

Use of Web Resources by Medical Science Students of Aligarh Muslim University

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ABSTRACT

In recent years, the internet has emerged as the most important and powerful medium for the communication of information. There is a tremendous growth in the number and variety of information resources available on the internet which becomes an important source for scholarly scientific literature and also more number of information resources as well as the results of scientific and medical research is now being available on web. The paper describes the use of web resources (e-journals and e-databases subscribed by UGC-Info-net consortium) by the students of medical sciences at Aligarh Muslim University, India. A well structured questionnaire was administered to 120 students to collect the primary data from respondents. A total number of 92 filled in questionnaires were received showing overall response rate of 76.66 %. The paper also indicates that it is probably counter-productive to evaluate students as one group. Different segments of students have very different and varied use patterns of web resources depending on study topic, study year, psychological dispositions, and other demographic factors.

Keywords: Web-resources, medical literature, e-journals, e-resources, user study

1. INTRODUCTION

The concept of web resources is being used interchangeably synonymous with online resources, digital resources, and e-resources. But in simple connotations web resource can be regarded as the resource, document or information available on the internet or world wide web. The concept of web resource is primitive in the web architecture, and is used in the definition of its fundamental elements. The term web resource was first introduced to refer to targets of uniform resource locators (URLs) but its definition has been further extended to include the referent of any URL.

According to Bokor¹, "Although the world wide web is the major space for posting and disseminating information on the internet there is lack of centralised control or authority statistics about the web in terms of web pages, websites, and users, even though the world wide web has grown by exponential rate at 50 % a year, which represents an even-increasing proportion of human knowledge is becoming available online."

1.1 Web-based Information Resources

These resources are also known as internet information resources. These resources may be

categorised as websites, portals, online courses, list servs, special internet groups, virtual conference, chat, e-journals, e-books, mailing list, multimedia collection, web links, map collection, online book shop, sound, etc. The most popular information resources used by students are search engines and subject-related databases.

1.1.1 E-journals

In an academic environment scholarly communication is a critical component of knowledge with the emergence of internet, the e-journals are going more important on internet and the e-journal are undergoing a drastic change and becoming web centre. E-journals are serially published and distributed nationally and internationally via networks. These include both online and also journals which has a print counterpart.

1.1.2 E-books

E-books are electronically produced text (digitised) in various formats (html, xml, doc, pdf, etc.) original or transferred to e-format under conditions of conformity with copyright law stored in a digital medium (CD-ROM, hard disk, etc.) and is played using an electronic hardware device.

2. SCOPE AND COVERAGE

The Jawaharlal Nehru Medical College (JNMC) is one of the constituent colleges of the Aligarh Muslim University, Faculty of Medicine. The Indian Medical Council recognises its MBBS degree. The Institute of Ophthalmology of this University has been in existence since 1952 and has already established a name for itself. JNMC has 18 departments comprising a wide spectrum of academic disciplines. In addition to the university library and departmental seminar libraries, there is a Medical College library (JNMCL) having more than one lakh books, journals, periodicals, and research reports. The college library remains open from 8:00hrs to 22:00 hrs in general, while 8:00 hrs to 24:00 hrs during the examination period. Book bank facility is also available to the students for the issue of textbooks on payment of 10 % of the cost of the books. The library has been equipped with latest electronic periodical section. Apart from that all the departments have the facility of online subscription to desired journals. Besides the Book Bank facility, the medical students may also use the Central University library. Internet facility has been added to departmental library, which provides access to the web resources such as online journals subscribes by college, online bibliography, online directories, etc.

3. REVIEW OF RELATED LITERATURE

Web resources are significant part of study materials. The web resources are easy to utilise, speedy, reliable, and useful and effective. The study offers a way to identify the acceptance of web resources by the medical sciences students along with its advantages, performances, user's satisfaction and obstacles during the use.

Study of related literature implies locating; reacting and evaluating reports of research as well as report of casual observation and opinion that are related to the individuals planned research problems.

Sedghi², *et al.* investigated the resources used by health-care professionals while searching for medical images of 29 health-care professionals from various health and biomedical departments working within Sheffield Teaching Hospitals NHS Foundation Trust. They confine that health-care professionals seek medical images in a variety of visual information sources, including those found online and from published medical literature. The research also identified a number of difficulties that health-care professionals face when searching for medical images in various image resources.

Chowdappa³, *et al.* depicts the extent of dependency of users of Educational and Research Institute of Mysore city on the electronic/digital media and tried to find out the impact of e-information resources on the academic community. The main objectives wss

to know how information users rely upon books, journals, CDs and internet for their research and the opinion in the use of digital sources compared to the traditional sources.

Kanniyappan⁴, *et al.* found out the use of different types of e-resources and services and their impact on the academic development of faculty members at Anna University library, Chennai. Findings indicate that the overall respondents use computers and online services. Majority of them use e-mail, internet, OPAC system and online journals. A good number of respondents feel that printed journals will not become obsolete in future. Most of the faculty members are aware of e-resources and they are being used frequently for the teaching purpose.

Asemi & Reyahiniya⁵ conducted a survey on awareness and use of digital resources in the libraries of Isfahan University of Medical Science, Iran. Results indicate that majority of students are aware of digital resources available in university database and most of them do well to using the resources. The increasing amount of awareness of IT facilities will lead to an increased to the amount of resources.

Lal⁶, *et al.* studied uses of internet access by medical students and resident doctors of Maulana Azad Medical College (MAMC) and found that it has a lower cost as compared to paper-based dissemination of information and also has an added advantage of being available world wide instantly on demand. Therefore, there is a need not only to equip medical fraternity with adequate skills for use of internet but also to make internet facility available in institutions providing medical education and health-care.

4. OBJECTIVES

The objectives of the study are to:

- Know the awareness, use and purpose of use of web resources
- Find out the frequency and place of using web resources
- Identify the reliability of the web resources
- Identify the various techniques adopted to locate the web resources
- Know the barriers while using web resources
- Identify which publishers' e- journals/e references are consulted by students

5. METHODOLOGY

This study used questionnaire-based survey method. A well structured questionnaire was administered to 120 students of JNMC randomly selected samples to collect the primary data. Out of which, a total number of 92 filled in questionnaires were received and the overall response rate was

76.66 %. Hence, the entire 92 received responses were considered for the data analysis and interpretation. The questionnaire was personally distributed to the students at their college library and class rooms in the month of January 2013. The collected data have been organised and tabulated by using statistical method and the responses shown in percentage.

6. DATA ANALYSIS

The empirical evidence in the paper is data drawn from an extensive survey of students' uses patterns of web resources in JNMC. Questions like name, gender and educational qualification were asked. It is evident from the data that students use the web resources, out of 92 received responses, 63 % were male and 37 % were female. Out of 92 respondents 54 students were pursuing MBBS; 34 were pursuing MD/MS while 4 were pursuing PG diploma.

6.1 Purpose of Using Web Resources

The respondents were asked to indicate the purpose for which they make use of web resources. The purposes have been classified into five categories as shown in Table 1. It was found that a total of 20 (37.03 %) MBBS students use web resources for improving their knowledge, followed by 14 (25.92 %) for finding quick information. 41.17 % MD/MS students use web resources for improving knowledge and only 17.64 % use it for finding quick information. It was noted that 50 % PG Diploma students use web resources for improving their knowledge and

50 % for finding quick information needed by them. The investigators revealed that, in total, the highest percentage 36 (39.13 %) of students use web resources for improving their knowledge.

6.2 Frequency of Web Usage

The respondents were asked to indicate the frequency for which they make use of web resources. The purposes have been classified into four categories as shown in Table 2. It states that 48.14 % MBBS students use web resources occasionally. 41.17 % MD/MS students use it daily, followed by 35.28 % weekly. It was noted that 100 % PG Diploma students use daily. So it can be concluded that highest percentage of students 32.60 % are using web resources occasionally.

6.3 Place of Using Web Resources

The respondents were asked to indicate the purpose for which they make use of web resources. The purposes have been classified into five categories as shown in Table 3, more than half of MBBS students' (51.85 %) were using web resources in cyber cafe followed by 25.92 % any other places. Similarly, the MD/MS students use web resources 52.94 % in cyber café, followed by 23.52 % any other places, followed by 17.64 % in department lab, followed by 5.88 %, in computer centre. It was noted that 100 % PG Diploma students were using web resources from any other places (personal

Table 1. Purpose of using web resources

S. No.	Purpose	MBBS	MD/MS	PG Diploma	Total (%)
1.	For study & research	8 (14.81 %)	12 (35.29 %)	0	20 (21.73 %)
2.	For improving knowledge	20 (37.03 %)	14 (41.17 %)	2 (50 %)	36 (39.13 %)
3.	Carrier development	10 (18.51 %)	2 (5.88 %)	0	12 (13.04 %)
4.	Finding quick information	14 (25.92 %)	6 (17.64 %)	2 (50 %)	22 (23.91 %)
5.	Other	2 (3.7 %)	0	0	2 (2.17 %)

Table 2. Frequency of web usage

S. No.	Frequency	MBBS	MD/MS	PG Diploma	Total (%)
1.	Daily	10 (18.51 %)	14 (41.17 %)	4 (100 %)	28 (30.43 %)
2.	Weekly	16 (29.62 %)	12 (35.29 %)	0	28(30.43 %)
3.	Monthly	2 (3.7 %)	4 (11.76 %)	0	6 (6.52 %)
4.	Occasionally	26 (48.14 %)	4 (11.76 %)	0	30 (32.6 %)

Table 3. Place of using web resources

S. No.	Web resources access place	MBBS	MD/MS	PG Diploma	Total (%)
1.	Central library	4 (7.4 %)	0	0	4 (4.34 %)
2.	Department lab	2 (3.7 %)	6 (17.64 %)	0	8 (8.69 %)
3.	Computer centre	6 (11.11 %)	2 (5.88 %)	0	8 (8.69 %)
4.	Cyber cafe	28 (51.85 %)	18 (52.92 %)	0	46 (50 %)
5.	Other place	14 (25.92 %)	8 (25.92 %)	4 (100 %)	26 (28.26 %)

connection). So it can be concluded that 28.26 % students used web resources from 'other place'.

6.4 Reliability of Web Resources

Table 4 shows that 74.07 % MBBS students found the web resources reliable, followed by 18.51 % who were not sure of the reliability. The MD/MS students 76.46 % found web resources reliable and 100 % PG Diploma students found web resources to be reliable. It can be concluded that 76.08 % students find that the web resources as reliable, whereas 18 (19.56 %) of the users are not sure of the reliability of the web resources.

6.5 Assistance for Using Web Resources

Table 5 shows that 32 (59.29 %) MBBS students learn about the use of web resources from friends, followed by 25.92 % are self-taught. 64.70 % MD/MS students know about how to use from friends, followed by 17.64 % from library staff and 17.64 % self-taught. 100 % PG Diploma students were taught by friends. So it can be concluded that the higher percentage of students 58 (63.04 %) learn the use of web resources from friends.

6.5 Barriers while Using Web Resources

Table 6 shows that 25 (51.85 %) MBBS students face slow connectivity as barrier while using web resources, 22.22 % find that too much information is available to retrieve, The 12 (35.29 %) MD/MS students also find slow connectivity and time consuming. 50 % PG Diploma students find slow speed as barrier followed by 50 % limited access to computer terminals. So it can be concluded that the higher percentage of students 42 (45.65 %) state that slow connectivity is a barrier in using web resources.

6.7 Preference of Using Search Engine

35 (64.81 %) MBBS students confirms that they prefer using search engine as Google, followed by 18.15 % on Yahoo, followed by 7.40 % on MSN. 47.05 % MD/MS students preferred Google, followed by 29.41 % on Yahoo, followed by 23.52 % on MSN. 50 % PG Diploma students preferred Google as well as Yahoo. So it can be concluded that the higher percentage of students 53 (57.61 %) use Google as search engine for their work (Table 7).

Table 4. Reliability of web resources

S. No.	Web resources reliability	MBBS	MD/MS	PG Diploma	Total (%)
1.	Reliable	40 (74.07 %)	26 (76.46 %)	4 (100 %)	70 (76.08 %)
2.	Unreliable	0	0	0	0
3.	Not sure	10 (18.51 %)	8 (23.52 %)	0	18 (19.56 %)
4.	Other	4 (7.40 %)	0	0	4 (4.34 %)

Table 5. Assistance for using web resources

S. No.	Use assistance	MBBS	MD/MS	PG Diploma	Total (%)
1.	Library orientation	4 (7.40 %)	0	0	4 (4.34 %)
2.	From friends	32 (59.52 %)	22 (64.70 %)	4 (100 %)	58 (63.04 %)
3.	Teaching staff	4 (7.40 %)	0	0	4 (4.34 %)
4.	Library staff	0	6 (17.64 %)	0	6 (6.52 %)
5.	Self taught	14 (25.92 %)	6 (17.64 %)	0	20 (21.73 %)
6.	Any other	0	0	0	0

Table 6. Barriers while using web resources

S. No.	Barriers	MBBS	MD/MS	PG Diploma	Total (%)
1.	Too much information retrieved	12 (22.22 %)	10 (29.41 %)	0	22 (23.91 %)
2.	Slow connectivity	28 (51.85 %)	12 (35.29 %)	2 (50 %)	42 (45.65 %)
3.	Limited access to computer	6 (11.11 %)	6 (17.64 %)	2 (50 %)	14 (15.21 %)
4.	Lack of IT knowledge	4 (7.40 %)	6 (17.64 %)	0	10 (10.86 %)
5.	Effectively utilisation of resources	4 (7.40 %)	0	0	4 (4.34 %)

Table 7. Preference of using web resources

S. No.	Search Engine	MBBS	MD/MS	PG Diploma	Total (%)
1.	Google	35 (64.81 %)	16 (47.07 %)	2 (50 %)	53 (57.61 %)
2.	AltaVista	3 (5.55 %)	0	0	3 (3.26 %)
3.	MSN	4 (7.40 %)	8 (23.52 %)	0	12 (13.04 %)
4.	Yahoo	10 (18.51 %)	10 (29.41 %)	2 (50 %)	22 (23.91 %)
5.	Other	2 (3.70 %)	0	0	2 (2.17 %)

6.8 Use of E-reference Sources

30 (55.55 %) MBBS students consulted Encyclopaedia as e-reference source, followed by 8 (14.81 %) Directory/Dictionary. 14 (41.17 %) MD/MS students preferred Dictionary, followed by 29.41 % - Encyclopedia, 11.76 % - Biography. 50 % PG Diploma students use Encyclopedia, followed by Indexing Journals. So it can be concluded that the higher percentage of students 45.65 % use encyclopaedia for e-references source as web resources.

- Slow speed is the major hurdle while using web resources as indicated by medical students.
- Google is the most preferred search engine followed by yahoo for searching web resources.
- Most popular e-reference source used by the students (45.65 %) are encyclopaedias, followed by dictionary.
- 69.56 % Medical students generally need full-text information.

Table 8. Use of e-reference sources

S. No.	E-reference sources	MBBS	MD/MS	PG Diploma	Total (%)
1.	Encyclopaedia	30 (55.55 %)	10 (29.41 %)	2 (50 %)	42 (45.65 %)
2.	Directory	8 (14.81 %)	2 (5.88 %)	0	10 (10.86 %)
3.	Dictionary	8 (14.81 %)	14 (41.17 %)	0	22 (23.91 %)
4.	Biography	4 (7.4 %)	4 (11.76 %)	0	8 (8.69 %)
5.	Indexing journal	2 (3.7 %)	2 (5.88 %)	2 (50 %)	6 (6.52 %)
6.	Abstracting journal	2 (3.7 %)	2 (5.88 %)	0	4 (4.34 %)

Table 9. E-journal database consulted by users

S. No.	E-journal publishers	MBBS	MD/MS	PG Diploma	Total (%)
1.	Medline	17 (31.48 %)	11 (32.35 %)	2 (50 %)	30 (32.60 %)
2.	Science Direct	17 (31.48 %)	11 (32.35 %)	2 (50 %)	30 (32.60 %)
3.	Springer & Kluwer	8 (14.81 %)	4 (11.76 %)	0	12 (13.04 %)
4.	Taylor & Francis	4 (7.4 %)	6 (17.64 %)	0	10 (10.86 %)
5.	Project Muse	2 (3.7 %)	2 (5.88 %)	0	4(4.34 %)
6.	J-STOR	4 (7.4 %)	0	0	4(4.34 %)
7.	J-Gate	2 (3.7 %)	0	0	2 (2.17 %)

6.9 Use of E-journal Database

Table 9 shows that 31.48 % MBBS students consulted Medline e-journal database and 31.48 % Science Direct. 11 (32.35 %) MD/MS consulted Medline, followed by 32.35 % Science Direct, followed by 17.64 % students Taylor & Francis. PG Diploma students prefer Medline and Science Direct equally. So it can be concluded that the higher percentage of students 30 (32.60 %) consulted Medline & Science Direct publishers for e-journals.

- *Medline* and *Science direct* are most consulted e-journals by medical students.

7. FINDINGS

- 31.13 % medical students use web resources for improving knowledge and finding information quickly.
- 32.60 % students of MBBS, MD/MS and PG Diploma use web resources.
- 76.08 % (70 students) find web resources as reliable.
- 26.08 % medical students search and access web resources links through search engines.
- 63.04 % medical students generally take assistance from friends for using web resources.

8. CONCLUSIONS

The use of web resources by the students of Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, shows 100 % of the students were aware of web resources and mostly make use of them. The objectives of the following study are satisfactorily met and most of the students are satisfied with the web services available to them. They use new means of technology for retrieving quick information. The web resources available on internet are used by user generally in cyber cafe and in other place, i.e., personal connection. Web contains a wide range of information and provides links to other resources. For searching web resources generally links through search engines is preferred over others. Web resources have become the important part of human life in the 21st century for their study and knowledge. Popular publishers of e-journals (consulted by them) are *Medline* and *Science direct*. So it can be said that the planning, developing, and extending the computer and internet facilities make them aware to information resources in new era.

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