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ONLINE INFORMATION SEARCH BEHAVIOUR OF MEDICAL SCHOLARS IN PGIMER, CHANDIGARH

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Abstract:Medical and Para medical disciplines demand the most methodical information system. To cater the need of end user, online access of various journal databases is very tangible and effective. Every scholar emphasis on pinpointed and significant information. Access of relevant information on time is the core concern of a scholar. With the wide spectrum of information and knowledge explosion, end user has several alternative to get desired literature but in the era of cloud computing, electronic version of information is most preferred by research and academic community.

Keywords: Medical Science, E-Resources, PGIMER, Research Scholars

1.0 Introduction

Libraries always remain the key platform for any scholar or scientist. The success of inventions depends on the availability of relevant information and literature, which may only be provided by a rich library or information centre. Earlier libraries were having conventional sources of literature, knowledge and information but today in the era of Internet various features of ICT like cloud computing and virtual library are in practice and information seeking behavior of the scholars has also customized. Today access of e-resources on the desktop, laptop or even on mobile of individual is a fashion. The digital environment has provided new opportunities for information professionals to help physicians and medical science professionals, access the treasures of information and services available to them on the internet (Asemi and Riyahiniya, 2007). Quick accessibility and self-directed learning is the most suitable character of online resources for immediate compiling and consolidation of information. Attitude towards online information seeking and the perceived credibility of information are associated with individual information-seeking behavior (Lu *et al*., 2007). It is becoming even more imperative that medical libraries continue to seek better understanding of nurses' information needs, particularly the factors affecting behaviour so as to match these with an increasingly complex information environment (Urquhart et al., 2007).

2.0 Literature Review

A number of studies have been conducted on online information seeking behavior of the medical scholar, some of the relevant studies are discussed. Dee and Stanley (2005) conducted a study on Information-seeking behavior of nursing students and clinical nurses and found that Nursing students use medical articles from quality databases for school assignments, electronic journals and books were among the top sources listed by nursing students and other health professionals. Powell and Smith (2003) found that occupational therapy graduates use information resources that are readily available to them, such as advice from their colleagues or supervisors 79 % and the internet 69 %, rather than the evidence available in the journal literature. Eskola (2005) in his study revealed that medical students used printed sources such as books and journals, electronic resources such as databases and the Internet, media sources such as TV and radio, and people. Haines et al. (2010) in their study stated that respondents use alerting services that they had set up for themselves to help them keep on top of developments. The scholars stated further that three participants received tables of contents via email, four set up their own subject-based alerts: two in My

NCBI, one in the American Chemical Society's ASAP Alerts service, and one through a locally developed interface to assist in searching PubMed. Groote et al. (2014) observed that users seem to limit their use of online resources to a small number of tools and are either unaware of or do not have need or time to use other tools available to them. While use of computers is ubiquitous, use of information management technology such as RSS feeds and reference management tools are not, suggesting informatics literacy continues to play a role in adopting and using databases and other information management tools.

3.0 Research Methodology

100 Questionnaires were distributed among the scholars of MD, MS, DM etc. of different departments like Medicine, Surgery, Orthopedics, Gastroenterology, Oral Health Science, Urology, Nephrology and Pediatrics etc. registered in PGIMER. The questionnaires were distributed and collected personally by the investigator. Discussions were also made with the scholars on different questions asked in the questionnaire and the suggestions and opinions given by the scholars were noted and incorporated in the analysis.

Table-1 Responses to the Questionnaire

Department	Distributed	Filled Received	Percentage
Medicine	10	9	90%
Surgery	10	8	80%
Gastroenterology	10	10	100%
Pediatrics	10	10	100%
Gynecology	10	10	100%
Urology	10	8	80%
Orthopedics	10	8	80%
Nephrology	10	9	90%
Cardiology	10	8	80%
Oral Health	10	10	100%
TOTAL	**100**	**90**	**90%**

Table 1 shows that total 90 filled questionnaires were received back and found suitable for analyses. An appreciable 100% response was received from various departments i.e. Gastroenterology, Pediatrics, Gynecology and Oral Health Department.

It is observed that nature of information need of all the respondents is almost same. As all the respondents are scholars of different branches of Medical Science, therefore rest of the analysis has been made jointly on the basis of total 90% responses received from the respondents.

4.0 Discussion

Table: 2- Preferred Sources for Information

S. No.	Source of Information	Respondents
1.	Discussion with colleague	20 (22.22%)
2.	Consult an expert person in the field	25 (27.77%)
3.	Discussion with librarian or reference staff of your library	0
4.	Consult Printed/Traditional Sources (Journals/Articles)	44 (48.88%)
5.	World Wide Web/Online Resources	80 (88.88%)

As per table-2, majority of the respondents i.e. 80 (88.88%) use world wide web and online resources, followed by 44 (48.88%) respondents who consult printed/traditional sources of information e.g. print journals/articles. 25 (27.77%) respondents consult an expert person in the field whereas 20 (22.22%) respondents discuss with colleague. However multiple interests were also shown by some respondents, e.g. some of the respondents also responded to consult an expert person in the field as well as using online resources. The table 2 clearly shows that not even a single respondent indicated his interest in discussion with the librarian or reference staff.

4.1 Online Verses Traditional Resources

Table: 3- Preference of Resources while Seeking Information

Sr. No.	Information Resource	Respondents
1.	Only Traditional/Printed Material	--
2.	Only Online Resources on WWW	--
3.	Both	90(100%)
	None	--

Table 3 resembles the importance of traditional as well as online resources. 90 (100%) respondents responded that they make use of both the resources of information, online as well as traditional.

Table 4 Frequency of Using Related Online Resources

Sr. No.	Frequency	Respondents
1.	Usually	82(91.11%)
2.	Sometimes	8(8.88%)
3.	Rarely	--
4.	Never	--

Table 4 shows that maximum number of respondents frequently use e-resources of their respective field. 82 (91.11%) respondents usually use e-resources whereas 8 (8.88%) respondents admitted that they use e-resources some times. There was no response of use of e-resources for rarely or never. Table 7 clearly shows that every respondent is aware about the online resources of their concerned field and they use the same usually, which shows the worth of information technology in the medical field.

Table: 5-Type of Information Located in Online Medical Literature

Sr. No.	Type of Information	Respondents
1.	Disease-specific Information	84(93.33%)
2.	A specific Journal Article	62(68.88%)
3.	Drug Information	55(61.11%)
4.	Specific Source of Information	40(44.44%)

Table-5 reflects the access of various type of information related to medical literature. While going through the online medical literature, 84 (93.33%) scholars search for disease specific information, 62 (68.88%) respondents locate for a specific journal article, 55 (61.11%) and 40 (44.44%) respondents locate for drug information and specific source of Information respectively.

Table 6- Confidence of Finding Medical Literature on WWW

Sr. No.	Confidence Level	Respondents
1.	Somewhat Confident	24 (26.66%)
2.	Confident	56 (62.22%)
3.	Extremely Confident	10 (11.11%)

Table-6 shows the level of confidence among the respondents in finding medical literature on web. On the aspect of confidence in finding medical literature the respondents showed their ability to find medical literature on the World Wide Web. 24 (26.66%) respondents told that they are somewhat confident, 56 (62.22%) responded themselves as confident and only 10 (11.11%) respondents indicated their extreme confidence in finding medical literature on the World Wide Web.

Table 7-Problem in Locating Medical Literature

Sr. No.	Particular	Statement	Respondents
1.	Problem Faced	No	62(68.88%)
		Yes	28(31.11%)
Type of information Unable to Locate			Respondents
1.	Drug Information		7(7.77%)
2.	Specific Journal Article		15(16.66%)
3.	Adverse Event		6(6.66%)

Table-7 shows the responses to the question regarding occurring the problem during information search from the online medical literature and unable to find the same, 62(68.88%) respondents did not faced any problem, 28(31.11%) respondents reported some problems in accessing the desired information. These respondents further divided in small groups according to their different problems, faced during the access of desired information. 15(16.66%) respondents reported that they were unable to locate specific journal article 7(7.77%) respondents reported that they were unable to find drug information. 6(6.66%) reported some adverse event while locating the desired information. There is a need of systematic arrangement and to strengthen the online literature for better results.

Table 8-Favorite Search Engine

Sr. No.	Search Engine	Respondents
1.	Google	90(100%)
2.	Yahoo	25(27.77%)
3.	MSN	12(13.33%)
4.	NCBI	5(5.55%)
5.	Ixquick	4(4.44%)

Table-8 indicates the preference of various search engines among the respondents. In response to question related to the favorite Search Engine, the respondents were asked to grade their choices according to their preference. As a result, Google came out as the most favorite and frequently used search engine. Google shows visit of 90 (100%) respondents. Yahoo scores the second position with 25 (27.77%) responses and then MSN which scores the third position with 12 (13.33%) respondents. NBCI.com also scored 5 (5.55%) responses. Another Search Engine Ixquick.com also scored 4 (4.44%) responses. Rest of the Search Engines like Excite, Lycos, Digpile, Hogsearch, Altavista, Dmoz, Go.com, Overture, knoodle and Wisenet received no responses.

On enquiring about the other search engines, which did not get even a single response, the respondents informed that they are not aware even about the names of most of the search engines listed in the questionnaire and they easily find their desired results through Google and Yahoo. Altavista and Lycos were also reported to be known by some of the respondents, but never tried due to the familiarity and easy access of Google.

Table 9- Extent of Using Various Online Databases

S. No.	Name of Database	Use Often	Use Sometimes	Never Used	Unfamiliar with Database
1.	Pub Med	72 (80%)	18 (20%)	--	--
2.	Ovid Medline	32 (35.55%)	30 (33.33%)	22 (24.44%)	6 (6.66%)

3.	Biological Abstracts	9 (10.00%)	33 (36.66%)	28 (31.11%)	20 (22.22%)
4.	Web of Science	--	23 (25.55%)	45(50.00%)	22(24.44%)
5.	Embase	--	12 (13.33%)	40 (44.44)	38 (42.22%)
6.	IPA & Toxline	--	21 (23.33%)	44(48.88%)	25 (27.77%)
7.	ACP & DARE*	24(26.66%)	10 (11.11%)	28 (31.11%)	28 (31.11%)
8.	Micromedex	--	--	52 (57.77%)	38(42.22%)
9.	HSLS*	--	16(17.77%)	33(36.66%)	41(45.55%)
10.	Old Medline		34(37.77%)	37(41.11%)	19(21.11%)

*ACP Journal Club & Drug Abuse Resistance Education (ACP Dare), Health Science Library System

As per table-9, majority of respondents i.e. 72 (80%) admitted that they often use Pub Med to locate the medical literature whereas 18 (20%) respondents use it sometimes. There was no response in never use and unfamiliar category. This shows that Pub Med is widely known and most used online database for medical literature.

The respondents show their different views and marked different options regarding use of Ovid Medline. 32 (35.55%) respondents use often, 30 (33.33%) use sometimes, 22 (24.44%) never used Ovid Medline, only 6 (6.66%) admitted that they are unfamiliar with this resource.

In case of Biological Abstracts, it was noted that 9 (10%) respondents use it often, 33 (36.66%) use some times, 28 (31.11%) never used and 20 (22.22%) respondents are unfamiliar with Biological Abstracts. Here, it has also been observed that 48 (53.33%) respondents are such scholars who do not use the database either willingly or due to their unfamiliarity with the resources which is more than the number of respondents who use the Biological Abstracts. One more point need to elaborate that only 9 (10%) respondents use often the Biological Abstracts which is very less in number.

While answering the extent of using Web of Science it has been observed that no respondents has reported often use of the database. 23 (25.55%) respondents use some times, 45(50%) never use and 22(24.44%) respondents are unfamiliar with the database.

In the response of the question to measure of extent of using Embase.com. No respondent agreed to have used often the database. A mere 12 (13.33%) respondents admitted that they use the database sometimes, 40 (44.44) never use and 38 (42.22%) respondents are unfamiliar with the resource. The above table shows that only 13.33% respondents use the Embase and 86.66% respondents do not use the same.

In response to the question of using Drug & Pharmacy Databases such as Indian Pharmacological Abstracts and Toxline, 21 (23.33%) respondents indicated their response that they use these databases some times, 44(48.88%) never used and 25 (27.77%) respondents were unaware or unfamiliar with the database.

On the question of using ACP Journal Club, Cochrane Database & DARE, 24(26.66%) respondents responded to use the database often, 10 (11.11%) use sometimes, 28 (31.11%) declined and indicated that they never use the database and an equal number i.e. 28(31.11%) respondents indicated their unfamiliarity with the same.

In case of Micromedex, no one is interested in using the same. 52 (57.77%) respondents answered that they never use the resource, 38(42.22%) were unfamiliar with the database.

There was no respondent who indicated his often use of the HSLS Electronic Journals. 16 (17.77%) respondents reported sometime use, 33 (36.66%) never use and 41(45.55%) respondents were reported their unfamiliarity. The same responses were recorded on the question of using HSLS Electronic Books. None of the respondents stated that they use often the HSLS Electronic Books. 16 (17.77%) use sometimes, 33(36.66) never use and 41(45.55) respondents stated that they are unfamiliar with the database and its feature. In nutshell we can say that if there is

lack of awareness among the respondent regarding the Health Science Library System, the response to the use the HSLS journals and books will also be adverse.

As per the responses for Old Medline, 34 (37.77%) respondents use it sometimes, 37(41.11%) never use and 19 (21.11%) respondents are unfamiliar with Old Medline.

Table 10 -Use of Ovid Medline and Pub Med in a Week

Sr. No.	Time Spent	Respondents
1.	0-1 Hour	--
2.	2-4 Hours	31(34.44%)
3.	4-8 Hours	22(24.44%)
4.	8-12 Hours	30(33.33%)
5.	12-16 Hours	7(7.77%)
6.	16-20 Hours or More	--

Table 10 indicated the responses of use of Ovid Medline and Pub Med in a week, 31 (34.44%) respondents use these resources 2-4 hours in a week, 30(33.33%) respondents use the resources for 8-12 hours, 22(24.44%) use the resources for 4-8 hours whereas 7(7.77%) respondents use the resources for 12-16 hours in a week. This shows that a maximum number of respondents are having interest in using the Ovid Medline and Pub Med databases.

Confidence in Searching/Using Ovid Medline and Pub Med

The question was asked to the respondents to measure their degree of confidence in searching the Ovid Medline. 53 (58.88%) respondents admitted that they are somewhat confident, 20(22.22%) respondents were confident and 17(18.88%) respondents were extremely confident in using the resource.

Table 11 -Confidence in Searching/Using Ovid Medline and Pub Med

Sr. No	Name of Database	Level of Confidence				
		Not Confident	Somewhat Confident	Confident	Extremely Confidently	Never do this
1.	Ovid Medline	--	53(58.58%)	20(22.22%)	17(18.18%)	--
2.	PUB MED	--	38(42.22%)	35(38.88%)	17(18.88%)	--

In case of Pub Med, 38(42.22%) respondents marked that they are somewhat confident, 35(38.88%) were confident and 17(18.88%) respondents were extremely confident. It is noticeable that the respondents who reported their extreme confidence in using Ovid Medline, same respondents indicated their extreme confidence in using Pub Med.

Table 12 Statement on Using Ovid Medline or Pub Med

Sr. No.	Statement	Respondents
1.	Find Articles on Time	18 (20%)
2.	Finding Articles Takes More Time	29 (32.22%)
3.	Difficulty in Finding Needed Articles	8 (8.88%)
4.	Usually Get Too Many Articles	11(12.22%)
5.	Usually Do Not Find Enough Articles	12 (13.33%)
6.	Trouble in Selecting Correct Keywords	23 (25.55%)
7.	Other Problem	8 (8.88%)
8.	Never Encounter any Problem	0

When using Ovid Medline or Pub Med, 18(20.00%) respondents stated that they find the articles in a timely manner, 29(32.22%) stated that they find articles but it takes more time than they want to spend. 8(8.88%) respondents reported that they have difficulty in finding needed articles, 11(12.22%) indicated that they find too many articles but they are not satisfied because all the articles are not useful for them, 12(13.33%) do not find enough articles, 23(25.55%) face trouble while selecting correct keywords.

Only 8(8.88%) respondents reported different views against Other Problem category. They opined that the Articles available are not free and are available only on subscription and the Library of the Institute has not subscribed to these Databases. It is also surprising, that not even a single respondent took the challenge to say that he has not encountered any problem while using Ovid Medline or Pub Med.

Table 13-E-Journals as Compared to Traditional Journals

Sr. No.	Aspect	Response	Respondents
1.	Time	Time Saving	90(100%)
		Time Consuming	--
		No Response	--
2.	Usability	Easy to Use	78(86.66%)
		Difficult to Use	12(13.33%)
		No Response	--
3.	Information	More Informative	67(74.44%)
		Less Informative	23(25.55%)
		No Response	--
4.	Cost	More Expensive	5(5.55%)
		Less Expensive	22(24.44%)
		No Response	63(70%)
	Usefulness	More Useful	26(28.88%)
		Less Useful	--
		No Response	64(71.11%)

On the question of comparing e-journals with that of the Traditional /Printed journals, the respondents remarked different opinions. 90 (100%) respondents stated that the e-journals are time saving as compared to Traditional journals. No respondent shows his negative response to this fact.78 (86.66%) respondents admitted that the e-journals are easy to use, 12(13.33%) respondents showed their concern that the e-journals are difficult to use, but these respondents were noted to be not so familiar with the computer and internet. 67(74.44%) respondents admitted that the e-journals are more informative as compared to Traditional Journals.23 (25.55%) respondents opined e-journals as less informative. On the question of cost effectiveness, only 5(5.55%) responded that e-journals are less expensive22 (24.44%) respondents denied the cost effectiveness. 63(70.00%) respondents were observed to be confused on this question. They did not respond to the question. They opined that the Online Journals are available on subscription which costs more to them and these may be less expensive if the same are subscribed by the Institute Library and provided to them free of cost. On the other hand they can consult the Printed Journals from the Library free of cost. 26(28.88%) respondents opined that the e-journals are more useful. No respondent denied this fact, but again 64(71.11) gave no response to this question.

Satisfaction towards ICT Infrastructure of the Institute

Figure 1 shows that 64 (71.11%) respondents are not satisfied with the existing ICT Infrastructure of the institute and only 26 (28.88%) respondents recorded their satisfaction. Responses shows that there is an urgent need to improve the ICT infrastructure in PGIMER for the maximum utilization of e-resources.

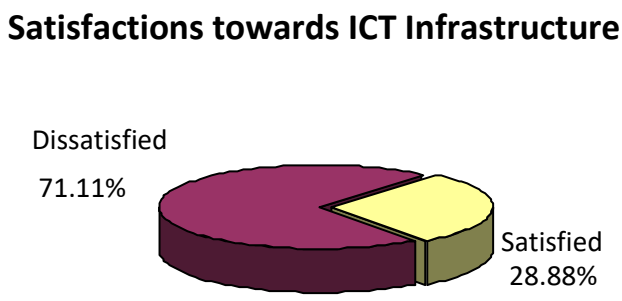

Figure 1

Diminished importance of Traditional Resources

A huge majority i.e. 72 (80.00%) of respondents feel that e-resources cannot diminished the importance of traditional/printed resources whereas 18 (20.00%) respondents opined that e-resources is a threat for traditional resources and with the increasing use of e-resources, the importance of traditional /printed resource of Information is diminishing.

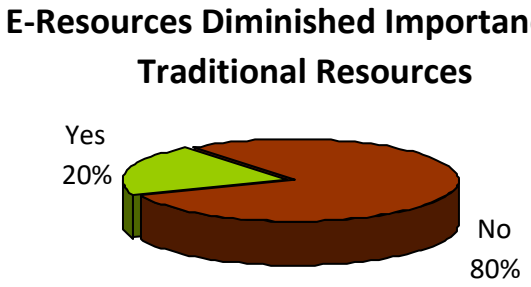

Figure 2

5.0 Conclusion

There is a huge hype for online resources in the present era and a great amount of money has been investing for subscribing these online resources but do we have use of these resources up to that extent ? Answer we have to find. In the present study a big number of respondents either unaware of the various online resources or have a very less use of resources of their respective field. They are not even able to find the desired article or face various other problems i.e. bulk of literature and lack of exact or pinpointed information. Almost half of the respondents are not confidents in locating Ovid Medline or Pub Med, it shows lack of training. The major reason of less use of online resources is that proper training has not been provided to research scholars. Librarians should realize the training need of users for various databases and it should be a normal practice to conduct such type of training on regular basis. On doubt respondents prefer to use online resources in compare to print resources, they are more comfortable in using online resources. As per the majority of medical respondents online resources are easy to use, time saving and more informative. It is concluded that scientific community is on the right track, this is definitely time of ICT and we can't survive without it, but need full enthusiasm and well-planned implementation.

6.0 References:

1. Asemi, Asefeh & Riyahiniya, Nosrat. Awareness and use of digital resources in the libraries of Isfahan University of Medical Sciences, Iran", Electronic Library, 2007, 25 (3), 316-327.
2. Dee, C & Stanley E.E. Information-seeking behavior of nursing students and clinical nurses: implications for health sciences librarians. Journal of Medical Library Association, 2005, 93 (2), 213-22.
3. Eskola, E.L. Information literacy of medical students studying in the problem-based and traditional curriculum," Information Research, 2005, 10 (2)
4. Groote, Sandra L. et al. Information-seeking behavior and the use of online resources: a snapshot of current health sciences faculty. *Journal of Medical Library Association*, 2014, 102 (3), 169-176.
5. Haines, L.L. et al. Information-seeking behavior of basic science researchers: implications for library services. *Journal of the Medical Library Association*, 2010, 98 (1), 73-81.
6. Lu, H.Y. et al. Predictors of online information seeking by international students when disaster strikes their countries. *Cyberpsychology & Behavior*, 2007, 10 (5), 709-12.
7. Powell, C.A. & Smith, J.C. Information literacy skills of occupational therapy graduates: a survey of learning outcomes. Journal of Medical Library Association, 2003, 91 (4), 468-477.
8. Urquhart, C. et al. Changes in information behavior in clinical teams after introduction of a clinical librarian service. *Journal of the Medical Library Association*, 2007, 95 (1), 14-22.