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INFORMATION NEEDS AND SEEKING BEHAVIOR OF MEDICAL STUDENTS AT FOUNDATION UNIVERSITY MEDICAL COLLEGE, PAKISTAN

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ABSTRACT
Background:

This study investigated the information needs and seeking behavior of medical students at the Foundation University Medical College, Islamabad.
Method:

A structured questionnaire was designed keeping in view the objectives of the study. One hundred sixty three students participated in this study, 116 respondents were female while 47 were male. Data were analyzed by using the descriptive statistics which included; frequency, percentage, mean and standard deviation.
Results:

Most of the students used information technology for entertainment purpose, as compare to academic use and searching web resources. Response concerning to the importance of libraries/online sources, general awareness purpose was rated high. Almost half of respondents didn't scan/read any print journals for study purpose, as undergraduate medical students mostly rely on their textbooks and notes. It was revealed that most of the students did not face any problem in managing their time for information seeking.
Conclusion:

It is recommended that library should improve the library orientation / information literacy programs for encouraging meaningful use of information technology.

KEYWORDS- *Medical students, Information needs, information seeking-behavior, search engines.*

INTRODUCTION :

We are going through the age of rapidly changing information society. Information is measured as a significant resource for the development of any nation; it should be managed like other resources because it contributes directly to accomplishing the predefined targets and objectives. Managers and decision makers formulate their policies and strategies in the light of available information. It serves as a tool for updating the statistics, provides strong foundation for any organization, and helps to create knowledge based society.

Information plays a vital role in the private life as well as professional career of any individual.

Bhatti explained that it is difficult to describe the word "information". Usually, it is considered the recorded research and experience which help to make decision. Information professionals should be well aware about the information needs and seeking behavior of their users. It is imperious for developing library reading resources, refining facilities and services. It is also essential to understand the information need and seeking behavior of the user community for better provision of the information services to the community and develop a better image of the library.[1]

Fatima and Ahmad stated that information seeking behavior is a wider term, which includes information needs, ability to evaluate, select and use of this data in his/her research to fulfill the requirement of information.[2]

Aina measures that every human being needs some kind of information for their daily life, no matter, what is the level of his qualification. He uses this information for recreational, educational, social, commercial and research purpose.[3]

Islamabad, being Capital of Pakistan, has been regarded as higher seat of learning. Taxila, a nearby town, had one the oldest university of the ancient period, where knowledge seeker from all over the world used to come for learning. The Foundation University has been established in 2002, sponsored by the Fauji Foundation, the largest welfare organization in the country having vast human and financial resources. It is center of distinction to provide quality education to the gifted students. (www.fui.edu.pk). There are 750 students carrying out their MBBS. The aim of this paper is to identify the information needs and seeking behavior of the medical students at the Foundation University Medical College.

OBJECTIVES OF THE STUDY
Following are the objectives of this study:-
a. To investigate the Information need of undergraduate medical students.
b. To examine information seeking behaviors of undergraduate medical students.
c. To find out which searching technique are being used by undergraduate medical students.
d. To study the type of information sources used by the medical students.
e. To evaluate the collection of information sources available in the library

LITERATURE REVIEW
Zawawi and Majid came to know that the matter of poor medical subject knowledge among the librarians as one of the cause for facings trouble in getting the required information. There is a requirement for medical libraries to take proper actions for enhancing the subject information of their users, which may outcome in better announcement with scientists and sufficient understanding of their information troubles and needs.[4] Raza, et al. highlighted that most users visit the library weekly, usually to gather reading stuff. The OPAC is the main-used resource for search, and the majority of users choose to search by topic. Literature seek out are execute using the library's worldwide set-up. The majority use Internet services for electronic mail and face the difficulty of slow downloading. Photocopying and the OPAC are the main-used services in the library.[5] Gray and Klein concluded that the internet has the likely to join all excellent features of accessible health information sources. This means can make easy the sympathy linked with rest personal sources, the expertise of certified sources, and the response likely with special sources.[6]

Adio and Arinola highlighted that although Internet, reference librarian, textbooks & monographs, journal articles, reference sources, theses and dissertations were known as the key sources used by respondents for acquiring information. Lack or reduced internet services in the library were seen as one of the main restriction to gathering their information needs followed by shortage of computers in the library.[7] Khan and Bhatti found that the respondents used a variety of legal information resources for educational and research purpose. Legal textbooks, general books, and references resources were judged most important for information needs. The greater part of the law faculty members wish information in print layout and English language. Most of them need their information at home. They use computer and internet to explore their information, retrieval and email messages.[8] Majid et. al. tinted that requirement for libraries to build up their promotion and user-

education programs to generate more knowledge about information resources access to students and faculty. The students were commonly using web search engines and business websites for getting information. Although the internet offered quick and easy access to numerous of information sources, not all these sources are complete, present, valid and reliable.[9]

Khan and Shafique pointed out that the significance and importance of departmental library in getting required information, students feel console by using it being suitable to its different positive aspects. A departmental library presents related and helpful collection. Students feel easiness as compare to the central library.[10] Baro et. al. highlighted that the university libraries face a number of confronts in its pattern training programs, yet it is through user education that the librarians effort is made easy and the student's efforts go faster while recovering and utilizing the library information resources.[11] Bhatti tinted that with no deep knowledge development of library services cannot be skillful. It needs specialized and technical understanding of such matters as, optimization of search plans, information retrieval methods, information organization arrangements, vital study and assessment of resources according to need and lifetime learning ability.[12]

Ajayi and Adetayo found that medical students commonly utilize the library for revision of course work. These do not prove any self-regulating beginning of an information seek in the library. Course books and handouts were mainly used by all the users. They suppose that information abounding by this resource is sufficient for their information requirements.[13] Pelzer, Wiese and Leysen explored that the veterinary medical student's assessment did not habitually start self-governing information look out in the library for use in assignments, but fairly relied on class's textbooks and handouts. Library resources, like indexes/abstracts, were used more by students in the experimental course who detained or were seeking higher degrees, reflecting this group's superior contact to information resources.[14] Wildemuth suggested that libraries must construct information systems that will assist students to recognize the pathogens related to an exacting case. The student's expected that the librarian might answer questions regarding the nature of venom in a needful setting; it is likely that they will suppose librarians to cooperate for the recognition of other such means.[15]

Oyadeyi pointed that the information centers are an information foundation and Librarians as teacher have key task to cooperate in control the standard of education. The individual qualities, proficient and academic talents joined with the public dealings dexterity of Librarians are major aspects that add to the achievement of any learning efforts. Librarians must effort incessantly on improving service providing by join information technology in all feature of library services; by this, users would acquire benefit of the services present by the library to improve their information seeking behavior in this information technology period.[16] Saad and Zainab were concluded that an investigation of information seeking behavior of Computer Science and Information Technology undergraduates, as undergraduates, informer look to understand the significance of being information well-informed, not barely for educational function, but also as a essential ability to be booming in their professions and life in the current day atmosphere. Informants do not believe extremely of the library and the librarians, and do not totally know the purpose and services of the library or how they can use the services of an expert librarian.[17]

Mehdi, et al. worked on how do medical students manage their information needs in unscheduled and high-acuity environments and concluded that for the reason that time is such a restrictive cause, the students hunted response to patient concern inquiry that could be positioned rapidly and simply. but, there were also apprehension that the excellence of the information could be cooperation by the require for fast retrieval. Colleagues, patients, and patient diagram were seeing regularly, for the reason that they were accessible and easy to contact.[18] Cogdill investigated the information need and information seeking in community medical education and converse that the common kinds of information requirements for the students were connected to identification and drug treatment. While the preceptors also regularly desired epidemiologic information, the students more commonly need information linked to the universal managing of patients.[19]

RESEARCH METHOD

A structured questionnaire was designed, keeping in view the objectives of the study. Questionnaire was divided into two sections; the first section contained the questions relating to the information needs, the second part dealt with the information seeking behavior of the respondents. Two hundred questionnaires were

distributed to the students personally by using convenient sampling technique and were collected from them by giving sufficient time for filling in the questionnaire. Majority of respondents (n=163, 81.5%) returned the questionnaires duly filled in. The data were collected during March 1, 2014 to April 30, 2014. Data were analyzed by using SPSS to get descriptive statistics such as frequency, percentage, mean and standard deviation.

Limitations of the study

The study is limited to the Information needs and seeking behavior of MBBS students of Foundation University Medical College, Islamabad.

Results

Two hundred questionnaires were distributed among the students during their library visit by using convenient sampling technique. Respondents were given sufficient time to record their response, 163 questionnaires (81.5%) were received and analyzed.

Demographic Information of Students

One hundred and sixteen (116) respondents were female, representing 71.71% of the sample population, while 47 respondents 29.29% were male. The finding shows that more females than male visited the library.

There are two parallel education systems in Pakistan at intermediate level, F.Sc a Pakistani system and A-Level a British system of education. Data disclosed that the qualification of 123 respondents (75.46%) were F.Sc. while 40 students (24.54%) passed the A Level examination before joining the medical college.

Part I: INFORMATION NEEDS

Five point Likert scale (Minimum 1 to Maximum 5) was used to assess the response regarding number of hours spent by library users on different activities. Table 1 exposed that most of the students (Mean 2.68) used information technology for amusement and entertainment purpose, followed the miscellaneous activities (Mean 2.37). The activities such as for academic use (Mean 2.15) and searching web resources (Mean 2.12) got the highest mean score, while searching print sources had a the lowest mean score (Mean 1.68) from the medical students.

Table 1: Number of hours spent per week for following activities

Different activities	N	Mean	Std. Deviation
For academic work (e.g. assignments, quizzes etc.)	163	2.15	1.287
For searching print sources	161	1.68	0.966
For searching web sources	162	2.12	1.155
For entertainment (music, games, etc)	161	2.68	1.278
For other activities	101	2.37	1.433

Table 2 presented the responses regarding the importance of libraries/online sources for different purposes, general awareness purpose rated high (N=162, Mean 3.98), preparing assignments/quizzes stood second (N=163, Mean 3.93) followed by update information (N=159, Mean 3.72), leisure reading (N=154, Mean 3.24) and for other purposes (N=87, Mean 3.37). Majority of the students are fully aware about the importance of libraries and online sources and use it to fulfill their multiple tasks.

Table – 2, Importance of libraries/online sources for different purposes

Searching Purposes	N	Mean	Std. Deviation
General awareness	162	3.98	1.158
Preparing assignments/quizzes	163	3.93	.972
Update information	159	3.72	1.086
Leisure reading	154	3.24	1.177
Other purpose	87	3.37	1.322

Students were asked to response regarding most preferred place for study. Results showed in Table -3 that there was mild difference in quite environment of home (N=162, Mean 4.26) and library (N=161, Mean 4.07). Library has time restrain place as compare to home, whereas library is usually free from noise and disturbance, provide ideal atmosphere for study. Class-room and computer laboratory are least preferred places for study.

Table-3 Most preferred place for study

Places	N	Mean	Std. Deviation
Library	161	4.07	1.022
Computer Lab	161	2.92	1.255
Class Room	160	2.93	1.262
Home	162	4.26	1.134

Almost half of respondents didn't scan any article from print journals for study purpose revealed in table - 4, because graduate students usually rely on their textbooks, class lectures and notes, whereas 44 students (27%) responded that they scanned 1-5 print journal's article weekly relevant to their study, followed by 6.1% scanned 6-10 journal's article per week. All other showed their least interest in scanning journals' article. Journals literature consists on up to date and current information whereas books are essential for comprehensive background study.

Table-4. Weekly Scanning of Relevant Literature from Print Journals

Scanning Articles from Print Journals	Frequency	Percentage
1-5	44	27.0
6-10	10	6.1
11-15	5	3.1
16-20	6	3.7
21-25	9	5.5
Above 25	8	4.9
Nil	80	49.1
Total	162	99.4

Large amount of respondents (45.4%) were not reading electronic journal, while 49 students (30%) scanned 1-5 online journals relevant to their field weekly, followed by 11 students (6.7%) used to read 6-10 online journals, only 5 students used to scan more than 25 journals weekly.

Table – 5 unveiled that respondents used different sources to obtain journals articles. Personal subscription of print journals (N=163, Mean 1.79) and online journals (N=163, Mean 1.60) showed that few students subscribed journal. Library's print subscription (N=163, Mean 1.82) and online subscription (N=163, Mean 1.67) also displayed poor response. There was little difference in Interlibrary loan (N=163, Mean 1.81) other online sources (N=163, Mean 1.51), Membership of scientific societies/organizations (N=162, Mean 1.71) and other sources (N=159, Mean 1.84) also recorded low response.

Table-5. Obtain Journal Articles

Different Sources	N	Mean	Std. Deviation
Personal subscription to print journals	163	1.79	.952
Personal subscription to online journals	163	1.60	.491
Library's print subscription	163	1.82	1.655
Library's online subscription	163	1.67	.470
Interlibrary loan	163	1.81	.394
Other online sources	163	1.51	.501
Membership of scientific societies/organizations	162	1.71	.455
Other sources	159	1.84	.365

Part-II. INFORMATION SEEKING BEHAVIOUR

Table-6 displayed that most of the respondents (Mean 4.11) used books to satisfy their information seeking demand. Use of information technology and non-book material scored 3.91, tailed by various type reference material and encyclopedias / dictionaries rated 3.65. Use of theses and dissertations for seeking information were lowest score (Mean 2.77, SD 1.198)

Table 6. Use the Documentary Sources of Information

Documentary sources of information	N	Mean	Std. Deviation
Reference sources(Bibliographies, Indexing/Abstracting sources/ Monographs)	147	3.65	1.339
Books/monographs	149	4.11	3.370
Journals/magazines	145	3.37	1.399
Patterns/reports/standards/specifications	144	3.19	2.031
Conferences/Workshops/Seminars/Proceedings	146	3.11	2.812
Theses/Dissertations/Scientific and Technical reports	138	2.77	1.198
Encyclopedias/Dictionaries etc.	146	3.65	1.130
Audio/Video/CD-ROM/DVD databases etc.	148	3.91	4.516
Government Publications & documents	143	3.10	2.091
Other web sources	121	3.36	1.278

Table-7 discussed the use of non-documentary sources for seeking information, conversation with friends (N=157, Mean 4.35) had high score, followed by private / personal correspondence (N=149, Mean 3.89). Consult with a teacher / supervisor for finding answers to their questions rated satisfactory (Mean 3.53). Meetings, seminars, conferences and workshops had always been a great source of information, here scored 3.49. It is disappointing that respondents least bother (Mean 2.77) to discuss with librarian, whereas librarians could guide them to the right source for seeking information.

Table 7. Non-documentary Sources of Information

Non-documentary sources of information	N	Mean	Std. Deviation
Conversation with friends	157	4.35	.905
Meetings/Seminars/Conference/Workshops	153	3.46	3.489
Private/personal correspondence	149	3.89	4.334
Discussions with librarian or reference staff of the library	150	2.77	1.391
Consult a knowledgeable person in the field/supervisor	153	3.53	1.192
E-Mail/List Services/Discussion forum etc.	150	3.16	1.275

Human being is social animal, he can't live alone. Table-8 showed that the respondents used heavily informal (oral) ways to exchange information with colleagues, very often (52.1%) conversed with colleagues

rated high, followed by 33.10% often talked to their friends regarding provision of relevant information. The option of Never (2.5%), Rarely (2.5%) and Occasionally (6.1%) showed that few of respondents wanted to remain alone.

Table-8. Distribution of Informal (Oral) Information Exchange with Colleagues

Conversation with friends	Frequency	Percentage
Never	4	2.5
Rarely	4	2.5
Occasionally	10	6.1
Often	54	33.1
Very Often	85	52.1
Total	157	96.3

Table -9 reported that majority of respondents (Mean 2.03) used to read print out format of electronic sources, web version (Mean 1.97) and print/photocopy (Mean 1.64) material were least interested by the students. Low score to read web version is also associated with constant failure of electricity and load shedding.

Table 9. Format of Reading Required Information

Format	N	Minimum	Maximum	Mean	Std. Deviation
Print version/Photocopy	153	1	4	1.64	.840
Electronic/Web version	148	1	3	1.97	.649
Print out of the electronic (web) version	143	1	3	2.03	.782

Number of students (47.9%) had no trouble to manage their time spent on information seeking. Twenty seven percent respondents complained that there was not enough time to keep their selves up to date with everything, 21.5% students had a difficulty to manage their time spent on information seeking.

Table – 10 showed that most of the students (Mean 4.56) browsed from print and electronic resources for finding required information. Using library catalogue/OPAC and keyword searching both scored 4.15, followed by By Chance / Serendipity (both print and electronic resources) counted 3.86, Check citations of books and articles (Mean 3.49), Indexing / abstracting services / reviews (Mean 3.30), Consulting library staff (Mean 3.22), and Others searching techniques (Mean 3.21) also used by students.

Table 10. Useful Searching Techniques for Finding Required Information

Searching techniques	N	Mean	Std. Deviation
Using library catalogue/OPAC	150	4.15	1.134
Keyword searching	150	4.15	1.704
Browsing (both print and electronic resources)	148	4.56	4.136
By Chance / Serendipity (both print and electronic resources)	146	3.86	4.400
Check citations of books and articles	145	3.49	1.131
Indexing/abstracting services / reviews	146	3.30	1.177
Consulting library staff	144	3.22	1.209
Others (searching techniques)	71	3.21	1.230

FINDINGS

1. One hundred sixty three Students (81.5%) responded positively, out of 200. Majority of respondents (116) were female medical student, representing 71.71% of the sample population, while 47 respondents 29.29% were the male library users.
2. The qualification of 123 respondents (75.46%) were F.Sc. while 40 students (24.54%) passed the   A Level

examination.

3. Most of the students used information technology for entertainment purpose, as compare to academic use and searching web resources.

4. Response concerning the importance of libraries/online sources, general awareness purpose rated high followed by preparing assignments/quizzes and updating information. Large numbers of the students are fully aware about the importance of libraries and online sources and use it to fulfill their multiple tasks.

5. There was mild difference in quite environment of home and library for reading.

6. Almost half of respondents didn't scan/read any print journals for study purpose, because graduate students mostly rely on their textbooks and notes. Fairly large amount of respondents had not read electronic journal, so the obtaining print and online article ratio was also very low.

7. Huge quantity of respondents (Mean 4.11) used books to satisfy their information seeking demand. Discussion with friends, as non-documentary sources for seeking information rated high as compare to private / personal correspondence and consult with a teacher / supervisor for finding answers to their questions.

8. Finding of the study showed that respondents used very often (52.1%) informal (oral) ways to exchange information with colleagues followed by often talked to their friends regarding provision of relevant information. Majority of respondents used to read print out version of e-resources / web version.

9. There had been no trouble to manage their time spent on information seeking by fair number of students, while twenty seven percent respondents complained that there was not enough time to keep up with everything.

Most of the students (Mean 4.56) browsed from print and electronic resources available in the library for searching their required information following by using library catalogue/OPAC and keyword searching.

CONCLUSION

Library of the Foundation University Medical College has been delivering its effective library services to maintain the quality standard of education. The library has been turned into information resource center and librarian has become the information professional. Latest Information technology equipment, computers, internet facility, printers and scanner have been provided to library users for fulfillment of their information needs and satisfy the information seeking behavior. It is recommended that library should improve the library orientation / information literacy program, so the positive use of information technology should be improved.

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