CHAPTER VII

MAJOR FINDINGS AND RECOMMENDATIONS

7.1 Introduction

Undoubtedly, information technology has made it possible to cope up with the unprecedential and evergrowing deluge of information. In such a situation, implementation of basic philosophy of librarianship into practice remains a naging problem. In this process of organising, retrieving the volume of information in general and medical information in particular the recent technological advances in ICT are playing a vital role. On the basis of analysis of data collected from five Health Science Libraries viz. B. B. Dixit library of AIIMS, ICMR, National Medical Library, National Documentation Centre of NIHFW and Maulana Azad Medical College library. Some major findings and recommendations are enunciated.

7.2 Major Findings

Impact of information technology on Health Science Libraries (HSL) of Delhi is evident from the following findings.

7.2.1 As per data of Medical Council of India, there are as many as 150 Government Medical Colleges and 184 Private Medical Colleges established in India. Of these, five Government Medical Colleges and one private Medical College i.e. Army College of Medical Sciences are established in Delhi. In addition to that, National Documentation Centre and National Medical Library from the integral parts of National Institute of Health and Family Welfare, and Indian Council of Medical Research respectively both are situated at Delhi.

7.2.2 It is noticed that all five HSL under the present study were established during 1949 to 1977, three libraries are academic whereas one is documentation centre and one is National Medical library.

7.2.3 Four libraries are fully automated catering the needs of users, whereas only one viz. National Medical library is just planning to adopt IT application in library operations.
7.2.4 Out of the total 71 sanctioned posts of library professionals in all the five libraries under study, as many as 23 posts are vacant, a hard reality affecting the library services.

7.2.5 It has also been further observed that 40% of the available library staff in the five HSLs belongs to the age group varying from 40 to 45 years. None of them is below the age of 25 years.

7.2.6 It is noticed that the collection (both Print and Non Print) varies from one library to another, whereas, National Medical library has the maximum collection of books i.e. 145000, B. B. Dixit library has the maximum collection of bound volumes of journals i.e. 71000, ICMR library has the least number of books, journals and other print resources.

7.2.7 With regard to e-resources it is noticed that B. B. Dixit library has the maximum collection that include 100 e-books, 1480 e-journals and various databases. National Medical library has maximum number of CD-ROMs i.e. 1000. E-Resources of National Documentation Centre of NIHFW are the best as compared to other libraries.

7.2.8 As to the budget allocation, National Medical library has the maximum budget i.e. 270 lakhs per annum, followed by Maulana Azad Medical College with 260 lakhs per annum and National Documentation Centre with only 20 lakhs. The volume of available grant naturally affects the availability of IT infrastructure to provide better services.

7.2.9 Regarding the library membership, B. B. Dixit library has the highest number in libraries i.e. 3495 which includes students, faculty members, non teaching staff and special members. This is followed by Central library of Maulana Azad Medical College which has 1196 members on the roll. National Documentation Centre has only 103 library members.

7.2.10 The available IT equipments in all the five libraries include scanners, laser printers, security devices, CC Cameras and electronic gates, apart from round the clock access of Internet and Intranet. Maulana Azad Medical College is better equipped with 60 systems and 12 printers, followed by B. B. Dixit library with 40 systems and 16 printers.
7.2.11 All the five libraries, except NDC are subscribing online full text journals through various agencies individually and databases including ERMED.

7.2.12 As to the proper space for different library services, B. B. Dixit library of AIIMS has reading rooms for students, separate rooms for faculty members, photocopying service, videos and to access e-resources. In contrast, infrastructural facilities of NDC are very limited.

7.2.13 It is noticed that all the five Health Science libraries except NDC have separate e-resource centre.

7.2.14 With regard to the time period, it was found that E-Resource centre of B. B. Dixit library of AIIMS remains open for 24 hours, whereas E-Resource centres of Maulana Azad Medical College, National Medical library and ICMR remain open for 6 to 10 hours per day.

7.2.15 None of the five HSLs except B. B. Dixit library has any policy for library users to access e-resources. B. B. Dixit library has developed a guide to library users.

7.2.16 User education is provided by all HS libraries except NDC. Most of the libraries are providing user education through training. B. B. Dixit library provides user education through workshops and also by providing computer aided instructions.

7.2.17 BBDL, MAML, NML and ICMR keep the usage report of e-resources. B. B. Dixit library keeps the usage report by electronic method, whereas rest maintain the record by register method.

7.2.18 No library has any policy to encourage the best user of e-resources.

7.2.19 The library staff invariably believes in the significant improvement in efficiency, effectiveness, library services and user satisfaction with the introduction of ICT in HSLs. Their skills have also been enhanced as most of library professionals have got IT training and attending workshops. None of them agreed with the statement that with the application of IT their abilities have not improved.
7.2.20 The major impact of IT on libraries as perceived by the staff, have been the facilitated resource sharing, eliminated duplication of efforts and improved speed of operations while increasing expenditure on IT equipments.

7.2.21 In all the five HSLs, IT implementation has resulted in faster pre-order duplicate checking, easy preparation of purchase orders, keep in accurate and up to date record of orders, timely reminders, easy book selection and easy new arrivals display, easy to check old class numbers, easy to assign new class numbers and bring uniformity in classification work. It also saves much time in classification.

7.2.22 Regarding the circulation activities, the library staff feels that IT has improved accuracy and control over circulation activities like renewal, reservation, loans, preparing usage statistics. It has also help in calculating overdue fines and to block defaulters.

7.2.23 The study further reveals that information technology has enabled HSLs to improve subscription and renewal of journals, to keep up to date record of subscription, faster recording of new issues and easy to maintain the record of missing issues.

7.2.24 It was found that the biggest impact of IT on Health Science libraries include, IT enabled more complex and more specific searches by using Boolean and Heuristic search terms.

7.2.25 Out of the total sample 69% users were found to have IT training, that shows the inclination of users in HSLs. 32% users were found to possess IT oriented diplomas with 17% UG and 9% PG courses.

7.2.26 As to the awareness of online library services, 84% users were found to be fully informed as all of them have been using OPAC, online journals and automated reference service. However, only 73% use e-books, and 69% electronic database services and only 27% of them were aware about institutional repository.

7.2.27 Analysis of users’ preferences of reading material revealed that 100% users pay top priority to print format of information and 23% pay middle priority to research reports, 27% to medical news. 25% respondents never used bibliographies and 22% never used print theses. With regard to e-resources
100% users give top priority to e-journals and databases, 21% pay middle priority to e-books 13% to e-theses and 40% users give low priority to e-books and e-newspapers. 35% users never used e-newspaper and 31% never accessed e-theses.

7.2.28 The users were found to use different methods of accessing e-resources as 89% users give top priority to PC and 79% to smart phones, 30% give priority to tablets, 10% to laptops. 11% respondents never used tablets to access e-resources.

7.2.29 As to the use of online databases, 82% users are aware of online medical databases. 40% out of the total access these databases at hostel, 54% at their residences, whereas maximum users access them from library’s e-resource centres, only 25% users access them at other places.

7.2.30 Maximum users i.e. 82% learn to access e-resources through help desk in the library, 61% by self-effort, 43% by user education programmes and 37% learn through computer aided instructions.

7.2.31 There are many problems faced by the users in accessing e-resources. Majority of the users i.e. 61% believes slow internet speed and lack of guidance in accessing e-resources, 49% feel inadequate number of computers and 32% say poor infrastructural facilities are responsible for accessing e-resources.

7.2.32 PubMed database is the most known among users i.e. 68%, followed by 59.70% science direct, 58.20% ERMED and 50.74% respondents know popline database, other online medical databases available free are not known to the users.

7.3 Testing of Hypothesis

Hypothesis 1 : Health Science Libraries being most important amongst all different types are fully staffed.

Public Health being the priority area of the government in almost all the countries, it is expected that, as per the above Hypothesis, the libraries of Medical institutions will serve the students and faculty members in a better way with full strength of its staff. However, during the research, it was noted
that 33% of the total sanctioned technical posts in all the five HSLs under study, are vacant. The hypothesis is thus disapproved.

**Hypothesis 2 : In view of the advent of Information & Communication Technologies (ICT), Health Science Libraries are well equipped with the latest techniques of ICT.**

HSLs are expected to be well equipped with the latest ICT technologies for the storage and retrieval of vast volume of information because they are expected to serve those who in turn directly serve the society in the maintenance of their health. The investigations conducted during the compilation of the thesis agreed to the said hypothesis to a large extent for all the HSLs except National Medical Library are fully automated and use ICT technologies in library operations and provision of services including e-books, e-journals and online databases. The hypothesis is therefore, proved valid.

**Hypothesis 3 : Health Science being the priority area of the Govt. of India, there should be no shortage of funds for HSLs.**

Being the priority area, it is always expected that the general problem of library regarding the shortage of funds will not be experienced by the HSLs. The hypothesis was proved to be valid in so far as the HSLs receive sufficient amount of funds to meet their requirements with an exception of National Documentation Centre which receives a comparatively smaller grant per annum. It is because of the nature of users and type of services provided by the centre. The hypothesis is thus proved valid.

**Hypothesis 4 : As the subject is directly concerned with the health of the general public libraries invariably make every effort to procure all the resources (print and non print) and make them available to the users.**

As far as the procurement of print and non-print resource by the HSLs are concerned, it was naturally expected as per the hypothesis that the librarian will leave no stone unturned to make available substantially large
number of resources. In view of the availability of sufficient grant as detailed in the preceding hypothesis, this hypothesis too is found to be valid.

**Hypothesis 5**: Students and Faculty being the elite class of users in HSLs are well aware of the Information Communication Technologies which they use for knowing what is available where.

It is a usual phenomenon in almost every country including India that the students joining medical courses belong to the intellectually creamy layer of the society, as they come through rigorous competition. The users of the HSLs are therefore, supposed to be intelligent not only in their subject but also in getting the required information using ICT. Consequently, they are expected to know whereabouts of many resources. The research conducted on this aspect has revealed that the users of HSLs are mostly aware of the technology being used in the libraries for information retrieval. They therefore, require better guidance for retrieval of relevant material which is hard to find. The user orientation programmes are thus organized accordingly. The hypothesis is thus proved valid.

**Hypothesis 6**: User Education in HSLs is generally provided through computer aided instructions (CAI), workshops etc.

The conducted research has revealed that the level of users education and the methods applied for imparting it in HSL, are equite difficult then what are employed in other types of libraries. For them, a brochure explaining the services offered, guidelines to use e-resource/online databases in the ‘Digital resource centre’ of the library, and/or computer aided instruction for each services offered are found to be more than sufficient. The biggest help to the users is provided by the help desk while they find themselves stuck up somewhere. The hypothesis is thus proved valid.

### 7.4 Conclusion

The introduction of information and communication technology and its steady growth during the last decade of the 20th century and the first decade of the present century till date, has revolutionized every walk of human life. The libraries in general
and Health Science Libraries (HSLs) in particular are no exception to this revolution. The aim of present thesis was therefore, to study the impact of Information Technology on select Health Science Libraries and their users. In the process of selection, five Health Science libraries namely B.B. Dixit Library of AIIMS, ICMR, National Medical Library, National Documentation Centre of the National Institute of Health and Family welfare and Maulana Azad Medical College library (all students at Delhi) have been included for conducting this research. A number of aspects were taken into consideration to study the said impact as follows:

As the world of library in terms of its staff is dominated by the females specially in developed countries, a gender wise analysis of the staff of HSLs reveals that it maintains 60 : 40 ratio of male and female staff members. It was however found that the libraries are not fully staffed as 33% of the total sanctioned technical staff were found to be vacant. It is therefore, suggested that the vacancies in HSLs should be filled up without any delay so that full fledged services to the medical students and faculty be provided. This is important because the services of such libraries are directly connected to the health of its country and the society.

The staff of HSLs is by and large well qualified as they are mostly holding graduate / post-graduate degrees in library science. Even some of them have done M.Phil and Ph.Ds. Not only that they have either received training of ICT or have adopted to the latest technologies themselves. Quite a good percentage of the library staff have attended conferences, seminars and workshop in order to develop expertise in ICT. In this context, it may be said that the top administration should keep a watch on the awareness of library staff to keep pace with the changing technologies.

The HSLs in general are well funded to meet the requirements of infrastructure and the resources procured for the library. It may however, be added that the chief librarian should be vigilant about the new library services that come up every now and then and add their cost to the next year’s budgetary requirements. This is probably the only way to keep the services of HSLs at the top.

A study of library membership has revealed the keen interest of the users in library services. It may, therefore, be said that they heavily depend upon their information requirements on their libraries. It may be because of the fact that the resources in medical sciences (print and non print) are too expensive to afford.
As to the collection of HSLs under study, the number and type of resources forming the core collection of the libraries justify the availability of sufficient funds. In this context, it may be said that the librarians must keep in mind ‘Obsolescence factor’ because literature in Health Sciences becomes obsolete, sooner then in other subjects.

As to the library automation and provision of infrastructural facilities the HSLs were found to be fairly well. It again justifies the funding to these libraries. Here also a word of ‘caution’ may be followed about the rapidly changing hardware and software technologies. The chief librarian has to ensure that the latest technology is made available to his users, either through upgradation of the existing hardware/software or through the procurement of latest technologies.

Apart from what has been described above, the chief librarian of any HSL must take care of the fact that their libraries remain the leaders in the technologies adopted, services offered and collections maintained to serve the elite class of users who in turn will emerge as the persons, maintaining the health of the society.

7.5 Recommendations and Suggestions

On the basis of the data analysis of collected data and above findings, the following recommendations and suggestions may be offered for further research and improvement of library services :-

7.3.1 In view of the growth of electronic resources, it has become essential to make use of ICT in library services and in-house operations to the users as much as possible.

7.3.2 Information technology has an impact on every aspect of library and therefore, libraries should create healthy and appropriate environment and prepare staff to willfully accept and adopt this change.

7.3.3 Adequate funds in the form of special grants should be provided for HSL to adopt the modern technologies for the storage and retrieval of health science information. This will increase the provision of enough funds to develop the required sort of IT infrastructure and its maintenance and procurement of e resources.
7.3.4 Use of IT in Health Science Libraries is hitherto limited to few areas of library operations like acquisition and to facilitate e-resources, it is suggested that IT should be used in all library functioning like circulation, serial control and in value added user services like CAS and SDI, Online Database procurement of E-books & E-journals, Reference services.

7.3.5 Whatever IT based services are prescribed by Health Science Libraries, they should be well brought to the notice of users. The libraries therefore, should organise user awareness programmes and other user education programmes to make optimum usage of e-resources.

7.3.6 The libraries must pay due attention towards the increasing demands and systems and improvement in internet speed. The old systems must be upgraded and latest versions of computers be procured for better access of e-resources.

7.3.7 Most of the technical posts are found vacant in libraries, therefore, appointments should immediately be made in HSL, wherever posts are vacant to meet out the actual requirements of libraries to impart quality library services.

7.3.8 It was observed that the database development activity in HSL seem to be very slow. Neither the library are subscribing Health Science Databases nor creating such databases at their own to promote e-learning. It is suggested that HSL should subscribe more Medical databases for the benefit of users.

7.3.9 Most of the HSL have no separate division for e-resources. It is suggested that libraries should establish a separate division of e-resources.

7.3.10 HSL should subscribe more e-resources and international databases in order to provide access to a wide range of electronic resources.

7.3.11 HSL should promote resource sharing among them. One library is not able to acquire all resources due to financial constraints, they should therefore, share the accessible e-resources from other libraries and institutions.
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