IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) ON MEDICAL COLLEGE LIBRARIES OF M.P.

A

SUMMARY

OF THE THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN

Library and Information Science

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In the modern information society the development of Information technology and Telecommunication networks is accompanied by increasing of knowledge and growing flow of information. This new information environment requires new skills between different type of users for retrieving, exchanging, processing and using information. The skill or ability of any individual to understand the use of information is a qualitative, ongoing learning process. Learning and teaching are important for the educational system and information society. The education system is changing for several reasons, such as social, cultural, political and economic changes etc. The role of librarians and information professionals in this new environment has been strongly influenced by these changes.

The ICT plays a vital role in the various fields in the world. It has made the communication process very easy and simple to communicate. The whole world is just in figure touch and users can access to the most of the big and large libraries on the Internet. ICT is also becoming a major driving force of globalization to improve the global health-care systems. The implementation of ICT resources is a process of using the latest technology for making working process easy and which reduces the time of manually done functions. It is also called the process of automation in the libraries.

The use of computer hardware, software and other peripherals in manual library functions is called automation. Through automation different operations can be performed automatically by the machines. Some definitions regarding the Automation, Library Automation and Automated Library are given below-
1. As per the Encyclopedia of Information and Library Science, “Automation is the technology concerned with a design and development of the process and system that minimize the necessity of human intervention in the operation”.

2. The library automation can also be defined as “The process of mechanization of routine library functions which includes almost all the functions of the library i.e. Acquisition, Serial control, Cataloging, Circulation, References and Administration works”. In other words, computerization of all library functions is called library automation.

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Overview of the Medical College Libraries- In India, medical profession is a systemic implementation of scientific applications of maximum utilization of human power for a healthy society. It is a combination of arts and science to recover a human body from a disease and which is made useful for the development of the society and the nation. The medical education is the result of the different scientific experiments and observations in the medical field. It has received a lot of attention globally because of its urgency in dealing with the various diseases and securing the people from them to maintain a global relationship in social order. With the development of science and technology applications, the needs of medical professionals have been increases day by day.

Medical education is a big challenge to the medical professionals because all the new methods of the science, technology and education have been integrated in it by the scientists, physicians and other health professionals. The field of medical education includes the field of medicine, medical education and research. It is also a challenge to medical educators in the context of universal declaration of human rights of people to medical welfare which covered all the risks related to the sickness, maternity, old age and death. It is a human right to get information related to health education and development for a better and healthy living. Human health is the one of the basic human rights of human being without un-equalization of racism, religion, political, economic and social condition. Modern medical educators are facing different types of problems than their predecessors. In the medical field new things are being invented day by day. At present, the field of health research and development has become mandatory for the socioeconomic society.
India has already taken initiatives to improve the quality of health-care services and medical education. As a result, there have been so many numbers of medical organizations, nursing and pharmacy colleges’ rises and the numbers of student are taking admissions in all programs of these medical institutions. Thus, the importance of medical college libraries can be visualized for the medical professionals. These could be the best medium to get information about anything. Library users can get the latest updates about new inventions and the librarian can help them find out the information resources in the libraries.

**Functions of the Medical College Libraries**- Though, the functions of a medical library have remained significant changes in both the user population and the way of access. The usage of information communication technologies and their resources in the functions of library operation and services has given the way for scientific management of medical literature and their fast retrieval and demand as well as in anticipation. Like any other educational institute, the medical college library is also working for achieving same goals. The functions of medical college library are as follows-

1. To build a comprehensive collection of medical literature.

2. Organize and provide access to the all type of information sources to all users.

3. To retrieve the vast and fast growing medical knowledge through various library and information services.

**Objectives of the Medical College Libraries**- A medical college library is designed to assist the medical professionals, students and researchers to collect, store and disseminate the health care information and to improve, update, access or evaluate the information resources which are related with the desire information of the users. Medical library keeps the faculty and practitioners aware with the latest developments. These are typically found in Medical institutions, Medical schools, Private medical industries, Medical research centres and medical or health associations. Medical libraries are a life-long system for medical professionals because it has become an effective instrument for them.
The main objective of a medical college library is to provide information about new medical theories, views, innovations, patient care and research etc. to the medical professionals and help them to upgrading knowledge to use in the future. A medical college library has the responsibility to keep up to date to medical professional with new knowledge and information. The main function of a medical library is to hold a comprehensive collection of medical literature with organized and provide access to all type of information sources with the help of different type of tools. The various types of library services has been introduced in recent years like Inter library loan, CAS, SDI, Abstracting and Indexing services, Reference services, Article alert services, CD-ROM etc.

Applications of ICT in Modern Medical College Libraries- The invention and growth of Information and Communication Technology always effected to the world. Libraries are also using these great technologies to improve their services and working process. These more advanced technologies are affecting the various aspects of information gathering and spreading in the libraries. These technologies enhance the use of Information technology, Communication technology and Computer technology on the different areas of library and information centres which affects the functions of a library such as- information access, retrieval, storage, manipulation, and dissemination to the users.

The applications of ICT resources have lead to personal management- training and placement, change in work pattern, demand and supply of professionals. The developments of ICT resources have been entirely transformed the usage of on-line services, electronic databases and Internet. ICT effects the routine planning of a library such as- collection development, library building and consortia. It helps to the librarian to provide authentic digital information services to the users in a vast variety of amount. Now modern libraries are also using the ICT resources for the automation of their core functions of library-cooperation and resource-sharing, developing institutional repositories and a strong management information system.

The ICT plays a vital role in the various fields in the world. It has made the communication process very easy and simple to communicate. The whole world is just in figure touch and users can access to the most of the big and large libraries on the Internet. ICT is also
becoming a major driving force of globalization to improve the global health-care systems. With the use of computer hardware and software the automation process could be performed to reduce the physical or mental efforts of professionals and users.

Today library automation signifies the process of computerization or semi-computerization of information retrieval and storage system. The networking of an automated library system is also treated like the integral part of the library automation process. Now most of the modern Indian libraries are using computers and ICT resources to manage their in-house operations, print or electronic reading materials, processing and disseminating the information to the end users. In India the reducing cost of hardware and software and their availability in the markets shows the impact of ICT in the library and information centers. Associated universities, institutions and other parent organizations of the libraries are also affected by the use of technology.

**Statement of the Problem-** Information and knowledge both have become essential part of this global world and successfully respond to the opportunities and challenges of technological, economical, political and other types of many changes. Information and knowledge both would be used to the users when they must be effectively communicated to the users. Today an ICT application affects all human activities like education, governance, community development emergencies and health-care also. ICT helps to remove barriers of distance and time of technology. Now the medical libraries should have to be move ahead for the adoption of advanced technologies and reduce the problem of ‘Digital divide’ in the knowledge world. The government should develop a national information policy for the library professionals of all sectors. Medical college libraries of India are suffering the lack of ICT infrastructure and manpower due to the proper funding.

The development stage of medical college library has changed from country to country and region. In the developed countries people always recognized to the role of medical education, practice, research and development in the society. ICT has helped medical practitioners to provide access to medical literature. Developing countries people understand the importance of information retrieval and dissemination but not provide the proper funds for the development of libraries. In India in case of digital information the consortium of E-journal is not available in the most of the medical libraries. The medical colleges are recognized in
the world very much but their library services have remained far from satisfaction level of users.

In the developed countries medical libraries are well-equipped with the technology and doing very well in the society. Parent organization provide proper fund to the development of the library. On the other hand in the developing countries medical libraries are suffering from inadequate staff, lack of funds, mostly libraries are not well-equipped and they are unable to use modern technology. Medical libraries should have to initiate the maximum use of latest technologies, study of use and impact of ICT and its resources in the medical college libraries is need of the time, the results, which facilitate to other type of special libraries follow.

**Objectives of the Study**- This study aims at identifying the Impact of ICT on Medical College Libraries of M.P. to achieve the following objectives-

1. To study the concept of Information Communication and Technologies.
2. To ascertain the progress made by the medical college libraries in the context of Information Communication and Technologies.
3. To study the views of medical library professionals/users about the use of Information Communication and Technologies in medical college libraries.
4. To study the different software/tools available for ICT in medical college libraries.
5. To study the problems faced by medical college libraries, in implementation of Information Communication and Technologies and to suggest remedial majors.
6. To find out the issues and challenges involved in implementation of Information Communication and Technologies under digital environment.
7. To find out the level of library professionals for participating in Information Communication and Technologies.
8. To find out awareness regarding the importance of ICT resources for the automation in medical college libraries.
9. To find out the status of implementation of the ICT infrastructure and resources for library automation.
10. To find out the users satisfaction with ICT based Library Services.
11. To find out the status of users education program for the new library members.
12. To find out the services offered for searching/answering the various queries by the library staff.

**Research Methods**- The library surveys have become the useful tool to get the information about library resources and other services to meet the needs of faculty, students and other users. It is a chance to find what the information, surveyor want from the selected libraries. It is a procedure of data gathering that gives tools, facilities and services to collect the data. To find out the impact of ICT on government medical college libraries in the M.P. state the present study has been conducted on the topic “Impact of ICT on the Medical College Libraries of M.P.” Keeping all the sides of above points in consideration, descriptive survey method was used for data collection and analysis, which is used to find out "what is," through observations.

**Scope of Study**- Information Communication and Technologies is important to organize the modern libraries. ICT has its own importance; it is time saving, efficiency oriented and practically convenient process of modern library professionals. The medical libraries have limited area of operation. However these are the part of modern Indian library system and hence cannot function independently on traditional method as it brings failure to them in new era of competition after globalization. The aim of this research is to study technological developments in medical college libraries, different aspects affecting development of automated libraries, problems and prospects of Information Communication Technology, views of library professionals and users on, impact of Information Communication Technology and different solutions available for Information Communication Technology in medical college libraries. The present study will also help for the improvement of medical college library system and services.

**Limitations**- The scope of the research is limited only to the seven government medical college libraries of Madhya Pradesh. The libraries have been selected on the basis of their working, exists in M.P. State. The authority of AIIMS, Bhopal has refused to provide any kind of data for the research. So finally user study has been conducted on the remaining six medical college libraries. The chi-square test method has been used to check the association between the variables.
Hypothesis—could be defined as a set of positions to occur some specified group of phenomena by some investigation in light of established facts. In consistent with the objectives following hypotheses were formed by the researcher—

1. There is no significant association between the awareness regarding the importance of ICT resources and implementation of the ICT resources.
2. There is no significant association between the resources available for the library automation and implementation of ICT.
3. There is no significant association between the ICT based library services and user’s satisfaction.
4. There is no significant association between the user’s education programs and the newly joined library members.
5. There is no significant association between the users and services offered by the library staff.

Organization of the Study—However the study entitled “Impact of Information Communication Technology (ICT) on Medical College Libraries of M.P.” has been organized under eight chapters. Chapter- 1 Introduction deals with the study of the emergence of Medical education, Medical libraries, Information Communication Technology and it resources with the Statement of the problems. Chapter- 2: Review of Literature deals with the various views of learned authors; relevant to the present study. The study has been reviewed medical college libraries and ICT both. The studies, research and investigations carried out in the area of medical college libraries in India and abroad. Chapter- 3: Research Methodology deals with the various aspects relating to research methodology i.e. - Objectives of the study, Research methods and Target respondents and field experience. Sampling techniques, Scope of the study, Limitation, Hypothesis and Organization of study. Chapter- 4: Profile of Government Medical College Libraries of M.P. deals with the brief Profile of Government Medical College Libraries of M.P. Chapter- 5: Impact of ICT on Medical College Libraries: An Analysis deals with the analysis of data i.e. - Collection of Printed reading material, Bound journals, E-journals in the area of Medical field, Collection of Medical Thesis, Collection of Non-printed Materials-AV/VD, CD-ROMs, Medical databases, Consortium, Institutional Repository, NDL etc. Chapter-6: Impact of ICT on Medical
College Library Users: An Analysis incorporates the Profile of respondents, Purpose of using libraries and Frequency of using libraries. Evaluate and examines the library services, Organization of Reading Material, Circulation of Reading Material, Reading Room Facilities, Inter-Library Loan, Electronic Documents Delivery, Library OPAC (Online Public Access Catalogue), Indexing and Abstracting Services, Literature Search, Photocopy Services, Internet, Adequate ICT infrastructure to Access On-line Resources etc on the basis of selected demographic area. Chapter-7: Findings, Conclusions and Suggestions lists the major findings, conclusions and suggestions for further research and also interprets the data collected to test the hypotheses formulated for the study. Chapter-8: Proposed Model for the Automated Library and M.P. Medical College Library Network deals with the proposed model of an automated medical college Library and a Medical College Library Network.

Findings

To find the impact of ICT on medical college libraries, under the study questionnaire were distributed to all the medical college librarians. The collected data has been analyzed and interpreted in the form of the tables and charts with the interpretations, which are given below every table in the thesis.

1. The researcher found that, 42% libraries have the collection of text-books above 20000, 14% library’s collection under 20000 and 28% library’s collection is near about 15000. The GRMC, MGMMC, GMC, NSCBMC have the rich collection of text-books, which followed the MCI standards in the present time but when looking at their old status, this collection is not very satisfactory. Their collection of reading material should be very large in today’s condition. The BMC has not a very good collection of reading material but look at its new status, it could be sufficient. The AIIMS has to enlarge its collection very fast.

Most of the medical colleges have the collection of bound-journals but they are very old and unable to fulfil the users need. 42% library’s collection of bound journals is between 12000 to 15000. 14% libraries have the collection of 10000 bound journals. 14% libraries have the collection of only 2695 bound journals.
Only 42% medical colleges have the collection of medical thesis, which is not sufficient and good for those libraries, because in medical field research thesis shows the path to the practitioners and researchers for the further research. Only 14% medical college libraries have the collection of Microfilm/Microfiche and 28% have the collection of reports, which is very less in quantity. There are only 42% medical colleges have the collection of AV/VD.

85% medical colleges subscribe the print form of the Indian journals and same as the foreign. In total 71% library fulfil the MCI requirement for the journal subscriptions. The BMC subscribes only 87 print journals, which is not the according to the MCI standards. As far as concern about the Indian print journals only 28% library fulfils the requirements, while 85% libraries fulfil the requirement of foreign print journals.

The medical colleges are not much interested to maintain the regular subscription of the print journals, due to the lack of financial grants. It compelled them to stop the purchasing of books and journals. When it comes to E-journals, only 42% subscribe the E-journals but not on the regularly basis. From the various observations and personal interviews with the library professionals from different medical colleges, researcher has been found that there is not a proper management program for these libraries and their collection of text-books and journals. These books and journals collection have classic value rather than the current value. All the medical colleges must have to follow the standards of MCI as soon as possible in the nearest future to fulfil the demand of medical students/professionals.

2. Regarding the library services 100% of the libraries provide reference service, 42% of the libraries provide CAS and 58% do not provides, 28% libraries provide SDI services and 72% do not, only 14% of them are providing the ILL service and others do not. 57% libraries provide reservation and 100% provides reprographic services, 42% provides indexing & abstracting services, 85% are providing book-bank services to the users. None of them provides translation services to the users. While 14% medical libraries are automated, remaining are not automated or going to start the process of automation.

3. As per the recommendations of MCI, a Medical institution should have to provide 10% of their total budget for the library in the beginning and after a few years later 6.5% of the total budget is suggested for the library purposes. The allotment of budget for books and journals
should be in the 45:55 ratios. The findings of above study indicate that the unavailability of proper funds, which affects the demand and supply of reading material in the medical college libraries. The budget sanctioned for these libraries, varies library to library and not sufficient for them. As in the year 2013-14- GRMC has the budget sanction Rs. 5, 00,000 per annum, 7, 00,000 in 2014-15 and Rs.3,00,000 per annum for the year-2015-16. MGMMC has the budget sanction Rs. 16, 00,000 per annum, 8, 00,000 in 201-15 and Rs. 5, 00,000 per annum for the year-2015-16.

All above these standards are only the recommendations by the MCI and in the reality these are not following by the Medical institutions, selected by researcher for the study. They don’t have a particular budget sanction for a particular time period to the different type of reading materials. These libraries are not able to spend their allocated budget on the purchasing books and journals according to the standards i.e. the ratio of 45:55.

4. As the users point of view most of the users 302 (75%), prefer to use the Book-bank service provided by the libraries. 270 (68%) users use the Reference and 226 (57%) Reprographic services than ILL- 47 (12%), CAS- 128 (32%), SDI- 104 (26%). 71 (18%) users used the Indexing and Abstracting service.

5. Only GRMC is implementing the ICT infrastructure and resources for the library automation and 73 (96%) of the users ware aware form this fact. Most of the users are not satisfied with the ICT based library services available in their college libraries, which is 257 (64%). Only 104 (37%) UG students are satisfied with these services.

6. According to the MCI norms every medical college library should have to establish an independent E-library to provide on-line services to the users with at least 40 nodes of computers. The study reveals that all the libraries have the E-library according to the MCI norms i.e. 42% libraries have the 40 nodes, 14% has the 150 nodes, 14% has the 42 nodes and 14% library has the 60 computer nodes available in the E-library. So, it could be said that all the medical college libraries are equipped with the essential computer nodes for the E-library but they are not according to the user’s strength.
7. The strong network infrastructure and association with any network helps to enhance the efficiency of libraries to fulfil the users need. All the libraries have the facility of campus LAN and associated with the various networks. 14% libraries are subscribing the international database. So it would be in the favour of these libraries that they enhance their networking infrastructure to fulfil their users need.

8. Total 363 (91%) users said that their library doesn’t conduct any user’s education program for the new library members and minimum 4(9%) users from the category of Teachers/Researchers/Practitioners said their library conducts the user’s education program for the new members.

**Conclusion**

All the medical college libraries have not the very rich collection of reading material. The textbooks and journals are old and not in the good conditions. Journal publications are the backbone of the any research as it provides the nascent and current data to the users. Most of the medical college libraries, under the study are not subscribing the journal publications on the regular basis and some of them totally neglected, even stopped the subscriptions. Hence, it is only a solution for them is on-line E-Journals and their consortium.

Majority of the medical users do not find the access to the substantial part of vast medical literature in the absence of effective on-line information dissemination services. The facilities like photocopying and micro-film reading are not available up to the standards and according to the users need.

Most of the libraries are providing library services in the traditional way such as- Inter-library loan, SDI, CAS and references service but they are not able to provide ICT based services such as on-line document delivery, on-line E-journals, E-books, on-line databases etc.

The proper availability of fund is related to the sustenance and continuity of the library services. The librarian should be able to pursue directly, funding agencies to continue their support. He should be able to convinced funding agencies that their support plays very important role to enhance the library collection and fulfilment of the users need.
The users of the medical college libraries of M.P. are dissatisfied due to insufficient number of traditional or digital reading material and services; this is the main reason by which these libraries are not able to provide needed authentic information to the users. So they have to grow their collection according to the need and go for the automation.

The automated medical college libraries can give remarkable contribution to the quality of medical education and research through resources sharing, consortium, and networking. Though the cost of automation would be a bit high at the initial stage but the benefit reaped would be quite cost-effective in the future. This study is the evident that like the libraries of other fields medical college libraries also appeared in the automation due to the pressurizing demand of students, professionals and society. There is an immediate need for the automation of the libraries with the required specialized training and education of library professionals.

The numbers of computer terminal available in the E-library are not sufficient according to the total number of users in these libraries but all are facilitates with the Internet connectivity. The concept of networking is based on the idea of resource-sharing, cooperation and collaboration. For the sharing of E-resources, collaborative arrangements can result in lower prices and saving in terms of cost, time and staff. Cooperative purchasing of E-resources is one of the key activities of a library network. The libraries and information centres involved in the network should have to decide their achievable goals and also identifies the ICT resources and applications in the specific way to start the network.

A good library network required the mutual consent at very high level. The basic pre-requisites for a library network are the willingness to coordinate, collaborate and participate in the project. Participant libraries should also focus on to the criteria for enrolling members, various sources of funding, type of library network, its characteristics, services and its usefulness and at last the formation of network.

In this global electronic age most of these libraries are not the part of regular networking system even when the medical college libraries are included in to the special libraries. The need and importance of medical libraries have not been recognized by the government and society. As found in the study that there is the lack of medical college library network in the state of M.P.
Most of the libraries are not getting involved in the networks at the regional level. So there is the necessity of a large local network between the medical college libraries of M.P.

Only the GRMC conducts in-house training for the library staff and not a single medical college library is maintaining the Departmental/Branch library. So, finally to constitute the richest resources of medical literature, the medical college libraries should have to follow the library cooperation and networking for the well-being of the humanity.

**Suggestions**

To extend the existing information resources and services available in all the medical college libraries of the Madhya Pradesh an active and effective step should be immediately taken up for the implementing the ICT resources and automation. The collection should be enriched further by reference books, review publications, advance series etc, which is not done in these libraries. A good collection of current periodical/journals is the basic need of a modern medical college library. As per recommendation of the MCI a medical college library should add a minimum of 1000 volumes of books and 200 periodicals annually. The acquisition should also include the other sources of information i.e.-Microfilm/Microfiche, Reports and AV/VD with the secondary sources of information such as- Index-Medicus, Excerpta-Medica, Biological-Abstract and Bulletin of Hygiene and Tropical Diseases etc.

All these colleges are government funded, so government has to contribute the major share and provide the required fund on the time properly and increase it as the college’s need. They should also have to increase their total number of reading materials. There should be spared funds for journals and literature and its maximum use can be made through the library networks, medical databases and consortium of E-journals.

The library professionals have to encourage the faculty and students to refer the printed version of bound journals with the text books. It would increase the demand and numbers of the print journals. It is also suggested to these libraries that they should also have to avail the advance services of the INSDOC, Libraries of WHO- Regional & Head-office, NML and NIC.
Now it has become very important for the medical libraries to go for the fully automation. So for the automation they should have to maintain the all type of electronic and digital reading material and update themselves with the new inventions and researches to provide information to their end users.

As ICT resources have become an essential part of the medical science and medical libraries, the government and the medical college library management have to conduct more training programs to the library professionals training. They can tie-up with the computer centres, departments of library and information science of the local Universities and can take help of the medical library association of the State and the Country and establish a wide area network for them to share and exchange their print and electronic resources.

The library staff should also have to provide sufficient computers system to make their working easy. Some Indian Universities are offering Health-Science Librarianship for the medical library professionals. National Medical Library (NML) also offers the Medical Librarianship Training for the working medical librarians.

It is suggested that Medical Universities of different states of India should take initiative to start the compulsory automation projects to fulfil the requirements of professionals, students, and faculty. For this purpose the model of an automated library has been prepared and that should be adopted with or without modifications, if required, to start. Through the establishment of a library network, the medical college libraries of M.P. can make a substantial contribution to the quality of medical education, research and practice.

Now time has come when fully automation must be adopted by the medical libraries of India without farther delay to meet next the special requirements of medical professionals as well. The automated libraries and network system makes an easy approach to the reading material for the users.

And at the last a proposed model has been below to establish a medical college library network in the M.P. state.
Madhya Pradesh Government Medical College Library Network

(MPGMCLN)

The proposed network of Madhya Pradesh Government Medical College Libraries (MPGMCLN) is focused on to the great accessibility of its information, information resources, facilities and services provided to the students, faculty, practitioners and researchers spread all over in the M.P. State. The networking of all these medical college libraries will help to provide access to huge amount of electronic data and information. The network could be enlarge up to national or international level and can extend access to the health literature to all the health/medical institutions in the country.

Need of MPGMCLN- Now it has been necessary for MP state government to establish a government medical college library network in the ICT era to store and disseminate the information resources among these libraries for the benefit of the various medical college library users.

Objectives of MPGMCLN- Here are some objectives of the proposed MPGMCLN given below-

1. It would help to promote information and resource sharing among the member libraries and other related medical institutions in M.P.

2. It would help to increase the cooperative efforts for the collection development among the member libraries and avoid the unnecessary duplication.

3. It would help to enhance the qualitative medical services by using the latest ICT resources.

4. To evolve standards and uniform guidelines in techniques, methods, procedures hardware, software and services for adoption by the participating libraries to facilitate pooling, sharing and exchange of resources and services.

5. A referral centre can also establish to maintain the union catalogue of various information resources like- books, periodicals, reports, dissertations/theses, institutional repositories and other non-book materials of all participating libraries.
6. It would help to coordinate with other networks at national and international level to exchange the information and their resources.

7. It would help to the member libraries to develop their own consortia and institutional repositories.

**Services provided by the Proposed MPGMCLN**- A central server may be established at central node, which can receive data from all affiliated medical colleges. After the processing of raw data, following services can be provided to the member colleges, which are presented through the graph on the next page-

1. Union Catalogue of Books
2. Union List of Journals
3. Union Catalogue of Journals
4. Union List of CD-ROMS
5. E-Journals
6. E-Books
7. Inter Library Loan
8. Library Software
9. Training Programs for Staff and Users
10. On-line Document Delivery Service
11. Database of Medical Thesis
12. International Medical Databases
13. National Medical Library
14. National Digital Library
15. Medical Institutional Repository
16. Medical Consortia
Services of the Proposed MPGMCLN

Data Input from Government Medical College Libraries Affiliated to MPAV, Jabalpur

MPGMCLN

Dr. Sarita Verma
Signature of the Supervisor

Rashmi Sikarwar
Signature of the Candidate