MEDICAL LIBRARIANSHIP IN INDIA: A REVIEW OF HISTORICAL DEVELOPMENTS AND CURRENT PERSPECTIVES

Article · June 2013

CITATIONS
2

READS
97

3 authors, including:

Abu Waris
Immam AbdulRahman Bin Faisal University, Dammam
18 PUBLICATIONS **10** CITATIONS
SEE PROFILE

Nagaraja Aragudige
RV Institue of Technology and Management Bengaluru
8 PUBLICATIONS **46** CITATIONS
SEE PROFILE

MEDICAL LIBRARIANSHIP IN INDIA: A REVIEW OF HISTORICAL DEVELOPMENTS AND CURRENT PERSPECTIVES

Dr. Abu Waris
Lecturer, Deanship of Library Affairs,
University of Dammam, Dammam-31441, K.S.A.

Dr. M. Vasanthakumar
Senior Librarian,
Adichunchanagiri Institute of Medical Sciences,
Balagangadharanathanagara – 571 448,
NagamangalaTaluk, Mandya District, Karnataka.

A. Nagaraja
Librarian
Sri Krishna Institute of Technology
Hesaraghatta Road, Chikkabanavara Post
Bangalore-560090

ABSTRACT

Within the domain of librarianship, medical librarianship has its own historical perspectives in the global context. In India, the history of medical libraries can be traced back to the period of 2nd century BC. The Nalanda and Taxila Universities housed the Charaka Samhita, Sushruta Samhita and the commentaries on these by their successors. Numbers of medical institutions have started during pre and post-independence period. Indian Council of Medical Research (ICMR), New Delhi came into existence during 1911 which is one among the oldest research institutions in the world. National Medical Library has been started in New Delhi during 1946.Under WHO-SEARO, HELLIS network project was started during 1982, then 17thICMR-NIC center has come into operational during 1988.Number of medical institutions increased rapidly during last two decades. The global library services from National Library of Medicine (USA), World Health Organization (WHO), Geneva are being made available in the country through networks, with the application of ICT's. Numbers of bio-medical resources comprising on-line, off-line databases, open access resources are also adding to the collection of medical libraries one after another. Best-practices have also come into existence. As a result of information proliferation, the concept of networking has gained the momentum at all levels; led to establishment of consortia for resource sharing among the medical libraries in India.Those libraries working in the medical institutions are regulated by Medical Council of India (MCI), New Delhi through its standards and guidelines.

Key words: Indian Medical Librarianship, Indian Medical Libraries, Health Science Libraries..

INTRODUCTION

Medical science is one of the branches of applied science and it has vast subject relationship with many subject like Biophysics, Microbiology, Biochemistry, Forensic, Pharmaceutical Sciences etc. Encyclopedia of Britannica defines medical education is a course of study directed toward imparting to persons seeking to become physicians the knowledge and skills required for the prevention and treatment of disease. It also develops the methods and objectives appropriate to the study of the still unknown factors that produce disease or favour well-being. The main aim of medical science is to maintain health, prevention of diseases and relief suffering in the public. In the global world there are many educational institutions imparting medical education and producing physician to meet the needs of the people. Due to the emergence of more medical colleges and their research activities the volume of medical literature is being increased numerously. A total of 8.1 million journal articles were published in MEDLINE between 1978 and 2001(Druss, 2005).Now it contains over 19 million references to journal articles in life sciences with a concentration on biomedicine.
(http://www.nlm.nih.gov/pubs/factsheets/medline.html). The medial literature comprises of different medical information resources like journal articles, books, thesis and dissertations, reports etc. The medical libraries are functioning as bridge between the medical information resources and the users of the medical communality where they are working. The medical librarians are one of the main entities of medical libraries. Medical Library Association (MLA) states that they are service professionals. They provide health information about new medical treatments, clinical trials, and standard trial procedures, tests, and equipment to physicians, allied health professionals, patients, consumers, and corporations. They help physicians provide quality care to patients, help patients find information, answer consumer questions, and provide information to the health care industry. Ennis and Mitchell (2010) say that health sciences libraries attached to medical schools are definitely academic; a host of other academic health sciences libraries serve all sorts of clienteles. Health sciences librarians have varied backgrounds, they can also be found in a wide range of settings—and even hospital and academic libraries vary widely. According to Beatty (1969) the characteristics of a medical library can be summed up in the phrase active and imaginative service and research. Over the years medical librarians have been instrumental in assisting health professionals to locate information for their specific needs. Their duties have been primarily like that of other traditional librarians - acquiring, organizing, storing, retrieving, and disseminate information — but to a specific target group of health professionals Homan and McGowan (2002).

The development of medical librarianship is correspondingly linked with the growth of medical literature as well as medical institutions from the point of view. Of course it has its own history; it was ancillary to the field of medical profession itself. In the beginning, the growth of medical literature was started by reading of patient records; they used to acquire knowledge. Medical texts have been found in every ancient library uncovered by an archaeologist Edwin Smith-Surgical Papyrus (1600 B.C.) is obviously a compilation of earlier texts. In India, traditional method of medical practices was started from way back to the period of 2nd century B.C itself (Doe and Marshall, 1956). The growth of medical literature has made an impact on the development of medical libraries over the period. An attempt is made to present the historical developments and current perspectives of medical libraries and librarianship in India very briefly.

HISTORICAL DEVELOPMENT

It is very much interesting to know the historical developments of medical libraries and medical librarianship in India. Many library scholars and researchers were tried dig the matter in detail to create the contents on the historical facts of medical librarianship. It can be traced the growth and developments of medical institutions /librarianship in India way back to Vedic period. The Ayurveda medicine is the oldest and goes back to the days when the Aryans came to India from central Asia about 2000 to 3000 years B.C. The next trace out Indian medicine and medical education can be seen in post-vedic or Buddhist (600B.C-200 A.D) period. Ashoka (226 B.C) and other Buddhist Kings established public hospitals and schools of medicine were attached to them. Medicine was taught in the ancient universities of Nalanda and Taxila and hospitals were established not only in India but also in the neighboring countries. The history of medical libraries can be traced back to this period (2nd century BC). The universities housed the Charaka Samhita, Sushruta Samhita and the commentaries on these by their successors. (http://archive.org/details/englishtranslati00susruoft)

During British Period, East India Company has played a vital role in the introduction of modern medicine in India, they established many medical colleges and the libraries, the credit for the establishment of medical libraries goes to John Peter Wide, who, as early as 1788 suggested the formation of medical library at Calcutta. The first medical school viz., the 'Native Medical School' was started at Calcutta in 1824 followed by another at Madras in 1835. In 1835 the medical school at Calcutta was converted into a medical college and in 1845 another was started at Bombay. In 1846 a medical school was started at Hyderabad and in 1848 at Indore, quickly followed by similar schools at other places. After the establishment of the universities at Calcutta, Madras and Bombay in 1857, a few of the medical schools were gradually converted into college and medical education was brought within their purview for the awards of Licentiate in Medicine and Surgery and the M.B.B.S degree. Library facilities did exist in these colleges though they were not service oriented (Bhatia, 1946; Gopal, 2010)

In 1911, the Indian Council of Medical Research was established at Delhi. All India Institute of Hygiene and Public Health, Kolkata was established during 1932 followed by Medical Council of India formally constituted in 1933. (http://www.mciindia.org/AboutMCI/Introduction.aspx)
A number of surveys were conducted to assess the medical education and facilities in British India. One such remarkable study was made by Lt. Col. McDonald, an Indian Medical Service officer. He surveyed libraries in the twenty five medical college and seven research institutes in 1945 and lamented that library facilities were inadequate. The annual budget was far from sufficient in many of the institutions and the journal subscription of these libraries was very low. There was no trained librarian in any of the medical college libraries. The health surveyed and Development committee was appointed in October 1943 to make a broad survey of the position regarding health conditions and institutions under the chairmanship of Dr.J .Bhore (1946). The committee report expressed similar view as McDonald.

Since independence (Post-British period) in 1947, there had been rapid expansion of educational institutions at all levels and as such there was a rapid growth of medical colleges. During 1947-50 there were eight medical colleges; it rose to 71 by 1963 and to 89 by 1965 (Vasanthakumar, 2007). In 1965, there were 86 medical colleges in India. This number increased to 112 by 1980 (a rate of growth of 30%), to 143 in the next decade (a rate of growth of 28%), and since 1990 over

the past 17 years to 260, an increase of 82% compared with the figure in 1990 (Ananthakrishnan , 2007).

In 1956, as per the recommendation of Bhore Committee, All India Institute of Medical Science (AIIMS) was established. In spite of these developments in medical education, the condition of libraries attached to these educational institutions was a matter of concern. There was no recognition for library as an instrument in the academic and research activities of medical sciences. This is noticeable from the report of Dr.T.Lakshminarayan while submitting a report on Medical Education in India to the Heath Division of the US Technical Cooperation Mission he remarked that "It is striking, how scanty the provision of libraries in the medical colleges is; they suffer from all the disadvantages namely lack of space, of fund, of trained librarians and adequate staff to assist the librarians and the total lack of any training in the use of the library to the students**"** (Dixi1,1985).

In 1956, Medical Education Conference organized by the Ministry of Health (1959-61),Government of India to assist the formulation of medical education development programmes in the 2nd plan period was held. A subcommittee under chairmanship of Dr. B.C.Roy lamented that libraries had not played an important part in the process of self-education by the student and observed that there was a need to teach him to make use of library. The committee drew its attention to the need for providing qualified librarians to all libraries and for keeping the libraries opens out of the teaching hours. The advantages in the establishment of a central medical library were also discussed. However, the conference did not adopt any resolution on libraries.

A second committee, called the Health Survey and Planning Committee was set up by the Ministry of Health (1959) under the chairmanship of Dr. A.L.Mudaliar[0] in June 1959 to undertake a review of the developments of Bhore committee Report -1946. The committee recommended for the provision of libraries in the college buildings on the ground floor.
The Ministry of Health committee (1963) report popularly known as Hajra report has stressed the need for the establishment of a central library in cities. It strongly recommended that in order to promote the in depth use of library facilities, libraries should be kept open to permit students to read during the non-working hours and the introduction of a system of Book Bank. It had also made recommendation on acquisition of foreign literature in loose-leaf form and to get it bound in India. The committee opined that library should be under the charge of persons who were qualified as librarians.

During 1962, Post Graduate Institute of Medical Education and Research (or PGIMER), Chandigarh and The Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER), Pondicherry, 1964 have been started. The Review Committee constituted by Director General of Health Services (1965) for Upgraded and Post-graduate Departments in Medical Colleges has recommended for departmental library facilities for post-graduates. The committee strongly recommended that "adequate library facilities should be available; the journals subscribed should be in large number with back numbers of the journals, latest reference and all recent books to be made available. The libraries should remain open at least 12 hours daily and should be under the charge of trained libraries". Thus, every, committee recognized the importance of libraries and made recommendations for adequate financial, manpower and material resources. However, in practice they were not implemented.

A landmark of the medical library development of India took place in 1966, the Government of India designated the former Director General of Indian Medical Services at New Delhi as the National Medical Library. The National Medical Library functions as the focal point for collecting, processing, and disseminating knowledge with the medical community worldwide. This step has facilitated to disseminated relevant literature and information to the medical community of the country. It is one of the largest medical libraries in South Asia and the best medical library in India (Patel and Kumar, 2001).

Nevertheless, several committees lamented the lack of proper administrative and financial support to the medical college libraries and the resultant inadequacy of services to the users, but they were of no avail. The surveys conducted by Dr. A Krishna Rao (1965) and Dr. Jagannadha Reddy (1977) opined medical college libraries were ill-equipped in terms of staff, collection and budget, libraries are housed mostly in a hall not planned or suited for concentrated study. It was remarked that "The Librarian is the chief educator of those who use the library and makes it a centre of self-education. Although UGC has improved the state of University and affiliated college librarians and their emoluments, the caliber and motivation of this category (medical librarians) leave much to be desired".

During Post British period between 1950's to 1970's, the Government of India took the decision to establish "Medical research institutes" across the country. The notable were Tata Memorial Centre, Mumbai (1952), National Institute of Virology, Pune (1952), Sir Ronald Ross Institute of Parasitology, Hyderabad (1955), National Institute of Communicable Diseases, New Delhi (1963), National Institute for Research in Reproductive Health, Mumbai (1970), National Research Institute for Panchakarma, Cheruthuruthy in Thrissur district, Kerala (1971), Sree Chitra Thirunal Institute of Medical Sciences and Technology, Thiruvananthapuram (1974), National Institute of Malaria Research, New Delhi (1977). The libraries attached to these institutes disseminate the relevant literature and information to the biomedical community of the country. The numbers of medical colleges were increased to 113 by 1982 and to 118 by 1985. There was no improvement in the status of the libraries, but some remarkable change was majority of libraries have qualified persons. Their book stock position is improved with the aid from Book Bank Scheme of U.G.C. and Social Welfare Department, Government of India. (Varalakshmi, 1993).

However, during the latter half of 1970s and in the 1980s the medical librarianship underwent remarkable changes at the national level. During its second meeting in 1976, the Advisory Committee on Medical Research of the WHO-SEARO recommended for the development of a biomedical research information network and similar views were expressed by the South-East Asia Regional Sub-Committee of the WHO Global Advisory Committee on Medical Research during 1978. A high power committee appointed by the Union Ministry of Health and Family Welfare to study the "Improvement of Health Science Library Services in India" under the chairmanship of Dr.B.Sankaran submitted its report in 1981 recommended very strongly, the evolution of effective and efficient library and information services network for the country which later came to be known as HELLIS network (Bhatt, 1995). During 1982 HELLIS network was launched in India with NML as the National Focal Point, and Regional Medical Libraries, constituent libraries and information centers came into the fold. Under this banner, it conducts and offered (a) off line searches of MEDLARS, (b) photocopies of references from within and outside sources, (c) twelve orientation training courses of 5-6 weeks duration conducted, in which 140 working librarians were trained, (d) two one-week MEDLARS Indexing/ Searching courses for librarians. It also organized several national workshop/

symposia, seminars in India with the assistance from the World Health Organization (WHO). A milestone in the medical librarianship of India is the starting of Medical Library Association of India in 1981.The Association has been publishing its quarterly, MLAI Bulletin from March 1983. The National Workshop in "Standards for Health Science Libraries in India," was held from 28-30th October 1983 at New Delhi, sponsored by National Medical Library, MLAI and Medical Council of India. The standards for medical college libraries have been accepted by the MCI (MLAI). Another significant development of late 1980s is the MEDLARS operation in India. In November 1987, an agreement was achieved between NLM and National Informatics Centre (NIC) for accessing MEDLINE and POPLINE databases directly 'on-line' and the project was launched during 1988.

Even though some developments took place up to 1990's, the medical libraries were suffering from inadequate financial resources have greatly constrained the capabilities of libraries to provide adequate and efficient services to their users by expanding their collection and activities, by sharing resources available in the country, and by participating in the co-operative Endeavour to establish a viable network of medical libraries. However, all these developments created the platforms for medical librarians to entering to the networks and initiation for automation at national level in India.

CURRENT PERSPECTIVES

India had witnessed so many developments in the field of health, education and research in the country during past two decades. On the recommendations of the several commissions formed by the union government, several educational institutions of higher learning and national research centers came into existence across the country. Now, almost all states are having premier research institutes in the field of biomedical sciences governed by State or Union Government in India. Presently, there are 314 medical colleges in India as per MCI, six health universities, 18 popular Research Centers , six other institutions of National importance in the area of health, health education & research in the country. All these institutions are having their own biomedical libraries with adequate infrastructure and resources to cater to the needs of the users. Medical Council of India (MCI) has taken the lead in developing the standards for medical libraries that are attached to the medical institutions in India. There are hospital libraries in addition to Central libraries for some of the institutions in addition to departmental libraries within the institution as per MCI. The main motto of these libraries is to serve for biomedical education, research, care and cure.

Indian Council of Medical Research (ICMR) in collaboration with National Informatics Centre (NIC) setup an ICMR-NIC Centre for Biomedical Information during 1986 and it works up to 31st March 2009. The Centre, known as Indian Medlars Centre (17th MEDLAR Centre), provided information support services to medical research community. It also produced two resources: (1) A bibliographic database – IndMED – by indexing about 100 Indian journals. (2) A portal – medIND (*medind.nic.in/*) – providing free full text access to 62 Indian medical journals. For continuing the maintaining updating and improving these two important national resources, ICMR funded a new project (National Databases of Indian Medical Journals) in 2010.Information Communication Technologies (ICT's) and information proliferation has made

an impact on medical libraries in India too. Copy-right issues, access to technologies and cost on publications have also made issues for the library administrators. Resource sharing and networking concepts get strengthened, as a result many consortia came into picture namely ICMR's ERMED-India, UGC-INFONET E-Journal consortium, National Medical Library Consortium, New Delhi, HELINET of Rajiv Gandhi University of Health Sciences, Karnataka, NTRMED of NTR University of Health Sciences,. Andhra Pradesh.

Open access resources have made an impact on every medical library, all the medical libraries in India have benefited with the objectives and mission of the National Library of Medicine, USA which is a bench mark for biomedical libraries across the globe. World Health Organization, Geneva(www.who.int/) also contributed for the medical libraries in India, through its projects, publications on subsidized cost, which is being made available through its regional office in New Delhi (WHO-SEARO- www.searo.who.int/). Now, almost all libraries have made available the provision of accessing full text open access biomedical journals through open access gateways like PubMed Central, Biomed Central, High wire Press and Public Library of Science, Directory of Access Journals etc., in addition to subscribed resources ubiquitously. Under CSIR, National Institute of Science Communication and Information Resources (NISCAIR), New Delhi started open access NISCAIR Online Periodicals Repository of its publications using DSpace. NISCAIR publishes 16 scholarly journals in various fields established. National Informatics Centre, New Delhi started an open access archive through OpenMED@NIC (http://openmed.nic.in/)for Medical and Allied Sciences. Here authors/ owners can self-archive their scientific and technical documents.

Due to impact of globalization, many foreign universities are coming up as a global partner in the field of health education, health services and establish the super-specialty hospitals in all most all capital cities of various states. Under the auspices of World Health Organization, Geneva, The United Nations Children's Fund (UNICEF), New York(http://www.unicef.org/), and other International Organizations have sponsored number of health programmes, publications of these programs are made available freely to the public as well as to the libraries. Most of the Indian medical libraries are regularly receiving these free publications from Department of Health and Family Welfare, Govt. of India, New Delhi, Ministry of Health of each state or National Medical Library, New Delhi (http://www.nml.nic.in/).

Union Government of India, New Delhi constituted "National Knowledge Commission" (NKC- http://knowledgecommission.gov.in/), the commission emphasizes the significant role of different types of libraries including biomedical in promoting knowledge sharing among the user groups. It aims to strengthen Knowledge networks in each of the states which can get the benefits of information resources available through several means for the growth and development of the country. The Ministry of Human Resource Development, Government of India, New Delhi has started a new mission for the institutions of higher learning in the country called National Mission on Education through Information Communication Technologies (NME-ICT) during 2010. With this initiative most of the libraries of higher learning in the country have benefited by means of ICT infrastructure, Internet, resource and knowledge sharing towards education and research. An information portal called Sakshat **(** http://www.sakshat.ac.in/) has been developed for knowledge sharing among the institutes of higher learning. Under this

initiative most of the medical libraries also can get the facilities from this initiative. Even though, the status of existing Medical College Libraries is working satisfactorily with their normal working as well as modern application of IT, there are some more issues to be resolved. The methods and techniques which are being adopted presently are not be considered satisfactory as the status to the Librarians and applying more new techniques methods it requires more in this respect. In most of the Medical College Libraries, Librarians service on least salary or on some fixed remuneration till now. Only Government College Librarians are working on scale payment fixed by the State Government, as per the study conducted by Abu Waris (2010), which also requires modification on the recommendation of the UGC norms. This shows that, many medical colleges have not implemented the AICTE pay scales as implemented in technical institutions. It is the responsibility of the MCI to implement the AICTE pay scale to the medical librarians. The status of the working library professionals is to be assessed. MCI has to revise the existing norms for giving approval or renewal of the UG/PG/Ph D courses pertaining to medical library systems and services. It is very surprising that MCI is conducting assessment of all the medical colleges every year, but these reports are not highlighting the deficiencies found in the medical college libraries. They will check the number of books and journals available, space and seating capacity provided only. They need to check the IT infrastructures provided in the medical libraries. Many studies by the library professionals show that there was lack of infrastructure in the medical libraries. This shows that there is something wrong either in the method of inspection of libraries by the MCI or in the survey of medical libraries by the library professionals. But one thing we can observe is that the apex bodies like MCI or AICTE do not include any Library professional in their inspection teams. As Internet is being used as main tool to access the resources, there is urgency is there to assess the IT infrastructure in medical libraries.

The health science library professionals should upgrade their skills in ICT and their communication skills should also be improved. Rehman et al (1997) emphasized that both health professionals & health science librarians have to have communication skills to become a successful librarian. Soudbakhsh and Farzin (2006) opined that medical library and information centers are witnessing major revolution in their activities and services and this has caused the librarians to feel that in addition to their traditional activities, they need to achieve modern knowledge and skills. Srinivasulu and Pulla Reddy (2010) conducted Survey of Medical College Libraries in Andhra Pradesh, which revealed that most of the medical college libraries (81.82 percent) are not automated. The survey also indicates that a considerable percentage of librarians (36.36 percent) do not have training in computer applications. It is evident that IT infrastructure in the medical college libraries of Gujarat is still in different stage of development, the status of library automation in these libraries is not encouraging. There is a clear lack of e-resources in self financed colleges due to non availability of financial aid, more stress need to be given on human resource management. Hence, there is an urgent need to plan, implement and develop ICT infrastructure to be fit in facing the challenges ahead of them (Bhutt, 2012).

There is a need for establishment of a network of all the medical libraries at the national level to share the resources available in individual libraries. Libraries can save more amounts if they participate in the national level consortium. In the present system of networks/consortium at university level, they subscribe to the same e-journals which have been subscribed by another

consortium, this leads to wastage of money and efforts of consortia members. For example in ICMR's ERMED-India, HELINET or NTRMED, they will subscribe the same contents from different publishers.

CONCLUSION

In India, the history of medical libraries can be traced back to the period of 2nd century BC. Post-independence India had witnessed so many developments in the field of health, education and research on the implementation of five year plans in the country. For the development of the medical libraries in India, the union government constituted various committees to study their problems and seeking viable solutions for implementation. Two committees and their recommendations are worth mentioning here. They are (i) the Bhore Committee; and (ii) the Sankaran committee. On Bhore committee's recommendation, National Medical Library, New Delhi was established. The Report of the Sankaran Committee, submitted in 1981, recommended very strongly the evolution of effective and efficient library and Information Science network for the country which later came to be known as HELLIS network as cited by Bhatt, Rajesh Kumar. Growth and development of medical libraries is directly linked with the growth and development of the institution as a whole. Medical Council of India, New Delhi has to take some more initiatives to strengthen the medical libraries in India by looking on par standards adopted by UGC, AICTE from time to time, otherwise medical college libraries shall face some difficulties, particularly on Quality manpower. With this issue the growth and development may not be doing good when compare to other academic libraries where the librarians are getting good salaries. The lack of initiatives, infrastructure, timely budget and lack of interest associated with library staffs for the proper adaptation of tools and techniques meant for acquiring, organizing, retrieving, disseminating and preservation of information resources also play an important role. The MCI, Union / State Government(s), Affiliated Universities(s) and Institutional Management(s) should take initiative measures with the issues discussed above for the proper growth and development of medical libraries in India, even though we admit some achievements in respect of development according to global changes. In spite of several issues, the development taken place in India, one main question arise very often, whether the historically developed medical libraries are self-sustained even in the technologically induced world, in terms of budget, infrastructure, resources, and qualified staff? How best these libraries are going to provide the services for the user community in terms of education, research, and care for the optimum level? However, it is a privilege for the medical librarians that India is going to host the 12th International Congress on Medical Librarianship (ICML) schedule to be held in New Delhi during 2017.

Notes:

http://www.britannica.com/EBchecked/topic/372218/medical-education#toc355 accessed on 05.06.2013.

http://archive.org/details/englishtranslati00susruoft accessed on 05.06.2013

http://www.nlm.nih.gov/pubs/factsheets/medline.html accessed on 05.06.2013.

http://www.mlanet.org/career accessed on 05.06.2013 accessed 10.06.2013

http://en.wikipedia.org/wiki/File:Edwin_Smith_Papyrus_v2.jpg accessed on 05.06.2013.

http://elibrarycecri.blogspot.com/2008/10/niscair-online-periodicals-repository.html (accessed on 18 March 2013).

Medical Library Association of India, New Delhi. http://lislinks.com/group/medical-library-association-of-india-mlai, (accessed on 18 March 2013).

Medical Council of India, New Delhi. http://www.mciindia.org/AboutMCI/AnnualReports.aspx, Indian Medlars Centre, New Delhi. medinfo@nic.in, http://indmed.nic.in/about.html, (accessed on 1
March 2013).

Category of Medical Research Institutes in India.
http://en.wikipedia.org/wiki/Category:Medical_research_institutes_in_India, (accessed on 4 April 2013).

Autonomous higher education institutes in India.
http://en.wikipedia.org/wiki/List_of_autonomous_higher_education_institutes_in_India , (accessed on 24 February 2013).

REFERENCES

Ananthakrishnan, N.(2007). Acute shortage of teachers in medical colleges: Existing problems and possible solutions, The National Medical Journal of India, Vol 20(1).

Bhatia,S.(1946).Some modern trends of medical education,Med. Bulletin(Bombay),14,63-68

Bhatt, Rajesh Kumar.(1995) History and Development of Libraries in India, K M Rai Mittal Publications, New Delhi, book.google.co.in/books?isbn=8170995825, (accessed on 18 March 2013).

Beatty, William K. Biomedical Libraries.(1969). 'In Encyclopaedia of Library and Information Science', edited by Allen Kent and Harold Loncour.2. New York, Marcel Dekker.

Bhutt,Atul .(2012) An Analytical study of the MedicalCollege Libraries of Gujarat in the Age of Information Technology. Library Philosophy and Practice, ISSN 1522--0222.

DirectOr General of Health Services, Govenunent of India: Report of the Review Committee of Upgraded and Post Graduate Departments in Medical Colleges, Part I New Delhi, D.G.H.S., Government of India, 1965, p.61.

Dixi1,RP(1985) Health Science Libraries; their history and growth, MLAI Bull.,3,p39.

Druss, Benjamin G. and Marcus, Steven C.(2005) Growth and decentralization of the medical literature: implications for evidence-based medicine, J Med Libr Assoc. 93(4): 499–501. Available at : http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1250328/ accessed on 10.06.2013.

Ennis, Lisa A. and Mitchell, Nicole.(2010). The Accidental Health Sciences Librarian. pp. 5, http://books.infotoday.com/books/Accidental-Health-Sciences-Librarian/AHSL-SampleChapter.pdf, (accessed on 24 February 2013).

Gopal, M. Balasubramanian, D. Kanagarajah,P. Anirudhan, A. Murugan, P (2010). Madras medical college: 175 years of medical heritage, The National Medical Journal Of India, vol 23 , No.2.

Government of India: Report of the Health Survey and Development Committee, 2, Recommendation Chapters XXX. Delhi, Manager of Publications, 1946, pp.498 (Chairman: Dr. J Bhore).http://nihfw.org/NDC/DocumentationServices/Reports/Bhore%20Committee%20Report%20%20Vol%20II.pdf,(accessed on 4 April 2013)

Homan, J. Michael. & McGowan, Julie.(2002) 'The Medical Library Association: promoting new roles for health information professionals.' J. Med. Libr. Assoc., 90(1), pp. 80–85

---@@@---