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Use of Electronic Information Resources at the Indian Pharmacopoeia Commission

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ABSTRACT

The present study sought to study the user experience and perception of using different types of electronic information sources (EIS) by the scientists, pharmacopoeia associates and scientific assistants; to analyse the different purposes for which the EIS is used by the respondents and to access current user characteristics associated with use of online resources and databases at the Indian Pharmacopoeia Commission (IPC). The study is based on questionnaire method. A questionnaire was distributed among the scientists, pharmacopoeia associates and scientific assistants to collect desired data. Total 40 questionnaires were distributed to the selected sample for the current year, 37 valid samples were collected and analysed. The result showed a growing interest in online journals among the users at IPC. The survey showed that majority of respondents marked that library possessed useful online journals and databases for the scientific community. The data scanned and preserved in document management software play an important role to access relevant information. Awareness among the users about the availability of online journals was found highly satisfactory. Online journals were mostly used for research needs and similarly pharmacy and pharmacology discipline-based journals used widely. The EIS is better for accessing current and comprehensive information.

Keywords: Electronic information sources, e-journals, online databases, Indian pharmacopoeia, document management software, digital collection

1. INTRODUCTION

Remote access of online journals has been a major boon to technical and research libraries. Online journals are considered the note chord of any library's collection and have become indispensable for research in any field. Many online journals are available in the form of databases as well as being directly accessible through the internet. The quantity of online journals is growing larger and has become a quite visible entity in serial publication[1].

With information deluge, everyone needs information of increasing variety and diversity of level, frequency, volume, and ease. This complex situation appears to be ambiguous and heterogeneous as that information need of particular groups of users and information flow from specific situations in organisation are difficult to determine. This situation has given rise to the growth concept of information searching and the manner to determine the pattern of searching[2].

One of the major developments in library and information systems in the past two decades is the advent and spread of electronic information sources (EIS), services and networks mainly as result of developments in information and communication technologies. The commonly available EIS, namely, CD-ROM, online databases, online public access catalogues (OPAC), and the internet and other networked information sources are competing and in some instances replacing the print-based information sources. The EIS provide access to information that might be restricted to the user because of geographical location or finances. They also provide access to current information as these are often updated frequently[3]. Access to information is important to individual scientists, groups of scientists or the academic community and research institutions for accomplishment of their programmes and research projects.

Access to e-resources has decreased the time spent searching for information. Access is only as good as the resources that can be afforded (e.g., the number of

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computers and existence of network systems), the ability to work with the tools, and the network infrastructure that supports rapid and convenient connections. The ability to use e-resources efficiently depends on basic computer skills, knowledge of what is available and how to use it, and ability to define a research problem. How scientists and researchers attain the above skills and knowledge depends on many factors, such as their disciplines, academic status and ranks, age, access (hardware and location) to e-resources, and training. Factors motivating the use can be, for example, what level of importance they allocate to e-resources, how useful they have found them, and for which purposes they use e-resources[4].

The library and information centres play a leading role in scientist-library relationships and in instructional services such as orientation and training in the use of library resources. If efficient and effective use is to be made of library and information centre's e-resources, then user training will have to be increased in both intensity and coverage. It is important to remember that the ability of library staff to keep up to date is necessary, and, therefore, training for them is crucial as well[5]. Effective use of EIS for retrieving needed information will have a profound impact especially on the quality of research output (basically in the publication of Indian pharmacopoeia (IP), i.e., adding new monographs or in good laboratory practices, testing of drugs) by the IPC's pharmacopoeia scientists and associates.

1.1 Indian Pharmacopoeia Commission

Indian Pharmacopoeia Commission (IPC) is an autonomous institution of the Ministry of Health and Family Welfare, Govt. of India. The IPC is created to set standards of drugs in the country. Its basic function is to update regularly the standards of drugs commonly required for treatment of diseases prevailing in this region. It publishes official documents for improving quality of medicines by way of adding new and updating existing monographs in the form of IP. It further promotes rational use of generic medicines by publishing National Formulary of India.

The IP prescribes standards for identity, purity and strength of drugs essentially required from health care perspective of human beings and animals. The IPC also provides IP Reference Substances (IPRS) which act as a finger print for identification of an article under test and its purity as prescribed in IP. The IP standards are authoritative in nature. The IP is an official document meant for overall quality control and assurance of pharmaceutical products marketed in India by way of contributing on their safety, efficacy, and affordability.

2. LITERATURE REVIEW

A large number of earlier studies of users of online journals have appeared in the last few years. De-Groote[6] sought the research to determine the impact of online journals on the use of print journals and inter-library loan (ILL).The statistics regarding the use of print journals collected for the period 1995 to 1999 were used for the study. Also, the request forms of ILL from 1995 to 2000 of UIC-Peoria students, faculty and staff were studied. The paper shows that print journals usage decreased significantly since the introduction of online journals. This decrease occurred where a journal was available in print. The ILL request was decreased due to the introduction of online journals. The decrease in use of print collection was due to preference of use to access online journals and the negative impact of online journals was that the use of journals' titles was available only in print. It has also focused that the users may compromise over quality for convenience when selecting 24 articles from journals.

Monopli[7], *et. al.*, in their study of the University of Patras Greece used an online questionnaire to collect the data on electronic use which was made available on the e-journals services website. The findings have brought out that a vast majority of respondents were regular internet users, 64 per cent users faced the problem of 'too much networked information' when searching the internet, 85.5 per cent used internet daily and 8.4 per cent weekly. Due to lack of time to search for information, 45 per cent respondent failed to find required information. The main users of e-journals service were mostly researchers and academic staff. The e-resources were used more frequently by end-users below 35 years of age, it was also brought out that most of the end-users were men.

Momani[8] conducted a research to investigate the use of internet by the faculty members of applied science and technology in Jordon to find out how and why they used the internet and what level of satisfaction they obtained from it. The findings of the study indicated that the internet was widely used among faculty members in Jordan and its use was similar to that in any other developed country. The most widely used applications were the web for research and e-mail for communication. The faculty members in Jordan found no discomfort in their use of the internet and they perceived it as a very useful tool for research and communication. Respondents also indicated that lack of time, access, speed, training, and university support was the most important barrier for the effective use of the internet. The study recommended that more training should be provided for the vast majority of faculty members, for all schools, ranks, and both the genders.

Siebenberg[9], *et al.*, studied to determine if the selection of e-journals in the Owen Science and Engineering Library was changing students' and researchers' choice of journals in the paper. The statistics available from publishers of the journals from 1998 to 2001 were used as method for study in three Science/ technology disciplines at Washington State University. The results showed that print journals were being used

more than e-journals. Generally, e-journals were used heavily and the availability of electronic format enhanced the total use of most titles. Some e-journals were used little or not at all and there were a substantial increase in the use of some print journals.

3. OBJECTIVES OF STUDY

The main objectives of the study were to:

- Study the user experience and perception of using of different types of electronic information sources by the scientists, pharmacopoeia associates and scientific assistants;
- Analyse the different purposes for which the EIS is used by the respondents;
- Identify the constraints faced by the respondents while using the EIS in the Library and Information centre;
- Know the impact of usage on the collection of print journals as well as e-journals; and
- Assess the satisfaction level of the users with the access to EIS in the Centre.

3.1 Scope of Study

The present study deals with use of e-resources in IPC of India. The geographical area is restricted to IPC only. This can be extended over to the other organisations. Detailed analysis can be taken to see the impact of technology on libraries and usage. Further studies could identify which barriers occur at which stages in the information using process and how can these obstacles be over come. There is a vast scope for further research to study different types of users' behaviour and comparison of users' behaviour and attitudes towards the e-resources. Finally investigator believes that studies are needed on ways to improve and encourage users to use maximum of electronic information resources. The results will help collection developers in designing suitable policy and assess the technical intricacies faced by the library staff in providing effective EIS services. It will also help in designing the efficient infrastructure requirements for managing journals in both the formats.

4. METHODOLOGY

The present study was conducted using questionnaire-based survey along with observations and informal interviews. The questionnaire was pre-tested on 10 users which included the 3 groups: the scientists, pharmacopoeia associates, and the scientific assistants and some amendments were made. A total number of 40 questionnaires were administered among the users of the Library and Information Centre, IPC under study. Out of which 37 questionnaires were received back duly-filled in. The sample respondents chosen for the study consists of 13 scientists, 16 pharmacopoeia associates, and 08 scientific assistants. The data collected were tabulated and analysed. Statistical techniques of percentage of respondents have been mainly used to analyse the collective data.

5. SURVEY RESULTS

The status of respondents which includes 35.14 per cent scientists, 43.24 per cent pharmacopoeia associates and 21.62 per cent scientific assistants (Table 1).

Table 1. Sample population

Professional status	Response	%
Scientists	13	35.14
Pharmacopoeia associates	16	43.24
Scientific assistants	08	21.62
Total	37	100

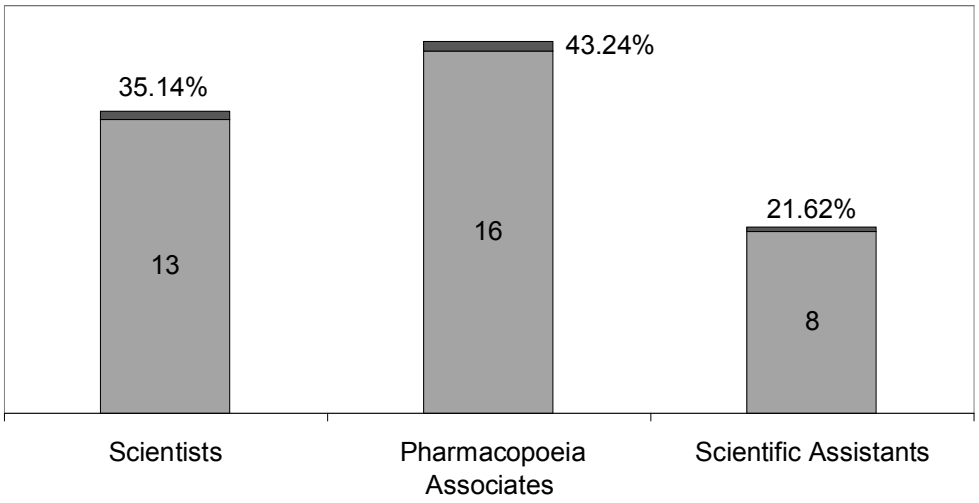

Figure 1. Status of respondents.

According to their own assessment, a majority (56.76 %) of the respondents stated that they have 'average skill' in the use of computers. 43.24 per cent of the respondents opined to have 'above average skill' in the use of computers. On the whole, respondents' self-perceived ability to use the computer for electronic information sources is quite high (Table 2).

Table 2. Perceived level of computer literacy

	Computer literacy		
Professional status	**Average**	**Above average**	**Total**
Scientists	5 (38.46 %)	8 (61.54 %)	13 (100 %)
Pharmacopoeia associates	10 (62.50 %)	6 (37.50 %)	16 (100 %)
Scientific assistants	6 (75.00 %)	2 (25.00 %)	8 (100 %)
Total	21 (56.76 %)	16 (43.24 %)	37 (100 %)

The respondents were asked to mark the library services used at Library and Information Centre, IPC. The services provided by the Centre are depicted in Table 3. Of the population of scientists and pharmacopoeia associates (100 %) preferred accessing e-journals, online databases, internet facility, CD-ROM databases and the scan/xerox/printout facility provided by the IPC. In case of scientific assistants, 100 % preferred internet/scan/xerox/printout facility (Table 3).

Table 3. Use of library services

Library services	**Professional status**		
	Scientists	**Pharmacopoeia associates**	**Scientific assistants**
Lending service	3 (23.08 %)	0	1 (12.50 %)
Reference service	9 (69.23 %)	5 (31.25 %)	2 (25.00 %)
Abstracting service	13 (100 %)	16 (100 %)	3 (37.50 %)
Indexing service	3 (23.08 %)	4 (25.00 %)	0
CAS	3 (23.08 %)	4 (25.00 %)	2 (25.00 %)
SDI	9 (69.23 %)	5 (31.25 %)	2 (25.00 %)
Audio-video facility	6 (46.15 %)	9 (56.25 %)	3 (37.50 %)
Scan/xerox/printout	13 (100 %)	16 (100 %)	8 (100 %)
CD-ROM database	13 (100 %)	16 (100 %)	3 (37.50 %)
Internet facility	13 (100 %)	16 (100 %)	8 (100 %)
Online database	13 (100 %)	16 (100 %)	3 (37.50 %)
E-journals	13 (100 %)	16 (100 %)	3 (37.50 %)

The respondents were asked to give reasons as to why they use EIS but based on choices fixed by the scientists and pharmacopoeia associates. Various professional purposes for which electronic information sources was used were elicited from the respondents. Table 4 indicates the purpose of using the electronic information sources. It is noted that there is significant use of electronic information sources mainly for research purposes (100 %), and it is quite natural that the respondents have given top priority for this purpose (Table 4).

Table 4. Purpose of using electronic information sources

Purpose	**Professional status**		
	Scientists	**Pharmacopoeia associates**	**Scientific assistants**
Research work	13 (100 %)	16 (100 %)	8 (100 %)
Thesis/Projects	0	16 (100 %)	3 (37.50 %)
Writing a research paper for publication	13 (100 %)	16 (100 %)	3 (37.50 %)
Subject specific Information	13 (100 %)	16 (100 %)	8 (100 %)
Exploring for research grant	0	12 (75.00 %)	0

In IPC, the respondents use a variety of electronic information sources. To ascertain various demands, the respondents were asked to state their subject interest in use of specific types of electronic information sources. Their responses are depicted in Table 5. Majority of scientists (100 %) browsed e-journals, online databases and used CD-ROM databases. In case of pharmacopoeia associates (100 %), they browsed subject specific information websites, e-Journals, online databases and used CD-ROM databases. The scientific assistants marked 37.50 per cent in browsing of e-journals, online databases, research project sites, and CD-ROM databases (Table 5).

Table 5. Use of specific types of subjects and allied areas electronic information sources

Electronic information sources	**Professional Status**		
	Scientists	**Pharmacopoeia associates**	**Scientific assistants**
Subject specific information websites	10 (76.92 %)	16 (100 %)	0
International/regional institution websites	3 (23.08 %)	5 (31.25 %)	2 (25.00 %)
E-journals	13 (100 %)	16 (100 %)	3 (37.50 %)
Online databases	13 (100 %)	16 (100 %)	3 (37.50 %)
Research project sites	0	12 (75.00 %)	3 (37.50 %)
E-books	10 (76.92 %)	13 (81.25 %)	2 (25.00 %)
CD-ROM databases	13 (100 %)	16 (100 %)	3 (37.50 %)

Table 6 provides the use of journal from different discipline, 100 % respondents use pharma-based journals. Table 6 also shows the other most used and useful online journals.

Table 7 reveals that the population of scientists and pharmacopoeia associates (100 %) preferred online version of journals. Whereas, 30.77 per cent of scientists and 37.50 per cent of pharmacopoeia associates preferred print version. Whereas, the overall responses of scientific assistants were 12.50 per cent (Table 7).

The IPC has installed FineDocs Document Management Software in Library & Information Centre. The document management software is for 5 users and

Table 6. Use of journals related to subject fields

S. No.	Name of journal	Professional status		
		Scientists	Pharmacopoeia associates	Scientific assistants
1.	*Analyst*	5 (38.46 %)	9 (56.25 %)	2 (25.00 %)
2.	*Analytical Abstracts*	2 (15.38 %)	3 (18.75 %)	2 (25.00 %)
3.	*Current Science*	9 (69.23 %)	5 (31.25 %)	2 (25.00 %)
4.	*Drugs*	13 (100 %)	16 (100 %)	3 (37.50 %)
5.	*Drugs Today*	13 (100 %)	16 (100 %)	8 (100 %)
6.	*Drug Development & Industrial Pharmacy*	13 (100 %)	16 (100 %)	3 (37.50 %)
7.	*European Journal of Pharmaceutical Science*	13 (100 %)	16 (100 %)	0
8.	*Indian Drugs*	13 (100 %)	16 (100 %)	8 (100 %)
9.	*Indian Journal of Biochemistry & Biophysics*	0	2 (12.50 %)	0
10.	*Indian Journal of Chemistry-A*	3 (23.08 %)	3 (18.75 %)	2 (25.00 %)
11.	*Indian Journal of Chemistry-B*	3 (23.08 %)	3 (18.75 %)	2 (25.00 %)
12.	*Indian Journal of Experimental Biology*	1 (07.69 %)	2 (12.50 %)	0 %
13.	*Indian Journal of Physiology & Pharmacology*	13 (100 %)	16 (100 %)	3 (37.50 %)
14.	*Indian Journal of Pharmacology*	13 (100 %)	16 (100 %)	3 (37.50 %)
15.	*International Pharmaceutical Abstracts*	2 (15.38 %)	0	0
16.	*Journal of AOAC International*	13 (100 %)	16 (100 %)	0
17.	*Journal of Analytical Chemistry*	6 (46.15 %)	10 (62.50 %)	2(25.00%)
18.	*Journal of Controlled Release*	10 (76.92 %)	12 (75.00 %)	0
19.	*Journal of Pharmacy And Pharmacology*	13 (100 %)	16 (100 %)	3 (37.50 %)
20.	*Journal of Pharmaceutical And Biomedical Analysis*	13 (100 %)	16 (100 %)	3 (37.50 %)
21.	*Journal of Pharmaceutical Science*	13 (100 %)	16 (100 %)	3 (37.50 %)
22.	*Journal of Scientific & Industrial Research*	2 (15.38 %)	1 (6.25 %)	0
23.	*Journal of The American Pharmacists Association*	13 (100 %)	16 (100 %)	3 (37.50 %)
24.	*Medicinal & Aromatic Plants Abstracts*	2 (15.38 %)	2 (12.50 %)	0
25.	*MIMS India*	13 (100 %)	16 (100 %)	3 (37.50 %)
26.	*Microbiology*	3 (23.08 %)	1 (6.25 %)	0
27.	*Pharmaceutical Research*	13 (100 %)	16 (100 %)	3 (37.50 %)
28.	*Phytochemistry*	2 (15.38 %)	1 (6.25 %)	0
29.	*Planta Medica*	2 (15.38 %)	1 (6.25 %)	0

Table 7. Preference level of using online journals

Electronic information sources	Professional Status		
	Scientists	Pharmacopoeia associates	Scientific assistants
Print version	4 (30.77 %)	6 (37.50 %)	1 (12.50 %)
Online version	13 (100 %)	16 (100 %)	2 (25.00 %)
Both	6 (46.15 %)	7 (43.75 %)	1 (12.50 %)

preserved Indian Pharmacopoeias with addendum since 1957 and bound volume of journals (All issues of 17 titles since 1965). The users can easily access the relevant information through this software, like save the data in mass storage, take print out, copy or edit, etc. The survey also queried the respondents about the EIS accessed via database management software. The responses are depicted in Table 8. Both editions (old and new) of Indian

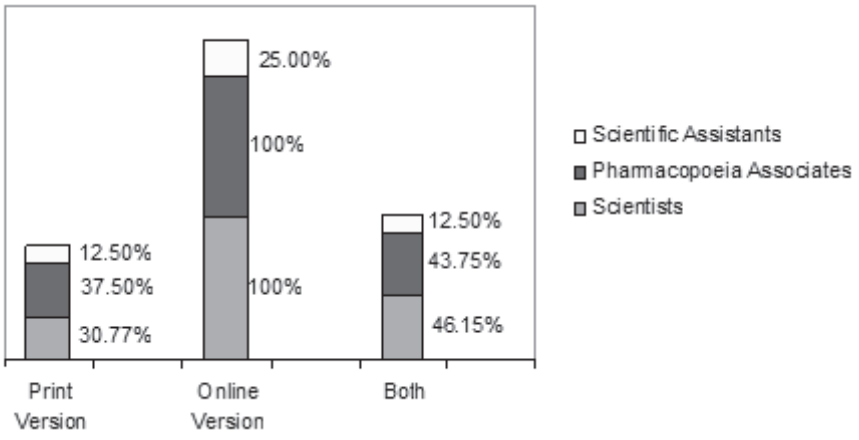

Figure 2. Preference level of use of journals.

Pharmacopoeias and bound volume journals are very useful. Of the population of scientists and pharmacopoeia associates (100 %) access new edition of Indian Pharmacopoeia and journals. (Table 8)

Table 8. Use of electronic information sources via database management software

Electronic information sources	Professional Status		
	Scientists	Pharmacopoeia associates	Scientific assistants
Indian Pharmacopoeia (old edition)	4 (30.72 %)	9 (56.25 %)	0
Indian Pharmacopoeia (new edition)	13 (100 %)	16 (100 %)	3 (37.50 %)
Journals (old version)	6 (46.15 %)	9 (56.25 %)	0
Journals (new version)	13 (100 %)	16 (100 %)	3 (37.50 %)

The respondents were asked to mark the use patterns of EIS. As IPC provides printout facility (colour & black), majority of the respondents (100 %) make use of print mode (Table 9).

Table 9. Use patterns of electronic information sources

Use pattern	Response	%
Download in storage device	18	48.65
Take print out	37	100

Users perceive EIS to hold many advantages. Some of the main benefits of using electronic information resources are listed in Table 10. From the analysis it is evident that a large majority and also equal percentage (100 %) of the respondents got better informed and get current and comprehensive information by using EIS (Table 10).

Respondents in this study were asked about the satisfaction with current state of EIS access in their Library and Information Centre, which is a very important variable to investigate user behaviour. All the respondents (100 %) were highly satisfied to access EIS (Table 11).

Table 10. Benefit of electronic information sources

Nature of benefits	Professional status		
	Scientists	Pharmacopoeia associates	Scientific assistants
Better access to information	13 (100 %)	16 (100 %)	3 (37.50 %)
Time saving	10 (76.92 %)	12 (75.00 %)	2 (25.00 %)
Access to current information	13 (100 %)	16 (100 %)	3 (37.50 %)
Collaboration with distance colleagues	3 (23.08 %)	4 (25.00 %)	1 (12.50 %)
Access to comprehensive information	13 (100 %)	16 (100 %)	3 (37.50 %)

Table 11. Satisfaction level of access to electronic information sources

Satisfaction level	Professional status		
	Scientists	Pharmacopoeia associates	Scientific assistants
Highly satisfied	13 (100 %)	16 (100 %)	08 (100 %)
Satisfied	0	0	0
Moderately satisfied	0	0	0
Dissatisfied	0	0	0

6. FINDINGS

- On the whole, respondents' self-perceived ability to use the computer for EIS is quite high.
- There is significant use of EIS mainly for research purposes (100 %), and it is quite natural that the respondents have given top priority for this purpose.
- Effective use of EIS for retrieving needed information will have a profound impact on the quality of research output (basically in the publication of IP, i.e., adding new monographs or in good laboratory practices, testing of drugs) by the IPC scientists and pharmacopoeia associates.

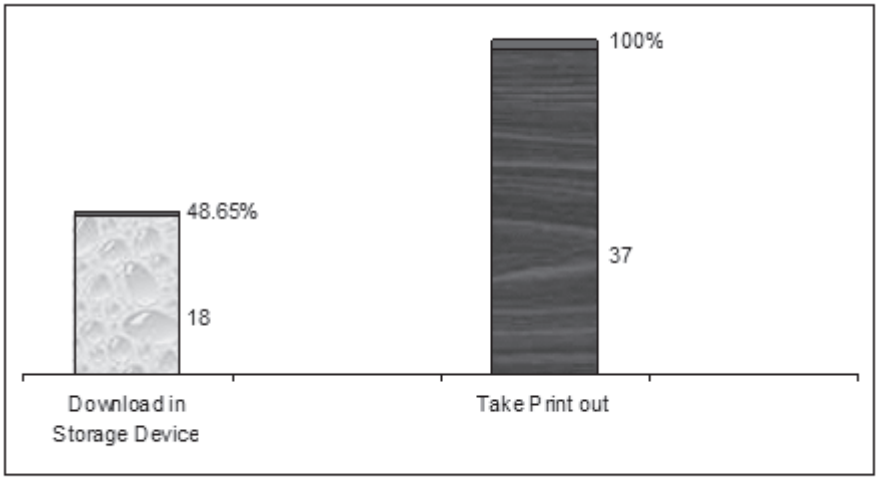

Figure 3. Using patterns of EIS.

- Awareness among the users about the availability of online journals was found satisfactory (100 %). All the respondents (100 %) use pharma-based journals.
- The findings confirm that a large percentage (100 %) of users in an IPC prefer online version.
- All (100 %) of the respondents felt to be better informed and get current and comprehensive information by using EIS.

7. SUGGESTIONS

There is no doubt that the internet has assumed the role of providing a medium of scientific information and today's users can no longer depend only on conventional information resources to cope with the latest developments in their respective fields. The internet can provide access to essentially unlimited resources of information in the field of pharmacy and pharmacology as in other disciplines. Although the Library and Information Centre at IPC is well equipped with the information communication technology, but the following suggestions should be followed for further improvement:

(i) The Library and Information Centre at IPC should be grown in planned manner and this required scientific planning and complete reorganisation.

(ii) The EIS as well as conventional resources at library should be fully utilised.

(iii) Library needs to introduce more extensive information and reference services.

(iv) The librarian and staff may be provided with on-going assistance through compilation of manuals and handbooks in the use of EIS, assistance vide e-mail, personal assistance, and accessing quality information.

8. CONCLUSIONS

The information resources are very important for the functioning of the government as well as national welfare. These resources need to be harnessed and utilised properly. The survival of an organisation largely depends upon the utility of its services in relation to the community it serves. It is, therefore, necessary to take into account the present state of affairs of the working of these libraries. The clientele of the government library is very complex so also are their information needs. Services based on management principles need to be renewed frequently keeping in view the changing requirements of the users particularly in the Government of India libraries.

Scientific and technical problems have now themselves reached a level which requires abundant, relevant, and timely use of information. Information plays an all-important role in scientific and technical activities. The work efficiency and productivity of scientists and the quality of work performed by them is affected significantly by the operation of the information system. Scientific and technical information has itself been recognised as a resource. In view of its role and importance as a resource, the issues relating to scientific and technical information are now finding a place of priority in the scientific and technological plans and programmes of several nations. Various scientific and technical libraries, documentation, and information centres are being upgraded, improved, and integrated to enhance their importance and role in the transfer of information. In this regard IPC has upgraded and improved their Library and Information Centre at satisfaction level. The IPC provides adequate budget every year for the upgradation of library. It allocates 47 lakh for the subscription of journals per annum.

Findings of this study confirm that EIS are now ubiquitous for members of the scientific community. As Library and Information Centre provides more online resources, librarians should take steps to make sure users are aware of these resources and teach users their importance in filling information needs. The online information environment is not static; rather, frequent changes in content, search engines, and access points make for a constantly moving target. Changing use patterns will require librarians to examine collection development policies, instructional programmes, and reference services to meet information needs in the online environment.

REFERENCES

1. Scherrer, C.S. & Jacobson, S. New measures for new roles: Defining and measuring the current practices of health sciences librarians. *JMLA,* 2002, **90**(2), 164-72.
2. Bar-Ilan, J.; Bluma, C. Peritz & Wolman, Y. A survey of the use of electronic databases and electronic journals accessed through the web by the academic staff of Israelli Universities. *JMLA,* 2003, **29**, 346-61.
3. Kannappanavar, B.U. & Rajanikanta, S.T. Effective use of e-learning materials in medical college libraries in Karnataka: A study. *SRELS J. Inf. Manag*., 2008, **45(**4), 437-54.
4. Forsman, R.B. Managing the electronic resources transforming research libraries: Challenges in the dynamic digital environment. *Advances in Librarianship*, 1998, **22**, 1-19.
5. Majid, S. & Abazova, A.F. Computer literacy and use of electronic information sources by academics: A case study of International Islamic University, Malaysia. *Asian Libraries,* 1998, **8**(4), 100–11.
6. Groote, De; Sandra, L. & Dorsch, Josephine L. Measuring use patterns of online journals and databases. *JMLA,* 2003, **91**, 231-41.

7. Monopli, Maria; Nicholas, David; Georgiou, Panagiotis & Korfiati, Marima. A user oriented evaluation of digital libraries: A case study. The electronic journals' services of the library and information service of the University of Petra, Greece. *Aslib Proceedings,* 2002*,* **54**(2), 103-17.

8. Momani, Hassan Ahmad. Evaluation of the nature, extent, and satisfaction with use of the internet by applied science and technology faculty members in Jordon. Dissertation University of Pittsburg, DAI-A 64/ 12(2003):176.8, July 2004.

9. Siebenberg, Tammy R.; Galbraith, Betty & Brady, Eileen E. Print versus electronic journal use in three sci./tech disciplines: What's' going on here? *Coll. Res. Libr.,* September 2004, 427-38.

10. Tenopir, C.; King, D.W. & Bush, A. Medical faculty's use of print and electronic journals: Changes over time and in comparison with scientists. *JMLA,* 2004, **92**, 233-41.

11. www.ipc.gov.in (accessed on 30 December 2010)

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