

## **CHAPTER-V**

### **MEDICAL INFORMATION SOURCES AND SERVICES**

#### **5.1 Introduction:**

In medical education, medical resources help in a big way! There are mainly two forms in which they are available, Print and non print. They support the development of medical sciences. Modern age libraries are very important resources. New trends libraries are paper-less and wall-less. They access all information by electronic method such as e- books and e- journal, reference sets, Dictionaries, biographies, paperback novels, newspapers, and magazines, research papers, Encyclopedias, medical indexes

#### **5.2 Medical resources: Print & e –resources:**

The following resources are available national and international level. The resources are selected Bibliographical and full-text databases, open access journals as well as drug information databases for medical science users for their teaching and learning activities. These resources are starting points for librarians. General public searching for health- related information can reach to the desired information through them.

##### **Pub-Med:**

The PubMed is an initially started by National Medical Library of America. All Medical library services are provided through Pub Med. The Pub med provided total 16 million citations from MEDLINE and other life science journals since 1950s are made available. PubMed indexes links to full-text articles and other subject wise resources. Access to citations from MEDLINE, Pre MEDLINE, other journals in the field of medicine and life sciences is provided, and links to NCBI's (National Centre for Biotechnology Information) integrated molecular biology databases inclusive of nucleotide sequences, protein sequences, 3-D protein structure data, population study data sets, and assemblies of complete genomes in an integrated system are also provided.

**Embase.com:**

Embase.com (<http://www.embase.com/>) is comprehensive and validated biomedical and pharmacological information as an integrated web-based service. Daily updates of almost 2,000 records (updated every working day), Annually, more than 600,000 records and more than 7,000 journals from over 70 countries are indexed. Almost 2,000 journals are covered by Embase or Medline individually Comprehensive international coverage, Easy-to-use interface. Selective search criteria that exactly matches users requirement include forms, quick search, advanced search, field search, drug search, disease search, and article search .They are provide large 18 million records, 11 million Embase records from 1974 and more than 7 million unique Medline records since 1966 to date. The most current version of Embase available with records online on average within 10 working days.

**BIOSIS Previews:**

BIOSIS Previews (<http://scientific.Thomson.com/products/bp/>), one of the leading abstracting and indexing databases in the life sciences, serves the DESIDOC JI. Lib. Inf. Technol., 2008, (2) need for finding extensive research into the life sciences and biomedical sciences literature through complete coverage of traditional biology, interdisciplinary subjects, and related areas. BIOSIS Previews indexed in Science Direct is updated weekly .Author-written abstracts are included substantially. More than 90 per cent of records are of same category.

**Scopus:**

Scopus is the largest abstract and citation database of research literature and quality web sources. It addresses information scientist's needs. Scopus is Faster, simpler and comprehensive. It provides wonderful support of the literature research process. Scopus not only offers over 15,000 peer-reviewed titles from more than 4,000 publishers but also has 500 open access journals, 700 conference proceedings, 600 trade publications, 29 million abstracts and 265 million references, added to all abstracts. It includes results from 265 million scientific web pages, 18 million patent records from 4 patent offices, easy connect links to full-text articles and many other library resources, innovative tools that give quick overview of search results and refine and reshuffle them according to the most relevant hits, alerts to keep users updated for new articles matching

their search query, or by favorite author.<http://www.scopus.com/scopus/home.url>)

**Cancer literature :**

The database contains references to cancer literature published since 1960s. The bibliographic database has more than 1.8 million citations, 4,000 different sources, which includes biomedical journals and proceedings and books, reports, doctoral theses etc.

**Ind-Med:**

To start with 75 prominent Indian journals have been selected to build up the database entitled IndMed. The coverage of database is from 1985. The ICMR-NIC Centre for Biomedical Information (Indian MEDLARS Centre) has designed and developed a bibliographic database (<http://indmed.nic.in/>) from Indian biomedical literature. IndMed database covers prominent peer-reviewed Indian biomedical journals. Database offers faster and easier access for medical professionals/researchers/ students and the medical library professionals.

**Union Catalogue of Biomedical Serials in India :**

Union Catalogue of Biomedical Periodicals ([http:// uncat.nic.in/](http://uncat.nic.in/)) has been compiled by India Medical Council. The database of 180 libraries is periodically updated and can be accessed by users free of cost. The catalogue is a database of the Serials holdings of major medical libraries in the country and serves as an important information tool for locating journals of interest in any library in India.

**Science Direct :**

Science Direct ([www.sciencedirect.com](http://www.sciencedirect.com)) is one of the largest online collections of published scientific research in the world. Science Direct is Elsevier's full-text platform. Now it offers almost one fourth of the world's STM articles integrated with a growing range of authoritative books. This includes reference works, handbooks and book series. More than 2,000 journals and hundreds of books from Elsevier Science including prestigious titles such as The Lancet, Cell, Tetrahedron Letters, the Handbooks in Economics Series. International Encyclopedia of the Social and Behavioral Sciences are also available on Science Direct. Its Back files program also offers the ability to search an electronic archive of millions of articles, back to first volume first issue.

**MD Consult:**

MD Consult was initiated in 1997 through a unique venture of the world's leading medical publishers like Mosby and W.B. Saunders. Elsevier's flagship online product, It provides, complete text of over 50 leading medical reference books. Users can search the entire collection simultaneously for specific information needed. Also, 50,000 high-quality images, Full-text articles are made available through a powerful search engine that includes the complete contents of over 80 journals. Clinics of North America articles Simultaneously search for the full text of MD Consult online journals and millions of Medline abstracts Access to collection of more than 1,000 peer reviewed practice guidelines. These are regularly updated and organized by topic and organization for easy browsing 10,000 or more customizable, printable, patient handouts. These handouts are with space to add notes, patient instructions, and contact information.

**EBSCO:**

It provide Electronic Journals Service. EBSCO is a worldwide leader in providing access to information and management solutions through print and electronic journal subscription services, research database development and production, online access to more than 150 databases and thousands of e- journals, a full-featured Open URL link resolver, and e-commerce book procurement. Many secondary databases (such as MEDLINE) are also available via EBSCO host with links to full-text articles in e-journals. EBSCO host now offers secondary databases.

EBSCO (<http://www.epnet.com>; <http://www.ebsco.com>) provide interconnected web-based products and services to allow users seamless access to services from EBSCO's integrated divisions. Through EBSCO host Web interface, users can access full-text databases (such as Biomedical Reference Collection) via EBSCO host with links to e-journal subscriptions via the

**Ovid:**

It provides a customizable suite of contents, tools and services. Ovid supports the diverse research needs of its 13 million users worldwide. Ovid helps make research smarter, faster, and more effective by providing powerful information search and discovery platforms (Ovid Gateway and Silver Platter) to access a list of 1,200

journals, over 500 books, and more than 200 databases. It offers innovative technology tools and specialized services to browse, search, retrieve, and analyze critical information. It is used all over the world by librarians, researchers, clinicians and students from leading colleges and universities; medical schools. This list extends to academic research libraries and library consortia; hospitals and healthcare systems; pharmaceutical and biotechnology companies; and HMOs and clinical practices.

Ovid Technologies (<http://www.ovid.com/site/index.jsp>) is an internationally acclaimed leader of electronic medical, scientific, and academic research information solutions.

**Pro-Quest Medical Library:**

Pro Quest Medical Library (<http://proquest.umi.com/login>) contains full-text articles from more than 600 health science journals, annual reviews, and back volumes. Abstracts and indexing from MEDLINE database are also covered in this database. Subject oriented and journal-based search can be made using this database. The journals cover all major health care specialties' including Pharmacology, Neurology, Cardiology, Physical Therapy, Dentistry, Nursing etc.

**Psyc articles:**

Psyc articles (<http://psycinfo2.apa.org/psycarticles/>) is an online database indexing some 26,000 entries from 49 peer-reviewed journals published by American Psychological Association and allied organizations since 1988. Full-text articles covered in it are available for price.

**MedIND:**

MedIND (<http://medind.nic.in/>) is a single point resource of peer-reviewed Indian biomedical literature covering full text of IndMED journals, which provide quick and easy access through searching or browsing.

**CINHAL:**

The long name of CINAHL is Cumulative Index to Nursing and Allied Health Literature. It has excellent coverage of nursing and allied health subjects and provides current information. It has greater overlap with MEDLINE than Embase but has better coverage of the nursing and allied health literature. MEDLINE includes

some indexing of book chapters and documents from the American Nurses Association.

**Web of Science:**

This database is related to medicine and bioscience covering area is nearly 6000 journals .This database was initiated in 1945. Web of Science is a bunch of many databases.

**Behavioral Science Aspects of Health and Disease :**

These databases are related to behavioral science aspects of health and disease. They are like Medline and EMBASE Health and Psychosocial Instruments will provide many unique citations for researchers doing work in these areas. A comprehensive **list of social science databases** is maintained by Yale is Social Science Libraries.

**Medical libraries are list of Biomedical Database:**

A list of database is available for Yale researcher. These databases are relevant to biomedicine. This database is related to biomedicine, such as public health, nursing and academic related topics.

**ABI\ IFORM complete:**

This database is present since 1971. This database gives information about full text of health care industries.

**Access Emergency Medicine:**

These types of data bases are available since 1984. They are full text type of databases available online for researchers, physicians and residents.

**Access Medicine:**

These databases are useful in clinical evolution, diagnosis conducting research, case management and medical education or self assessment.

**Access Surgery:**

This is an Integrated online resource which provides medical students residents and practicing surgeons with quick answer to surgical inquiries from trusted sources.

**ACP Journal club:**

These databases are related to biomedical physicians, and are arranged systematically. The physical experts comment on this data as best quality and authentic and quite useful to research.

**Academic Search :**

These databases are complementary, holistic and integrated approaches to healthcare, wellness and are reliable for users since 1990.

**Anatomy TV**

These types of databases have made detailed 3D models of the Human anatomy and the softwares are available on web. The subjects that are covered in this database are genetics, infectious diseases, health services, research and medical informatics.

**Books @OVID:**

This database is full text database and it is upgraded and updated. All this data is used for medicine, nursing , and pharmacology research.

**CAB Abstract :**

CAB Abstract is an extensive source of reference in the applied life sciences and incorporative of the leading bibliographic databases The CAB abstract is used globally as biological and genetics resource.

**Comprehensive physiology:**

It is a handbook of physiology. This book is published by American Physiology Societies, has published it and meant for medical users, and it is upgraded regularly.

**Dyna Med:**

These databases are a tool for clinical references. They are useful for physicians and other health professionals. It is a medical information database with around 2,000 clinical topic summaries. It is designed for the use at the point of care, providing best available evidence and the database is updated on daily basis.

**NCBI Integrated database:**

This type of database gives information about genes and proteins and chromosomes .

**Environmental science and pollution management :**

This type of database consist of specific information on toxicology and effect of pollution on human body and environment and occupational health .

**Epocrates :**

These databases are designed for specific drug information, drug interaction, disease information, OTC medications, patient education and formulary informations. Epocratesdatabases have patient centric approach .

**Faculty of 1000:**

It is the review of literature for Biological and medical science research papers, This paper is based on the recommendation of faculty of well over 1000 selected leading researches.

**GIDEN Global Infectious Diseases and Epidemiology Network:**

This is worldwide database used by medical students and researchers. It is a global infectious disease knowledge management tool which consists of three continually updated modules on Infectious disease, Microbiology and occupational Toxicology.

**Global health:**

These databases are made for global diseases such as HIV / AIDS Tropical diseases, Parasitic diseases , human nutrition, community and public health, medicinal and poisonous plants. These databases have national and international level coverage.

**Health and Psychosocial Instruments :**

These provide bibliographic information on measurement used in health care field and are present since 1985.



**Health Sources for Nursing :**

This Database came into existence in 1990. It is a fulltext database. This database has information related to nursing and health education.

**History of Science Technology and medicine:**

This type of database is related to Index Journal , conference proceedings, books and book reviews , dissertations in the history of science , technology , medicine , and allied fields. and is available since 1975.

**Index Catalogue of the Library of the Surgeon:**

This database started in 1880 and provides a list of items in the library of surgeons. It is an important resource for researchers in the history of medicine, history of science and clinical research.

**The life sciences search engine:**

This is related to molecular biology and bibliographic citations from the NCBI's integrated database. The database includes gene and protein sequences, structures, chromosome maps. This database includes OMIM, Genome Project, Pub-Chem, Taxonomy, and others. It highlights and reviews the most interesting papers published in biological and medical sciences.

**JBI Con NECT, From Joanna Briggs Institute**

It is the clinical, online network of evidence for care and therapeutics and provides easy access to resources that helps to find and use evidence to inform clinical decisions practices.

**Journals @Ovid:**

These type of databases give information about full text of hundreds of journals in clinical medicine and some allied subject such as nursing , physical sciences. Electronic access to the full text of about 200 of these journals is available to the Emory community.

**Locator plus:**

This type of databases is used at National Library of Medicine. The database includes books journals and other resources .

**Medline via Ovid :**

These databases are available since 1996. These databases are related to life and behavioral sciences, health care services and research.

**Mental Measurement Year Book :**

These databases are made from Buros Institute, providing critical review of thousands of commercially available psychological tests.

**Mark Manual of Diagnosis and Theo:**

The handbook for care practitioners providing information about automation on disease and treatment.

**Netter Presenter (web based):**

This type of database gives references of Full set of images from the Netter Atlas of Human Anatomy, 5th Edition. More than 200 additional clinically-focused illustrations and radiologic images, as well as videos created from the new Netter's 3D of Interactive Anatomy from Netter's online dissection Modules.

**NTR - National Technical Reports :**

NTR provides an access to a large collection of historical and current authenticated government technical reports in a wide range of subject areas since 1994. NTR includes health care, environmental pollution, medicine, biology, engineering and more. The database has over 2 million titles and links to over 700,000 full-text reports.

**POPLINE :**

POPLINE provides index literature in the field of reproductive health, family planning, and population policy for all countries. The database covers related topics such as AIDS, maternal and child health, and demography for developing countries.

**Cardio Source Plus :**

Cardio Source Plus is an educational resource from American College of Cardiology that covers cardiac information and the clinical trials database with downloadable summary slides and clinical images. It has almost 6000 images in still and motion video formats, customizable patient handouts, Heart Songs, an online drug

database (ePocrates), and an award-winning Self-Assessment Program. The database needs to be logged in to access to Cardio Source Plus.

**Consumer Lab :**

This type of database provides an information about consumers and health care professionals. It evaluates their health, wellness, and nutrition products suitable for them.

**Journal Citation Reports :**

This type of database provides a quantitative categorizing measurement of journals including bibliometric measurements of journals.

**Lexi Com:**

This type of database provides an information related to drug through online services.

**Micromedex (internet version):**

This database is available as a full text drug information and includes PDR, USP DI, Martindale's Poisoning and Toxicology data, drug reactions, patient education handouts, MSDS sheets etc. The database is useful to students and medical practitioners.

**Natural Medicines Comprehensive Database:**

These types of database are related to plants and their uses for medically and it gives information about herbs and supplements.

**PIER :**

It means Physicians Information and Education Resources. This kind of database is related to preventive and social medicines. It is highly synthesized, designed for point of care use. The database is prepared by American Physicians.

**Psychiatry online:**

This website features DSM-IV-TR® and The American Journal of Psychiatry as the cornerstone of a collection of psychiatric references, including books, journals, and self-assessment tools. Much more than individual titles, Psychiatry Online

features sophisticated searching and indexing tools that enable users to quickly target all the information needed and online collection of publications available in print.

**APA Full -Text Database :**

The APA Full-text articles database contains the full-text articles from over 40 APA journals and others, mostly from 1988 to the present day.

**Pub Med (Medline , Premed line and health STAR) :**

It is an index to 4,000 medical journals and includes citations, abstracts and some full texts besides links to articles in 957 full text electronic journals.

**STAR Ref :**

Cross-search about 40 medical resources such as DSM IV-TR, Merck Manual, and among others are Nursing Diagnosis Reference Manual.

**Visual DX :**

This databases deals with medical science. It has an access to about 20,000 medical images with concise specially developed clinical information.

**Apais-Health:**

It covers health and medicine in Australia, in particular, the legal, social, economic and ethical aspects of health.

**Wiley medical database:**

Wiley-Blackwell offers evidence-based medicine (EBM) databases that are designed to aid healthcare professionals in accessing the right information at the right time. As a commitment to an evidence-based approach continues to grow, the products provide up-to-date, impartial medical information to facilitate diagnosis and improve patient care by improving outcomes.

**Health Services Research (HSR):**

These specialized HSR search filters are intended for researchers, clinicians, health policy analysts and planners. The filters will assist in searching PubMed for appropriateness, process assessment, outcomes assessment, costs, economics, qualitative research, or quality improvement. Searches can be further limited to a broad (sensitive) or narrow (specific) search.

**Health Services Research Projects in Progress:**

It is a free full-text electronic resource for health care decision making, HSTAT came into existence in 1994. HSTAT includes U.S. Preventive Services Task Force (USPSTF) guides and evidence syntheses, Mental Health Services Administration (SAMHSA), Agency for Healthcare Research and Quality (AHRQ) evidence documents, technical reviews and guidance and research on methods, Substance Abuse and Treatment Improvement protocols and Clinical Practice Guidelines Consensus Reports.

**Age line database:**

Age line databases focus exclusively on the population aged 50+ and issues of aging. Age line is the premier source for the literature of social gerontology and includes aging-related content from the health sciences, psychology, sociology, social work, economics, and public policy. Age line also includes information for professionals working in aging-related fields and for consumers. Original abstracts are generated for every citation, with index terms drawn from Age line Thesaurus of Aging Terminology. Age Line indexes over 200 journals, books, book chapters, and reports. designed for researchers, professionals, students, and general consumers.

**MEDLARS:**

MEDLARS is used for preparing publications like Index Medicus the monthly subject/author guide to articles in 3,000 journals. Medlars means medical literature analysis and retrieval system online. The all literature are specific to life science and biomedical science. Medlars provide medical databases to medical field. Today, through the Internet and World Wide Web, MEDLARS search services are available around the world without charge. Medlars best databases are in world. Essentially Index Medicus online, MEDLINE enables anyone to query the NLM computer's store of journal article references on specific topics. It currently contains 9 million references going back to the mid-1960s. Other databases provide information on cataloging and serials, toxicological and environmental health data, AIDS, and other specialized areas. Almost 350,000 MEDLINE web based searches are done everyday by health professionals, scientists, librarians, and the public. A new Web service, called MEDLINE plus, links users to many sources of consumer health information.

### **5.3 Trends in Medical Publishing and Open Access ICMR:**

#### **Free Medical Journals.com:**

This site provides links to more than 1,300 medical journals available on the Internet for free. This collection of medical journals include materials for the scholarly researcher and for the general public. (<http://www.freemedicaljournals.com/>)

#### **Priory Medical Journals:**

Priory Medical Journals and are the world's first web-based medical journals. The first of their medical journals was Psychiatry On-Line. Every journal is available at no cost and access to everyone. This bunch of medical journals is devoted to research papers, review papers and other original works. (<http://www.priory.com/>)

#### **Free Fulltext.com:**

FreeFulltext.com provides direct links to over 7,000 scholarly periodicals. Most of them are online. They can be viewed at no cost by anybody who has an internet access. (Some of them may require free registration. <http://www.freefulltext.com/>)

#### **Public Library of Science:**

It is free of cost, accessible online public resource. Public Library of Science is a non-profit organization of scientists and physicians committed to making available the world's scientific and medical literature. (<http://www.plos.org/>)

#### **Bio Med Central:**

Bio Med Central is an independent publishing house. The publication is committed to providing immediate free access to peer-reviewed biomedical research. Once published, all original research articles are freely and permanently accessible online immediately upon publication. Bio Med Central is essential open access content to researchers so as to ensure the rapid and efficient communication of research findings. (<http://www.biomedcentral.com/>)

#### **Directory of Open Access Journals:**

Directory of Open Access Journals (DOAJ). DOAJ covers free, full text scientific and scholarly journals. Now, some 2618 journals are available in the directory out of which 788 journals are searchable at article level. As of today 130014 articles are included in the DOAJ. (<http://www.doaj.org/>)

**Pub Med Central :**

US National Library of Medicine has made Pub Med Central (PMC) a free digital archive of biomedical and life sciences journal of National Institutes of Health (NIH) of the US. Full-text databases of biomedical and life sciences are available.

( <http://www.pubmedcentral.nih.gov/>)

**Bio-Line International:**

Bio line International (BI) is a not-for-profit electronic publishing service. BI committed to providing OA to quality research journals published in developing countries. BI's goal is to reduce gap in between the south to north knowledge. It is crucial to a global understanding *DESIDOC Jl. Lib. Inf. Technol.*, 2008, **28**(2) 91 of health (tropical medicine, infectious diseases, epidemiology, emerging new diseases), biodiversity, the environment, conservation and international development. BI provides a unique service by making bioscience information generated in these countries available to the international research community world-wide. Peer-reviewed journals from countries like Brazil, Cuba, India, Indonesia, Kenya, South Africa, Uganda and Zimbabwe are represented. (<http://www.bioline.org.br/>)

**Med know Publications :**

Med know Publications is the largest publisher in India for academic and scientific biomedical journals. Med know pioneers in 'fee-less-free' model of OA publishing and provides immediate free access to the electronic editions of the journals without charging the author or author's institution for submission, processing or publication of the articles. Med know, has more than 40 print and online journals. Med know provides immediate free access to the full text of articles. (<http://www.medknow.com/journals.asp>)

**Open MED:**

OpenMED@NIC is an open access archive for medical and allied sciences. In Open MED, Authors/owners can archive their scientific and technical documents on

their own. They need to register first time in order to obtain a user id in Open MED system. Although, no registration is required for searching the archive or viewing the comments. Open MED is a discipline-based international archive. Peer-reviewed documents having relevance to research in medical and allied sciences including bio-medical, medical informatics, dental, nursing and pharmaceutical sciences are accepted in Open MED. Submitted documents will be placed into the submission buffer and Once accepted they would become part of Open MED archive. These could be peer-reviewed preprints, post prints (refereed journal paper) and accepted theses. In case of non-English documents, descriptive data [author, title, source, etc.], abstract and keywords must be in English. The aim of Open MED is to provide free service to academics, researchers, and students working in the area of medical sciences. (<http://openmed.nic.in/>)

#### **Health Books:**

Health Books provides links to free electronic books available on different aspects of medical sciences. (<http://www.unifesp.br/university>

[English/dis/libraries/books.htm](#) /[books.htm](#))

#### **FreeBooks4Doctors.com**

Free Books is dedicated to the promotion of free access to medical books over the Internet. (<http://freebooks4doctors.com/>)

#### **World health Organization:**

World Health Organization is the directing and coordinating authority for health within the United Nations system. Who's function is to provide leadership on global health matters, monitoring and assessing health trends, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and. (<http://www.who.int/>)

#### **Iowa Drug Information Service:**

The Iowa Drug Information Service (IDIS/Web) is a database of index records of articles about drugs and drug therapy in humans taken from over 200 peer-reviewed English language journals. This database is designed by the Division of Drug Information Service (DDIS), University of Iowa ,USA to retrieve specific information concerning drug and/or drug treatment of a disease state. Among the



areas covered are pharmacy and pharmacology, general and internal medicine, infectious disease and immunology, transplant, cardiovascular rheumatology, microbiology, geriatrics, and endocrinology. All the articles are available online (1997 onwards). Authoritative publications have been selected to provide broad coverage of both general and specialty areas of pharmacy and medicine. (<http://itsnt14.its.uiowa.edu/>)

**Micromedex Healthcare Series:**

Micromedex Healthcare Series is unsurpassed in terms of scope and reliability when clinical information is needed. The actionable information provided by MICROMEDEX spans drugs, diseases, acute care, toxicology, alternative medicines, as well as a comprehensive tool to educate patients. This is a clutter-free, easy-to-navigate interface which saves clinicians time and promotes best practices. (<http://www.micromedex.com/products/hcs/>)

**Medline Plus:**

Medline Plus from the National Library of Medicine, the US offers consumers accurate and current medical information about specific diseases and conditions, including drug information. This content rich site includes health news, a dictionary, directories to find doctors, dentists and hospitals, interactive tutorials, clinical trials and surgery videos. (<http://www.medlineplus.gov/>)

**Medicines Complete:**

Medicines Complete provides online access to some of the world's leading drug and healthcare references. Medicines Complete is published by Pharmaceutical Press, the publications division of the Royal Pharmaceutical Society of Great Britain. This provides online access to American Hospital Formulary Service drug information; British national formulary; BNF for children; Clarke's analysis of drugs and poisons; dietary supplements herbal medicines; Martindale: the complete drug reference; MeReC bulletins; pharmaceutical percipients; Stockley's drug interactions; Stockley's interaction alerts. (<http://www.medicinescomplete.com/mc/>).

**5.4 Medical Consortiums:**

**1) National Medical Consortiums:**

UGC has initiated the UGC-INFONET E-Journal consortium is a great boon to academia in the country. Almost 494 full text scholarly electronic journals in Medicine and open access databases like PubMed Central, Biomed Central, High wire Press and Public library of Science, Directory of online journals etc can be accessed through this consortium.

**2) ERMED Consortium:**

Recognizing the need for sharing of information in Biomedical research and development in India through Online Networking the ICMR, New Delhi has developed ERMED-India Consortium. The consortium will be coordinated through its headquarter set up at the NML. JCCC(Journal Custom Content for Consortia) has been launched by ICMR Head Quarters. 39 centrally funded Government Institutions including 10 Director General of Health Services libraries + 28 ICMR Libraries and AIIMS library are selected at the initial stage as its core members.

**3) National Medical Library Consortium:**

National medical library, New Delhi has taken up a pilot project for linking 25 Government Medical College Libraries in the country. National Medical Library has set up a network of health science libraries in India. National Medical Library is also the national focal point of HELLIS Network set up by the WHO in Southeast Asia in 1982, with the support from WHO, it has 6 regional medical libraries and 8 resource medical libraries in the country.

**4) HELINET:**

Health Science Library and Information Network (HELINET), an electronic resource sharing consortia. HELINET has grown to be the single largest library consortium in the country by membership. Today, HELNET is reaching out to 666 medical colleges in the state under university's umbrella. Rajiv Gandhi Institute of Health Sciences, Karnataka (RGUHS) adopted this concept in 2001 to network all health science libraries in Karnataka. It is the first health university in the country started in 2003 as a collaborative effort to network 25 medical colleges in the state for promoting journal access and resource sharing.

**5) NTRMED:**

The Digital Library Consortium (named as NTR MEDNET) of NTR University of Health Sciences, Vijayawada, Andhra Pradesh with the libraries of all affiliated colleges was inaugurated on 12-10-2005. Under this Consortium the following E-resources are available for the 316 member colleges.

**5.4.1 International Medical Consortia:**

**1) International Blood–Brain Disruption (IBBD) Consortium:**

The transient opening of the blood-brain barrier for the delivery of intra-arterial chemotherapy is administered by Ohio State University and combines basic science, research and comprehensive patient care to treat patients with brain tumors. (<http://www.ohsu.edu/bbb/consortium.html>)

**2) International Multiple Sclerosis Genetic Consortium (IMSGC):**

The mission is to revolutionize the treatment and prevention of cancer and complex diseases by rigorously developing and applying post-genome science to advance human health. Its primary goal is to identify the genes influencing the risk of developing Multiple Sclerosis and thereby inform the patients on the pathogenesis of the disease. The genetic effects attributable to individual genes are modest. The consortium brings together researchers from Cambridge University (UK), Duke University. <http://www.imsge.org>

**3) The International Genomic Consortium (IGC):**

It is a non-profit medical research organization. IGC was established to expand upon the discoveries of the Human Genome Project and other systematic sequencing efforts by combining world-class genomic research, bioinformatics and diagnostic technologies in the fight against cancer and other complex diseases. <http://www.intgen.org/igc.cfm>

**4) International Consortium for Medical Imaging Technology:**

Its main objective is to develop and implement medical imaging technology. This will lead to improved diagnosis and health care delivery at lower costs. The information carried in these images is crucial to treatment for the departments like cardiology, neurology, surgery, obstetrics, orthopedics and pulmonary medicine. New advances in imaging modalities, computer hardware and software, and network

technology are explored to store, retrieve, analyze and deliver image data to the diagnosing physician. [Http://www.icmit.mit.edu/members.html](http://www.icmit.mit.edu/members.html)

**5) The International Consortium for Anti-ViraLs(ICAV):**

It has its origins in the year 2003. ICAV will facilitate knowledge transfer and effective use of limited resources and global expertise, at the same time will accelerate the development and delivery of drugs that target viral diseases worldwide. The ultimate goal of ICAV is to discover and develop new therapeutics that target host functions that are crucial to the infectivity of many viruses by linking scientists and others from Universities, Institutes, Hospitals and Industry from around the world. [http://www.fhcrc.org/science/international\\_biomarker/](http://www.fhcrc.org/science/international_biomarker/)

**6) Global Health Medical Education Consortium:**

It is a consortium of faculty and health care educators dedicated to international health education in U.S. and Canadian medical schools. GHEC members represent over 80 medical schools in the United States, Canada and Central America. Their mission is to foster international health medical education in four program areas curriculum, clinical training, career development, and international education policy. <http://www.globalhealth-.org/GHEC/AboutUs/About.html>

**7) The World Care Consortium:**

World care consortium was established in 1966 with an alliance of three of the top twelve academic medical centers in the United States, Namely, Duke University Health System and Partners HealthCare System, Inc., in which Massachusetts General Hospital and Brigham and Women's Hospital are included. World Care provides highly specialized and customized access to high quality healthcare in 30 countries worldwide, representing 8,000 physicians, including scores of acclaimed specialists and \$1.2 billion in annual biomedical research. The World Care Consortium is unparalleled, worldwide for the depth of its medical expertise.

**8) WHO Contribution to Medical Library Consortium, Extra MED:**

It is an initiative of the World Health Organization (WHO). During 1993, the publishers of over 290 biomedical journals from all over the world were brought to form Extra Med Consortium. What makes Extra Med a particularly valuable source of

information is most of the articles found in File 467 that are not included in major European and U.S. indexing sources, making. The file provides all the abstracts and bibliographic data from the WHO initiative. Articles provide a unique perspective on all health and biomedical topics. The full-text articles are available individually from DIALOG Source One sum document delivery service.

**9) The Health Inter Network Access to Research Initiative (HINARI):**

HINARI was launched in January 2002, with 1500 journals from major publishers like Blackwell, Elsevier Science the Harcourt Worldwide STM Group, Welter Kluwer International, Springer Verlag and John Wiley, following the publishers joined in May 2002 bringing the total number of journals to over 2000. It was developed in the framework of the Health Inter Network, introduced by the United Nations. Local, non-profit institutions in two groups of countries may register for access to the journals through HINARI. As of now, 70 publishers are offering their contenting HINARI and others will soon be joining the program. The country lists are based on GNP per capita (World Bank figures, 2001). HINARI provides free or very low cost online access to the major journals in biomedical and related social sciences to local, non profit institutions in developing countries. Institutions in countries with GNP per capita below \$1000 are given free access. Institutions in countries with GNP per capita between \$1000-\$3000 pay fee of \$1000 per year / institution.

**10) National Network of Library of Medicine (NN/LM) Greater Midwest Region:**

The mission of the National Network of Libraries of Medicine (NN/LM) is to advancement of medicine and improve the public health by providing all U.S. Health Professionals. The network is administered by the National Library of Medicine. It consists of eight Regional Medical Libraries (Major institutions under contract with the National Library of Medicine), 159 Resource Libraries (Primary at Medical Schools), and 4,762 primary Access Libraries (Primarily at hospitals).

**5.5 Library Services in Digital Era:**

Digital era has made an impact over all the library and information activities by using ICT and digital media and different techniques and technologies. The major impact is weighed in library services. The services can be more advanced and

qualitative using digital media. In the present era of IT, internet, web technology and digital media are applied successfully in libraries, The way of providing services to users has changed greatly. The main aim in providing assistance to users by providing library services is now shifting from traditional single library to provide access to globally available information is possible. The traditional reference services are now virtual reference services using digital or electronic information resources available either free or fee based.

Reference Services, Information services, Value added library services, digital reference service, virtual reference services, virtual reference desk, Library 2.0 based services.

Reference and information services are the main components of any type of library. Library and information centers are providing different types of services to their users in order to meet their information related needs and response to their queries suitably. The primary objective of the library is to enable the users to make the most effective use of information resources through library services. Reference service is a personalized library service as well as community based library service. The main role of Librarians in traditional environment was restricted to acquire, process and maintaining the collection and also provide reference services to answer all types of queries from the available collection. But now due to use of technologies and management techniques, majority of publishing industries are coming up with announcing the information published and information stored in electronic format. It is possible to develop new arena in the library profession in providing services to users. Information retrieval system is also changing its way and the library users and researchers access to global information and retrieve the information in pinpointed and timely manner.

Digital environment in libraries have shifted their functions and services, instead of ownership of resources, sharing of resources are practiced and therefore the value to access to the information is greater than having access to physical space, this has brought change in the collection development, organization and library services. The diverse needs of users have to be fulfilled with, timeliness, accuracy and 24X7 access is also important in new era. Due to slashing prices, technologies are affordable to a very common user. Now users are searching information from their desktop and smart phones! The users can download e-journal articles, e-books on to

their personal data accounts. Now due to use of Internet, online service providers assistance and aggregators, it is possible for libraries to provide better reference and information services to user community, provide services in advanced manner. Use of the advanced media and globally shared resources librarians have to provide different qualitative library services.

#### **Status of Library Services:**

Traditional library services have limitations due to mono-media (i.e. only print) and services were provided from the library's collection only. Users are not provided with global access to information. But now in digital environment the drawbacks are removed as the free information transfer is possible globally and instantly. The resource sharing projects undertaken has also limitations due to print media. The services like CAS, SDI, were provided to users. The reference service provided by any libraries was more useful to the users but the tools used were localized. The reference desk was well organized with number of reference sources including encyclopedias, directories, dictionaries, Reference and Information Services in the Digital Era Asian Journal of Multidisciplinary Studies, 2(6) June, 2014 18 handbooks, almanacs, yearbooks etc. The reference librarian uses these reference tools and provide the reference services to users on demand. The main drawback was the updated information, as the tools were not up-to-date and not economical.

In digital environment the reference and information services are more prominent. Since the reference tools are available free over the net, now it is possible to provide better and quick library and information services to users. Digital reference tools, virtual reference desk, virtual reference services etc based on terminology have been developed. The library services have been enhanced and expanded with the help of free information resources available in the environment. In addition to Internet web 2.0 tools are also being used for providing library services to users. The concept of library 2.0 is coined which serves better to users.

The changing scenario of library services are studied by many scholars and expressed that a shift in nature might be witnessed shortly due to technology and digital media. The status of library services is enhancing. **Nooshinfard and Ziaei (2011)** expressed that libraries are shifting their services due to usage of internet, web tools and the library website etc. The Library web site is an advanced media to provide better reference service by connecting different information resources and

products and also becoming an important tool in marketing information products of the library and also providing digital reference services to users. Ramos and **A brigo (2011)** reminded that reference services in academic libraries to students and faculty members have chosen to go online and use Instant Messaging and Face book for getting relevant information. **Chandwani (2008)** listed out two types of Digital reference services i.e. Asynchronous and Synchronous which includes E-mail reference service, web form, ask service, Virtual Reference Desk, 24/7 Reference, Instant Massaging Video Conferencing or web cam services etc. **Dahibhate (2009)** in his communication has also made an effort to list out various library and information services which can be easily provided through libraries in digital world. The authors concluded indicating that user centric or user based library services is the need of the current environment due to the information explosion. The cost effective and economical aspects in the services are also the need of the present environment. The rising cost of the information resources, increasing expectations of the users form the libraries, increasing research and development activities, use of digital resources and need for specialized pinpointed information etc. The information overload is the basic problem in managing the proper information delivery to the users. Hence it is now necessary to develop the users based library services to make the maximum use of the resources available to the users. **Jeevan ( 2007 )** has also listed out different library services which can be provided using technology like web based, Internet based, CD –Rom based, Network based, and Consortium based Information services, and these are purely based on the digital documents or information resources like databases-books, e-journals etc.

Digital reference service has been described as an assistance offered by the librarians to the users through the internet and web resources. The Concept of digital reference service has emerged with the growth of the internet and web development. Digital reference service allows individuals to submit questions to library staff using synchronous (real-time) or asynchronous technology. Library web pages and “webliographies” are new forms of delivery for the products of indirect reference service. Collaborative digital reference service involves multiple institutions and requires additional software support in order to route questions to the most appropriate participant. Digital reference service provides many benefits for libraries and their users. They can provide reference service 24 / 7. A librarian can provide



reference service regardless of location or person using global information. Digital reference service also adds overall value to library services by extending reference service to physically challenged users who cannot visit or avail the library facilities due to varied reasons. E-learning and teaching system in education needs library services of different nature and digital reference services are getting more preferences in academic sector while completing assignments and seminars. Thus Digital Reference Services (DRS) is the need of the present era as the information resources are being made available in digital form. Faculty and students are using electronic media extensively (like mobile technology, what's app ,we chat , etc) and have good digital literacy and also put more demand to librarian for subscription to e-resources. Along with internet, social media is also playing massive role to communicate and share information among library user.

**1) Reference Service in Digital Environment:**

Now a day's libraries are advancing and providing services to users on Desktop PC's with using Internet connection, Intranet facilities for internal communication, LAN, WI-FI in library campus etc. ICT and Internet has brought tremendous changes in information and reference services in academic libraries. Internet resources are indispensable and valuable source of information to all and used for efficient information delivery. Digital medium has offered a platform for a wide range of existing and future reference services. Libraries are now shifting from traditional practices to advanced using technologies. Reference and Information Services in the Digital Era. Asian Journal of Multidisciplinary Studies, 2(6) June, 2014 19 Initially basic reference services provided by libraries using library management software were OPAC, holding of journals, databases of specialized material etc, made available to users. Libraries are providing OPAC to others by using web (Web OPAC) and develop Library web pages and provide links to subject based links to resources available globally. Value added information products and services provided like list of books of Addition, new journals subscription list, Title Index, Author Index CAS, SDI etc. provided using technology. Library portals and "webliographies" are new forms of delivery of information products (e-resources, newsletters , New addition holding list of books and other reading materials) that provides to indirect reference service to their users.

**2) E-mail based reference services:**

Users send the queries or requests to the librarian using E-Mail facility. Email reference service is being popular service provided by librarians today. This service does not require any additional software and from librarians point of view email based reference service is an easy to use and provide assistance at no extra cost and training is not required. Quick and ready reference services can be offered using email.

**3) Library website based services:**

A library web page is designed and provided by librarians and provided links to different reference tools and databases which provide both short and long range services to the users. User at the click of button of the library website, which pops up the subject based resources and gets the information required their own.

**4) Ask about service:**

This service allows the users to ask question on line and received answers for free, from public information location mainly on the www. e.g. Ask ERIC (<http://askeric.org>), Ask A Question (<http://talonline.ca/askaquestion>), Ask Me ([www.askme.com](http://www.askme.com)) etc are few notable sites from where users can get specified information from the experts in the field.

**5) Chat Reference Service:**

In this service a reference librarian and the user can communicate with each other using short text messages in real time by using normal chat software e.g. WHATS App, WE CHAT, VIBER, BBM. and gets clarification of the complex question asked by users and try to solve instantly by using different resources. In this service software also allows for Instant messaging (IM) and also allows collaborative browsing between the librarian and the user.

**6) Video Conferencing / web camera reference service:**

In this reference service librarian and user are able to see each other e.g. Skype, Hangout etc. The discussions with experts, meetings and online demonstrations can be made available to users.

**7) Global digital reference service:**

In this service questions can be sent electronically and answered by any reference librarian in any other country instantly.

**8) FAQ (Frequency asked question):**

In this service users can get response to standard queries information about the organization their services, activities and progress etc.

**9) Ask-a-Librarian:**

This is also an e-mail based online or off-line based service. User can ask a question to the librarian and librarian using different tools find the answer and respond to user. Many libraries are providing this type of reference service to users

**10) Social networking based services:**

In this service librarian are using social media tools for sharing information and distributing educational resources to users. e.g. facebook.com, slideshare.com, link, twitters, etc.

**11) Mobile based services:** In this service librarian are using smart phone for Q. R. Code services (Quick Responses Code), Mobile wiki, mobile dictionaries, Web-OPAC etc for sharing and distribution of information to the users.

## **5.6 Libraries Automation:**

Use of automation and semiautomatic data processing machines to perform such traditional library functions like acquisition, cataloguing, and circulation. Library automation means maintaining bibliographical records, to reduce the repetition, share the resources through library networking and to provide high quality of information. "Library automation, stated in single term, is the application of computers and utilization of computer based product and services in the performance of different library operations and functions in provision of various services and production of output products".

### **Need for library Automation:**

- Capacity to handle any amount of data and information.
- Participating in network programmers and resource sharing.

- Flexibility in information search.
- Standardization of library procedures.
- Speedy processing of information and its retrieval.
- Provide better bibliographic control at local/regional/national and international level.
- Facilitate interdisciplinary nature of research and information.
- Economic implication of latest information technology.
- Overcome geographical and other barriers to communication.
- Market the library services and products and increase its awareness to promote the use of libraries.

**Importance of automation:**

Presently, computers are effectively used in libraries to handle their routine tasks, so that the library staff can devote more time to professional tasks. So automation is used to eliminate repetitive and time taking tasks as follows:

- Acquisition and maintenance of records.
- Circulation control.
- Catalogue creation and catalogue search.
- Reference assistance.
- Serial control and library financial operations.
- Information retrieval
- Stock verification.

In India a few libraries and some special libraries like the library of Indian Institutes of Technology, information centers of national level are automated. Starting from simple in-house built library software that can run on personal computers or commercial library software, which can run on vax, machines with higher computing powers are usually used. Some of them can be used on database management system. Some of the most used library software's are LIBSYS by Libsys Corporation, TULIP by Tata Information, CDS/ISIS by UNESCO, SOUL by INFLIBNET, SANJAY by DESIDOC, and LIBMAN by R.S Enterprises etc.

According to research survey in medical college libraries in Maharashtra out of 32 medical libraries 21.88% of libraries are well developed full automation system, 34.37% of libraries are working in partial automation, 15.63% of libraries are in

automation process and 28.12% libraries are not giving response. Medical education is different from any other education; Medical study is vast and deep. So libraries will develop automation, student will have benefit for research study.

**Summary:**

The medical resources are helpful medical education, they are available in print and non print. It supports to development of medical sciences. In modern age libraries resources are very important. According to new trends libraries are without walls they access all information by electronic method such as e- books and e- journal, reference sets, paperback novels, Dictionaries, research paper, biographies, Encyclopedia, and medical index, newspapers, and magazines. In this chapter all medical science resources list are national as well as international level. It helps to increase quality of medical education.

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