2.0 Introduction

Databases are playing an important role in Health Science Education; they not only provide exhaustive and up to date information to the users but also save the time of the professionals in literature search. Online Medical Database is a computerized management system, it is begun in 1979. Firstly Online Medical Database created by the National Medical Library for the benefit of Medical professionals and Patients. It provides physicians not only with the possibility of real-time monitoring of their patients' health, but also with a comprehensive and easy-to-use interface designed from the point of view of its users. Unlike other applications, Online Medical Database is built upon a compatible which uses it and modular system, adaptable to the needs and structures various firms.

There are several Online databases in the field of Medical Science, some of the important online databases that need to mention are MEDLINE, Best Evidence Medicine, Cochrane Collaboration, EMBASE, MD Consult, Science Direct and Ovid-gateway etc. The two major biomedical databases are MEDLINE and EXCERPTA MEDICA. Both databases and around 250,000 citations to their files each year and both claim to give reasonably comprehensive coverage of the literature of biomedicine. EXCERPTA MEDICA scans many journals and adds citations selectively from them, whereas MEDLINE coverage of article in its journal is comprehensive although the list is smaller. EXCERPTA MEDICA has a bias towards the pharmaceutical and environmental health literature. MEDLINE includes Dentistry Nursing and Veterinary Medicine, its biomedical coverage. (Morton and Godbolt) ¹

2.1 Features of Databases

1) Databases are used to search for academic informational on a topic. They search hundreds of even thousands of journal and other sources (Conference proceedings, Seminars etc.).

2) Databases covers different areas of the same subjects or have a different emphasis to comprehensive covers a topic several databases could be used.

3) Bibliographic databases only give brief details of the article found, something including the abstract.
4) Full-text databases link to the complete articles but only from designed publishers (e.g. science Direct will link to article published by Elsevier).

2.2 Merits of Databases

1. According to Hall and Brown the following are the merits of database.

2. In depth searches of computer held files can be carried out at a speed which no human can hold to match.

3. Database can easily be searched using new clues whereas in manual searching the time available does not often permit full-searching.

4. The user has easy access to an extremely wide range of indexes databases.

5. Database searchable online often offer a great numbers of access points, as the corresponding printed index.

6. Techniques used in searching online makes complex topics relatively simple and fast to search. Among those are Boolean logic controlled vocabulary online thesauri etc.

7. Authors can be meted with either keywords or subjects.

8. Interactive nature of online searching allows searches to be improved based on feedback from the results.

9. Online searchers are more timely than their counter parts because each database is updated and available before the printed indexes are published.

10. Some databases are only available online and do not have printed counter parts.

11. Online databases provide sources that libraries cannot afford to own in print format.
2.3 Structured content and organization of Medical databases

2.4 MEDLARS

MEDLARS (Medical Literature Analysis and Retrieval System), is the world’s first computerized Medical database which was started in mid 1963. The databases are derived as a by-product of the compilation of Index Medicus, the Index to Dental Literature and the International Nursing Index. The MEDLARS covers the whole field of biomedicine from 1964 onwards, although most sources offer the files from 1966 onwards. 3200 journals published in over 70 countries are indexed for the database, amounting to 250000 citations each year, the total file size being over four millions citations. Now it has been transformed as MEDLINE made available to all end users.

2.4.1 MEDLINE

MEDLINE is a biomedical bibliographic database that was developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM), located at the National Institutes of Health (NIH). MEDLINE currently indexes over 50 years of articles from more than 5000 journals. It contains citations to over 16 million articles and is adding new articles at a rate of nearly a million articles a year. MEDLINE covers basic biomedical research and the clinical sciences, including nursing, dentistry, veterinary medicine, pharmacy, allied health, and pre-clinical services. Some aspects of biology, marine biology, chemistry, biophysics, and plant and animal science are also covered in MEDLINE. MEDLINE does not contain any full-text articles, but many of the systems that search MEDLINE include access to full text journals.

MEDLINE is the most comprehensive and economical medical databases; therefore it is still the most widely used, even though it is bibliographic file. It contains approximately 800000 references to biomedical journal articles published since 1983 now it is has transformed into PUBMED (Fielding and Powel)\(^\text{2}\).
2.4.2 PUBMED

PUBMED is the different versions of Medline database which has different appearance and identical, it includes references that are not yet fully indexed. (PreMedline) also includes citations supplied electronically by the publishers (available under the ‘Subset’ menu on the ‘Limit’ function). PubMed has some additional features to Medline. MEDLINE has been transformed into PUBMED the database offers access to more than 21 million citation from 1966 to the present – from Medical and research journals at the National Library of Medicine. Also 11 subcategory databases those articles are indexed, using MeSH (Medical Subject Headings) subheadings and many contain abstracts as well. The database is updated weekly. PubMed also offers access to Pre-Medline, a service that is updated daily. Articles that have not yet been given their MeSH subheadings are uploaded into Pre-Medline with citation information and abstracts.

PubMed is easily searched and is a very forgiving database. Not familiar with the Boolean “and” “or” and “and not”? You don’t need to worry about them with PubMed. Just type in your terms with spaces between the words. For example the search “Pulmonary and Egashira” pulled up nine citations that included “Egashira as an author and “Pulmonary” somewhere in the citation or abstract. If you want to search in a specific journal, PubMed offers a new feature: Journal Browser. Just type in the full name ISSN and MEDLINE abbreviation of the journal. Journal Browser returns with the full name, ISSN and MEDLINE abbreviation. You can then copy and paste the ISSN into your search screen or just click on the hotlink for the journal to find out how many articles from that journal are contained with MEDLINE. One flaw, however: You need to know how MEDLINE recognizes the journal to find it.

2.4.3 OVID DATABASES

Ovid Technologies (an operating company of Wolters Kluwer Health) is an internationally recognized leader of electronic Medical, Scientific and Academic research information solutions. Ovid offers 1200 journal databases that contain world most highly-cited and respected content from: Lippincott Williams & Wilkins, Addis, CABI, Elsevier, Thomson, Royal Society of Chemistry, British Library, Derwent etc.
Over 1,200 premium, peer-reviewed journals- with no embargoes! Plus 50 journal collections, including archive collections and packages based on publisher or subject, over 100 bibliographic and full-text databases. Our content covers a wide range of core and niche scientific, medical, and healthcare disciplines and topical areas, including:

With a growing list of 200+ databases, Ovid offers the best selection of core databases in: Agriculture, Biology, Economics, Education, Engineering, Food Science, Medicine, Nursing Pharmacy etc.

2.4.4 EMBASE

Embase is a biomedical and Pharmacological database containing bibliographic records with citations, abstracts and indexing derived from biomedical articles in peer reviewed journals, and is especially in its coverage of drug and pharmaceutical research. EMBASE contains over 20 million records from 1974 to present with 600,000+ citations and abstracts added annual. Each record contains the full bibliographic citation, indexing terms and codes; 80% of all citations in EMBASE include author-written abstracts. The EMBASE journal collection is international with roughly 7,000 active peer-reviewed journals from 70 countries. EMBASE and MEDLINE do not index the same journals; only 65% of journals are indexed in common, which could result in a significant loss of coverage of a topic, depending on the medical specialty. Thus a Medline search along will not access a significant amount of the medical literature. (Haynes, R.B) (7)

2.4.5 Database of Abstracts of Reviews of Effectiveness – (DARE)

Ovid is pleased to announce an addition to its family of Evidence Based Medicine (EBM) Reviews databases: the Database of Abstracts of Reviews of Effectiveness (DARE). DARE is the third component of Ovid's growing Evidence Based Medicine Reviews collection, which also includes Best Evidence and the Cochrane Database of Systematic Reviews. DARE is a full text database containing critical assessments of systematic reviews from a variety of medical journals.

DARE is Produced by the NHS Centre for Reviews and Dissemination (CRD) DARE provides access to selected systematic reviews on the effectiveness of Clinical
interventions and policies from databases such as MEDLINE and through manual review of the primary literature. DARE researchers are trained in critical appraisal selected only high quality reviews based on evaluation of literature searching, inclusion criteria, study assessment and synthesis. Systematic review articles that are selected are summarized and evaluated in full text reports that describe the interventions and outcomes studied; the conclusions drawn; strengths and weakness of the review; and implications for practice.

2.4.6 PsycINFO

PsycINFO is an expansive abstracting and indexing database with more than 3 million records devoted to peer-reviewed literature in the behavioral sciences and mental health, making it an ideal discovery and linking tool for scholarly research in a host of disciplines.

PsycINFO The essential psychology tool for researchers, practitioners, and students in numerous disciplines, PsycINFO is an abstract database that provides systematic coverage of the psychological literature from the year 1800 to the present. The American Psychological Association’s PsycINFO database is the compressive international bibliographic databases of psychology. It contains citations and summaries of peer-reviewed journal articles, book chapters, books, dissertations and technical reports. All in the field of psychology and the psychological aspects of related disciplines, such as medicine, psychiatry, nursing, sociology, education, pharmacology, physiology. Journal coverage, spanning 1806 to present, includes international material selected from more than 2,450 periodicals from more than 49 countries written in 29 languages, current chapter and book coverage includes worldwide English-language material published from 1987 to present. Over 80,000/- records are added annually through weekly updates. More than 36 million reference in over 8, 70,000 journal articles, books and book chapter; retrospective to 2001 and earlier, where available; more than 3.2 million reference from 1,920 to 2,000.
2.4.7 The Cochrane Collaboration

Archie Cochrane was a British Epidemiologist. Prior to his death in 1998, Cochrane drew the worldwide attention of the medical community to a collective lack at the time of readily accessible and reliable information about the effects of practiced health care. He noted that those who wished to make informed decisions about health care did not have a reliable source of critical reviews or “evidence”.

The Cochrane Library is a collection of six main databases that contain different types of high-quality, independent evidence to inform health care decision-making, and a seventh database that provides information about groups in The Cochrane Collaboration.

Number of published articles in the Cochrane library of all Databases

<table>
<thead>
<tr>
<th>Database</th>
<th>Total published</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cochrane Database of Systematic Reviews*</td>
<td>7366</td>
</tr>
<tr>
<td>Database of Abstracts of Reviews of Effects</td>
<td>18306</td>
</tr>
<tr>
<td>Cochrane Central Register of Controlled Trials</td>
<td>674519</td>
</tr>
<tr>
<td>Cochrane Methodology Register</td>
<td>15764</td>
</tr>
<tr>
<td>Health Technology Assessment Database</td>
<td>11176</td>
</tr>
<tr>
<td>NHS Economic Evaluation Database</td>
<td>12360</td>
</tr>
<tr>
<td>About The Cochrane Collaboration**</td>
<td>81</td>
</tr>
<tr>
<td>Editorials</td>
<td>41</td>
</tr>
</tbody>
</table>

* Comprises 5131 published reviews and 2235 protocols, of which 29 are new reviews, 29 updated reviews (comprises 25 new search and 4 conclusions changed), 68 new protocols, and 10 updated protocols. There is also 1 withdrawn review and 5 withdrawn protocols.

** The Cochrane Collaboration: 1; Cochrane Editorial Unit: 1; Cochrane Review Groups (CRGs): 53; Fields: 12; Methods Groups: 16. There are also 14 Centres (some
with specific Branches). Links to their individual websites can be found here. Cochrane database of systematic reviews: in 2011 – 2012.

2.4.8 CINAHL Database

CINAHL provides indexing for more than 2,950 journals from the fields of Nursing and allied health. The database contains more than 1,000,000 records dating back to 1981. Offering complete coverage of English-language nursing journals and publications from the National League for Nursing and the American Nurses’ Association CINAHL covers nursing biomedicine, health sciences librarianship, alternative complementary medicine, consumer health and 17 allied health disciples. In addition, this database offers access to health care books, Nursing dissertations, selected conference proceedings, standards of practice, educational software audiovisuals and books chapters. Full-text material includes 70 journals plus legal cases, clinical innovations critical paths, drug records, research instruments and clinical trials. CINAHL providing 620 full text journals indexed in CINAHAL.

2.4.9 Global Infectious Diseases &Epidemiology of Network Online (GIDEON)

GIDEON is the world’s premier global infectious Diseases database. The point-of Care clinical decision supports system provides a current, evidence-based-resources for the diagnosis, treatment and teaching in the field of Tropical & Infectious Diseases, Epidemiology and Microbiology in all countries. With GIDEON, medical professionals can diagnose and obtain treatment information for specific conditions and obtain up-to-date global information about all diseases and diseases outbreaks. GIDEON consists of four modules: Diagnosis, Epidemiology, Therapy and Microbiology. The programme includes information regarding 347 diseases, 231 countries, 1500 pathogens and 344 antibacterial agents & vaccines. Over 17,000 notes outline the status of specific infections with each country.

Also featured are over 86,000 images, graphs, interactive maps and references. The entire resources is updated weekly, based on all relevant citations appearing in MEDLINE, peer-review journal of the World Health Organization, abstracts of major international meetings. The database helps clinicians overcome information overload and save time by providing quick diagnosis and access to a vast source of high-quality
medical contents. This is an ideal teaching tool for health care workers, students, residents and fellows.

2.4.10 GP – Med

GP – Med has successfully made a mark among the Medical Professionals and students thereby providing them information for furthering their studies and research work. It provides series of Online Medical Information to enable the doctors/Medical Practitioners/Research/Scientists to carry on with their research work/practice with all the required matters and solve the problems. Also gives the sources to collect information and powerful search tool on specialized data sources can retrieve information within or outside of area of special interest.

GPMED a net tool which acts as your gateway to current medical information. It provides the links to table of contents and abstracts of 2000+ journals under 30 Medical Specialties, which is constantly updated & the number of journals available under each Specialty is constantly growing.

2.4.11 TRIP Database

Turning Research Into Practice (TRIP) The TRIP database was first introduced in 1997. It is a meta-search engine that currently filters 61 sites of “high quality medical information.” TRIP aims to provide direct, hyperlinked access to a large Web-Based collection of evidence based medicine materials, including primary journals such as BMJ, JAMA, Lancet and New England Journal of Medicine.

Jon Brassey is creator of the TRIP database, noticed a need for this type of meta-search engine when he worked at a rapid query-answering service for general practitioners. TRIP as a 3rd version the first version had 1100 links from the fifteen sources, the second had 10,000 links from 26 sources and now 3rd versions has 15,000 links from 61 sources. (Fitzpatrick R.B) (4)

2.4.12 J-Gate

J-Gate is an electronic gateway to global e-journal literature. Launched in 2001 by Informatics India Limited, J-Gate provides seamless access to millions of journal articles available online offered by 9291 Publishers. It presently has a massive
database of journal literature, indexed from 28413 E-journals with links to full text at publisher sites. J-Gate also plans to support online subscription to journals, electronic document delivery, archiving and other related services.

2.4.13 PQDT

PQDT is the world’s most comprehensive collection of dissertations and these 2.5 million strong and growing PQDT database support the library’s position as a trusted source for scholarly studies by providing your users with online access to over 2.5 million doctoral dissertations and master’s thesis. As the database of record for graduate research and the official dissertations repository for the Library of Congress, the collections includes work by authors from more than 1,700 graduate schools and universities the world over, and covers every conceivable subject. ProQuest Medical Library (PML) has combines full text around 450 medical titles with MEDLINE.

2.4.14 Web of Science (WOS)

Thomson Reuter’s publisher provides researchers, administrators, faculty and students with quick, powerful access to the world’s leading citation databases. Authoritative, multidisciplinary content covers over 10,000 of the highest impact journals worldwide, including Open Access journals and over 110,000 conference proceedings. You will find current and retrospective coverage in the sciences, social sciences, arts and humanities with coverage available to 1900. With WOS, you can: Find high-impact article and conference proceedings, uncover relevant results in related fields, discover emerging trends that helps to pursue successful research and grant acquisition, identify potential collaborators with significant citation records, integrate searching, writing and bibliography creation into one streamlined process.

2.4.15 IndMED – Indian MEDLARS

IndMED was launched in August 2000 highlighting the services that were being provided to the Medical Professionals. Access to IndMED and other Indian Medlars Centre (IMC) databases have been provided from the site. This website serves as a portal to over 100 biomedical and health resources available over the Net and e-journals. Indian MEDLARS Centre (IMC) has brought in the “human” touch to
the technology enabling the medical profession to have access to Indian as well as International biomedical information at a click of a button. Based on the poor coverage of Indian biomedical literature in international resources the Indian MEDLARS Centre took up the onus filling this gap by developing an indigenous database with bibliographic details taken from 75 Indian Biomedical peer reviewed journals since 1985 onwards. When the database was developed, only non-MEDLINE journals were covered. However over the years some of these journals got included in MEDLINE but these continued to be included in IndMED, keeping in mind NLM’s changing policies. Panidt. A, N. et. al.\(^{(6)}\)

### 2.5 Summary

Generally users tend to consult different types of sources while performing specific research activities. In other words information gathering habits of the population vary depending on the type of research activity in which one is engaged. This trend of information seeking behavior was earlier, investigated in a study by Kamil \(^{(7)}\) on experienced research and new researchers in the field of special education. By the present study, the questionnaire is so framed as to obtain use data and know in specific information needs of the samples population as well as the information seeking behavior. One of the central questions put to the respondents seeks data on three first sources that they consult in any order of preference for performing six (stated) specific research activities: preparation of research article, course material, proposal for a research project, provision of consultation service, designing of a training package and provision of diagnostic/therapeutic service.

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