | 2 (2.5%) | 11 (4.6%) | 29 (12.2%) | 44 (26.5%) | 74 (54.2%) | 4.25 ±0.94 |
| | Satisfaction level | 14 (5.9%) | 16 (6.7%) | 35 (23.1%) | 34 (13.5%) | 121 (50.8%) | 3.97 ±1.13 |
| Ebsco | Usage level | 7 (7.1%) | 16 (6.7%) | 40 (16.8%) | 78 (29.8%) | 94 (39.5%) | 3.88 ±1.18 |
| | Familiarization level | 8 (4%) | 18 (7.6%) | 38 (24.4%) | 48 (28.2%) | 62 (31.5%) | 3.87 ±1.24 |
| | Satisfaction level | 13 (5.5%) | 22 (17.6%) | 31 (8%) | 44 (18.9%) | 62 (26.4%) | 3.42 ±1.43 |
| BMJ | Usage level | 25 (10.5%) | 24 (14.3%) | 24 (29.4%) | 62 (26.1%) | 47 (19.7%) | 3.30 ±1.32 |
| | Familiarization level | 25 (12.6%) | 28 (11.8%) | 34 (34.5%) | 32 (22.3%) | 39 (18.9%) | 3.25 ±1.27 |
| | Satisfaction level | 21 (7.6%) | 16 (8.8%) | 27 (27.7%) | 32 (32.8%) | 23 (23.1%) | 3.41 ±1.41 |
| Google scholar | Usage level | 9 (9.2%) | 26 (10.9%) | 61 (25.6%) | 40 (20.6%) | 30 (33.6%) | 3.59 ±1.30 |
| | Familiarization level | 27 (11.3%) | 32 (13.5%) | 35 (23.1%) | 58 (24.4%) | 66 (27.7%) | 3.44 ±1.33 |
| | Satisfaction level | 33 (15.5%) | 14 (13.9%) | 14 (10.1%) | 48 (29.8%) | 77 (30.7%) | 3.46 ±1.51 |

Information resources used by students from knowledge databases of university is presented in table 3.

Table 3: Information resources used by students from knowledge databases of university

| Information resources | Very low | Low | Mediate | High | Very high | Standard and average deviation |
|---------------------------------|------------|------------|------------|------------|-------------|--------------------------------|
| Book | 12 (5%) | 22 (9.2%) | 57 (23.9%) | 45 (18.9%) | 102 (42.9%) | 3.85 ±1.21 |
| Scientific journals articles | 6 (2.5%) | 10 (4.2%) | 19 (8%) | 37 (15.5%) | 166 (69.7%) | 4.46 ±0.97 |
| Scientific conferences articles | 14 (5.9%) | 25 (10.5%) | 43 (18.1%) | 84 (35.3%) | 72 (30.2%) | 3.74 ±1.17 |
| Thesis | 8 (3.4%) | 13 (5.5%) | 30 (12.6%) | 48 (20.2%) | 139 (58.4%) | 4.25 ±1.03 |
| Abstraction and profiles | 23 (9.7%) | 25 (10.5%) | 72 (30.2%) | 60 (25.2%) | 58 (24.4%) | 3.44 ±1.22 |
| Multimedia resources | 39 (16.4%) | 27 (11.3%) | 35 (14.7%) | 59 (24.8%) | 78 (32.8%) | 3.46 ±1.44 |
| Reference resources | 22 (9.2%) | 20 (8.4%) | 68 (28.6%) | 67 (28.2%) | 61 (25.6%) | 3.53 ±1.25 |

Results of Friedman test indicated that there is a significant difference between each used information resource of students for using scientific information (sig=0.000). This means that the most used resources of students from knowledge databases are scientific journals articles, thesis, and books respectively. Barriers and problems in front of the students in using knowledge databases of Mazandaran University of Medical Sciences is presented in table 4.

Table 4: Satisfaction level of students from university's knowledge databases.

| The satisfaction level of the students from | Very low | Low | Mediate | High | Very high | Standard and average deviation |
|-------------------------------------------------------------------|-----------|------------|------------|------------|-------------|--------------------------------|
| Number of information databases | 13 (5.5%) | 12 (5%) | 36 (15.1%) | 46 (19.3%) | 131 (55%) | 4.13 ±1.18 |
| Quality of information in knowledge databases | 9 (3.8%) | 6 (2.5%) | 25 (10.5%) | 82 (34.5%) | 116 (48.7%) | 4.22 ±0.99 |
| Updating status of articles and information databases | 10 (4.2%) | 29 (12.2%) | 13 (5.5%) | 39 (16.4%) | 147 (61.7%) | 4.19 ±1.04 |
| Articles and databases resources relativity to a profession field | 15 (6.3%) | 14 (5.9%) | 34 (14.3%) | 50 (21%) | 125 (52.5%) | 4.07 ±1.05 |
| Ease of the use of databases | 19 (8%) | 27 (11.3%) | 27 (11.3%) | 66 (27.7%) | 99 (41.6%) | 3.83 ±1.17 |
| Searching facilities and database help | 23 (9.7) | 21 (8.8) | 64 (26.9) | 42 (17.7) | 88 (37) | 3.63 ±1.32 |
| Librarians and informing specialist's help | 14 (5.9%) | 20 (8.4%) | 59 (24.8%) | 39 (16.4%) | 106 (44.5%) | 3.85 ±1.24 |

Results of Friedman test indicated that there is a significant difference in satisfaction level of students in using scientific information (sig=0.000). This means that the satisfaction level of students in using knowledge databases was the highest for “quality of database’s information”, “updating status of databases”, number of databases”. Table 5 shows the satisfaction level of students from university’s databases.

Table 5: Barriers and challenges in front of students while using university's information resources.

| Barriers and challenges while using knowledge databases | Very low | Low | Mediate | High | Very high | Standard and average deviation |
|----------------------------------------------------------------|------------|------------|------------|------------|-------------|--------------------------------|
| Lack of awareness about resources in database | 9 (3.8%) | 18 (7.6%) | 27 (11.3%) | 42 (17.6%) | 142 (59.7%) | 4.22 ±1.04 |
| Insufficiency of related resources in database | 23 (9.7%) | 33 (13.9%) | 45 (18.9%) | 55 (23.1%) | 82 (34.4%) | 3.59 ±1.44 |
| Lack of acquaintance with databases and with searching in them | 16 (6.7%) | 17 (7.1%) | 71 (29.8%) | 43 (18.1%) | 91 (38.2%) | 3.74 ±1.19 |
| Lack of acquaintance with information seeking skills. | 8 (3.4%) | 10 (4.2%) | 43 (18.1%) | 49 (20.6%) | 128 (53.8%) | 4.17 ±1.02 |
| Lack of easy accessibility to internet | 11 (4.6%) | 15 (6.3%) | 33 (13.9%) | 80 (33.6%) | 99 (41.6%) | 4.01 ±1.11 |
| Low internet speed and network traffic | 20 (8.4%) | 27 (11.3%) | 31 (13%) | 44 (18.5%) | 116 (48.7%) | 3.88 ±1.35 |
| Lack of acquaintance with the English language | 7 (2.9%) | 19 (8%) | 19 (8%) | 52 (21.8%) | 141 (59.3%) | 4.26 ±0.97 |
| Problems with university's website | 12 (5%) | 22 (9.2%) | 50 (21%) | 59 (24.8%) | 95 (39.9%) | 3.85 ±1.9 |
| Not having enough time | 42 (17.6%) | 35 (14.7%) | 26 (10.9%) | 77 (32.4%) | 58 (24.4%) | 3.31 ±1.44 |
| Meeting needs via other resources. | 13 (5.3%) | 29 (12.2%) | 56 (23.5%) | 55 (23.1%) | 85 (35.7%) | 3.71 ±1.22 |
| Lack of connectivity to databases outside of university | 24 (10.1%) | 22 (9.2%) | 33 (13.8%) | 94 (39.5%) | 65 (27.3%) | 3.65 ±1.35 |

Findings of variance analysis showed that there is no significant difference between barriers and challenges in front of the students and “age”, “education university”, “education level”, “place of using databases”, “usage level of students from databases” (sig > 0.05) and various groups have mentioned the impact of barriers and challenges by the same amount and with no difference. Usage, acquaintance, and satisfaction level of the students of Mazandaran University of Medical Sciences from this university’s databases is presented in table 6.

Table 6: Results T single variable, comparison of average of usage, familiarization and satisfaction level of the students from knowledge databases

| | Average | Standard deviation | T | Significance level |
|-----------------------|---------|--------------------|--------|--------------------|
| Usage level | 3.90 | 1.20 | 50.020 | 0.000 |
| Familiarization level | 3.77 | 1.18 | 50.764 | 0.000 |
| Satisfaction level | 3.81 | 1.11 | 45.293 | 0.000 |

Discussion

Knowledge databases and professional journals are one of the most important places and resources for researchers and students of various courses to search for information. Medical sciences students are not exceptional and they also refer to banks and databases of university for accessing to their intended information. With respect to extent and diversity of databases used today, acquaintance with knowledge databases status based on different factors and awareness of usage, familiarization and satisfaction of users, especially complementary education students from these databases can be useful for sufficient sharing and optimal and desirable usage of students from information resources of these databases. Current study aims at investigating usage, familiarization and satisfaction level of students of Mazandaran University of Medical Sciences from these databases and factors associated with it. Results of current study indicated that the most important goal and motivation of students for using continuous databases were "acquaintance with and performing clinical activities". Over the recent years, clinical and caring activities based on evidences of medical sciences courses gained much attention of specialists and experts and for deciding for clinical and caring activities, it seems necessary for experts of health field to receive the latest scientific and researching findings. In fact for carrying out effective and desirable clinical activities, capability and skill of using and merging the best evidences of the day which comes from clinical researches is necessary, and students of health field can improve their knowledge and scientific and professional awareness related to their clinical activities using reliable, precise and useful information of knowledge databases. Many of studies in this filed indicate that students and experts of health are increasingly using scientific information and continuous databases for quantitative and qualitative

improving of professional knowledge and performing their clinical and professional activities and are in accordance with the findings of current study (17-18). The results also indicated that databases Science and students of Mazandaran University of Medical Sciences are extensively using PubMed more than other knowledge databases. Institute of scientific information (ISI) and database WOS are known as the most important and the most famous information and citing databases which support and profile a wide range of valid and high quality journals of scientific journals, conferences and abstract in various human knowledge fields. PubMed database is also one of services of national medical library of America. This database includes millions of scientific articles and thousands of professional journals in various fields of medical sciences section and presents various valuable free services to the users. These databases generally publish precise, proper and valid articles and studies due to indexing of valid journals which are known by editorial board and are provided and published throughout the world and because journals of these databases have international desirable and acceptable standards and this causes a wide range of researchers and specialists to be motivated to use resources of these databases in order to have access to valuable and updated information. Some of previous studies including Salajeghe et al., (2016) and Garout and Dourch (2003) also emphasis on using spread use of researchers and students from valid knowledge databases such as Web of Science, Elsevier, and Scopus, which are in accordance with the findings of the current study (19-21). Acquaintance level of the students with knowledge databases also was reported to be in an acceptable level. Findings indicated that a considerable part of students of Mazandaran University of Medical Sciences had a relative acquaintance with the ten investigating databases and they were least familiar with BMJ database and that was also more than the mediate value (3.23). Since acquaintance and familiarization of students and users of information databases is effective on increasing use level of them from the databases, it is recommended that the Mazandaran University of Medical Sciences and its subsidiary colleges to attempt to familiarize their students with the knowledge

databases and convey the method of effective and optimal use of students from the databases as well as the way of searching and accessing information using skills of internet informing of knowledge databases. The results also indicated that articles of scientific journals are one of the most important information resources, which were searched for and used by students of Mazandaran University of Medical Sciences. In this regard it can be stated that publishing the results and achievements of scholars and specialists of medical field in the best way possible and the in the lowest time is one of the most important factors that can contribute to improving knowledge level of individuals in this field. Scientific journals provide a litter publishing results of explorations and scientific novel findings and due to updating of scientific journals and articles are more important than other information litters. The journals are so important that today presence of professional journals plays a significant role in forming scientific community's activities and also in idea exchanging of researchers with each other and is known as one of the most important factors that is used for knowledge producing process. Students of this field can have the state of art medical outbreaks using scientific journals and articles and can be successful in accessing updated information. Many of studies such as Abazari (2015) Mohammed Ismael (2014) and Siah (2015) have emphasized on importance and special role of scientific articles and journals of knowledge databases and are in accordance with findings of current study that considers the scientific articles the most important information resource of databases (22-24). These are another importance information resource that is used by students in application of cohesive knowledge databases of university. A considerable wide range of students have significantly used Proquest database for receiving thesis resources and this suggests that students were sufficiently familiarized with theses as an important information resource. Moreover, results of the study indicated that students were satisfied with the number of university's databases. In this regard it can be inferred that a considerable part of databases produced in Mazandaran University of Medical Sciences and other subsidiary colleges associated with Science

Ministry and specialists and owners of opinions of this field choose Health Ministry of Iran and this fact shows their acquaintance and awareness in field of international knowledge databases. Authorities and trustees of this field specially managers of national consortium should use these databases through periodic evaluation of knowledge databases and need metrics of students and researchers of medical sciences colleges of the country and perform necessary actions for purchasing, sharing and makings free and not free databases available. Moreover, the results indicated that the students found the quality of knowledge databases of university desirable and in an acceptable level. Many of previous studies in regard of knowledge databases indicated that generally, the quality of international information databases in our country is acceptable and is confirmed in case of integrity, update status, user interface, facilities and database guide. Ease of use of knowledge databases and also guide and help of librarians and informing specialists is not in a good condition in facilitating usage process of students from cohesive knowledge databases of university. Librarians and informing specialists in academic libraries with a high level of knowledge and awareness in field of data mining can act as professional and information consultants and as a connecting bridge between students and knowledge databases. Librarians can teach usage of databases to users and students and be effective through conveying capabilities related to informing skills and information seeking including “how to use operators” , “how to use abstracts and profiles”, “how to use approaches and searching statement” , “familiarization and working method and use of medical field professional databases “ and many other factors in accessing students to the required information in knowledge databases. Informing specialists can teach students the searching facilities in the databases and describe knowledge databases’ guide or helps to them. Previous studies in field indicated that librarians have a predominant undeniable role in making scientific information available and accessible for students and users and unlike findings of the current study, results of studies of Dadzi (2002), and Tanakovic (2017) referred to students’ desire to use the help of

librarians with searching in internet information (25). Results indicated that low knowledge or lack of acquaintance of students with the English language are the most important challenges in front of students while using cohesive database information resources of university. In this regard it is worth noting that in current age and current world, a considerable part of international scientific production is produced and published in English language and we must know the English language as the language of current age’s science language. Since most of valid knowledge databases are produced in English language, dominance of users and students on this language can lead to recognizing valid scientific resources through precise searching process. Studies in this field indicated that acquaintance with the language of information resource is very effective on usage of that resource. Results of studies of Khalili (2014), and Hariri (2012) are also in accordance with the lack of optimal and desirable use of knowledge databases by the students and users due to low knowledge and capability in English language (26). Problems with the website of university and lack of connectivity for students to knowledge databases from environment outside of university are the other challenges and barriers that students confront in light of using knowledge database. In this regard, authorities and managers of information technology department of university should set the ground for innovations of university with precise planning and using proper and practical approaches and provide a proper condition for students to access knowledge databases in environments outside of university. At the end, we can conclude that generally, usage, acquaintance and satisfaction level of students of university are in an appropriate level. Knowledge databases are the most important resources for academic and scientific community to reach professional resources and they have a great share in improving and developing scientific and awareness level of students as well as progressing educational and researching objectives. Planning and policy making in Mazandaran University of Medical Sciences and also health, treating and medical education ministry in purchasing, sharing and making cohesive scientific databases accessible for

supplementary education students and also eradicating barriers and challenges of students in accessing these databases can lead to positive and desirable approaches in various scientific fields for the university and students and bring scientific, research and health

development and generally improving health system for the society.

Conflict of interest

Authors declare no conflict of interest.

References:

1. Entezarian N, Fattahi R. An investigation extent and factors influencing the users' perception of database interface based on nielsen model. *Quarterly Journal of Library and Information Science* 2009; 12(3): 43-64.
2. Alijani R, Dehghani L. Historical overview of emergence and development of online retrieval. *Information Sciences and Technology* 2008; 21(4): 65- 79.
3. Falagas ME, Pitsouni EI, Malietzis GA, Pappas G. Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *The FASEB journal*. 2008 Feb 1;22(2):338-42.
4. Naushad Ali PM, Nisha F. Use of e-journals among research scholars at Central Science Library, University of Delhi. *Collection Building*. 2011 Jan 18;30(1):53-60.
5. Azami M, Fatahi R. Database Graphic User Interface correspondence with Ellis Information Seeking behavior Model. *Journal of Information Processing and Management*. 2010; 25 (2) :247-264
6. Rahmani M, Hajizaynolabedini M. Measurement and Assessment of environmental and occupational health the Academic libraries in Tehran. *Journal of Information System and Services*. 2015; 7(4): 63-74.
7. Sadeghi H, Okhovati M. Recall and Precision of Iranmedex, Magiran and SID (Scientific Information Database) databases for retrieval of scholarly information in the Field of Pharmacy Health Inf Manage 2014; 11(3):442.
8. Shahbazi M, Shahini S. Study of the the efficacy Magiran, Noormags and SID database in retrieval and relevance of Information Science and Knowledge subject by free keywords and Compare them in terms of the use of controlled keywords. *Journal of Information Processing and Management*. 2016; 31 (2) :431-454
9. Atashkar M, AlipourHafezi M, Norouzi Y. Identification of Tehran University graduate student familiarity with Google Scholar Database. *Journal of Information System and Services*. 2014; 3(1,2): 61-78.
10. Mohajeri F, AlijanpourKasgari M. A survey of students' familiarity and use of online databases in Babol University of Medical Sciences. *Journal of Epistemology*. 2010; 3(8): 83-96.
11. Khalili M, Matlabi D. Online Services at the Urumia University of Medical Sciences: a use and user study. *NASTINFO*. 2014; 24(4): 24-40.
12. Hariri N, Fazli F. A study on the usage of electronic journals, databases and Alert services by faculty members of Shahid Beheshti University of Medical Sciences. *Journal of Epistemology*. 2012; 5(16): 49-60.
13. Dadzie PS. Electronic resources: access and usage at Ashesi University College. *Campus-Wide Information Systems*. 2005;22(5):290-7.
14. Hayati Z, Joukar T. The Familiarity of Graduate Students in Shiraz University with EBSCO, ProQuest, ScienceDirect, and Elsevier Full-Text Databases and Their Usage of These Databases. *NASTINFO*. 2013; 24(1): 118-135.
15. Majid S, Tee Tan A. Usage of information resources by computer engineering students: a case study of Nanyang Technological University, Singapore. *Online Information Review*. 2002 Oct 1;26(5):318-25.
16. MojiriSh, Rakhsh F, Rahimi AR. Evaluating Features of Search in Online Databases of Isfahan University of Medical Sciences Central Library Website according to International Criteria. *Health*

- Information Management 2012; 9(2):215- 223.
17. Romanov K, Aarnio M. A survey of the use of electronic scientific information resources among medical and dental students. *BMC Medical Education*. 2006;6(1):28.
 18. Peterson MW, Rowat J, Kreiter C, Mandel J. Medical students' use of information resources: Is the digital age dawning?. *Academic medicine*. 2004 ;79(1):89-95.
 19. Salajeghe M, Osareh F, Momenabadi M. Online databases in Kerman University of Medical Sciences and meeting students' information needs. *Journal of Epistemology*. 2016; 8(31): 59-72.
 20. Groote S, Dorsch J. Measuring use patterns of Online Journals and Databases. *Journal of Med LibrAssos*. 2003; 91(2): 231-241.
 21. Abazari Z, Riahi A, Sohbatihia F, Siamian H, YaminFiroz M. A Comparative Study Of Medical Journals And Articles Growth In Eastern Mediterranean Regional Office Member Countries. *payavard*. 2015; 9 (3):235-248
 22. Mohammad Esmaeil S, Riahi A, Sohbatihia F. Qualitative and quantitative evaluation of iranian journals in Scopus database during 2000-2012. *CJS*. 2014; 1 (1):33-39
 23. Sayad Berger M, Ziaee S, Aghazadeh E, Momtrazan E, Fathi R, Hoseini SA. A survey on usage of Central Library databases by faculty members and students at Ahvaz Jundishapur University of medical sciences in 2014-2015. *Educational Development of Jundishapur*. 2015; 6(2): 176-184.
 24. Farzaneh E, Amani F, Tafaraji R, Aghayi M H. Awareness of Ardabil Medical Students in the Use of Electronic Information Resources. *Research in Medical Education*. 2015; 7 (2):61-68
 25. Tanacković SF, Ivanovic MD, Cupar D. Scholarly electronic databases and library & information sciences students in Croatia: motivations, uses and barriers. *Information Research*. 2017 Mar 1;22(1).
 26. Riahi A, Hariri N, Nooshinfard F. Study of health Information needs and barriers to access among afghan and iraqi immigrants in Iran. *JNKUMS*. 2016; 7 (3):597-610