

Dental Science Information: Current Scenario

Rekha A. Menon¹, Anju M A², Surekha K R³, Krishnakumar K⁴

ABSTRACT

A detailed analysis of almost as many articles as possible on the aspect of dental science information in this era of technology reveals that numerous amount of information and its sources are readily available over the net. The problem that library professionals, as well as medical practitioners or scholars, literally face is the dilemma of where to begin or how to go about and around in the vast ocean of information before them. The users are aware of the Web 2.0 or Library 2.0 utilities, but they use it generally for media/file sharing, group chats or blogs, social networking, etc. The paper explores a wider aspect of the use of technology for the specifics of dental science information retrieval.

Keywords: Dentistry Resources, Open Access, Information Retrieval, Search Techniques, E-resources, Medical Resources.

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INTRODUCTION

With the advancement in technology, the health science sector seems to be the most benefitted one. In this phase of technological evolution, information is so immensely generated that the print media seems to be bewildered by its speed. Gone are the days when the print media was the first generator rather a distributor of this information. A technologically advanced and updated health science professional will acknowledge that even the newest information in their field is more or less becoming outdated when compared to the information available digitally. Hence, it becomes inevitable that the current health science scenario, both academically and professionally should be at par with the development and changes in the health care sector including the anticipations of the practicing professionals.

A library professional, on the other hand, working in the health science sector is well acquainted with the fact that the digital media presents itself with the biggest source of information in this era. The digital media presents itself with a classified category of information sources which includes the free information available over the net, the open-access resources, etc., besides the paid subscription resources and the traditional or conventional resources. We can very consciously acknowledge the fact that no library can be self-complete with all the resources or sources of information in any academic institution. Any health education institution also has the same limitation, including dental institutions. The only advantage the health or medical science sector has is that a lot of latest information is available over the net on its various branches, collectively or else. But, narrowing it down to a specific branch such as, the dental science brings us to a very complicated scenario. Any self-updating health care professional is sure to be overwhelmed by the amount of information that is surging through the net. The important point or challenge is in fact, to filter through these information sources and resources to list out the specific user-related and required information, in such a way that the user has the information in the least matter of time.

¹Librarian, Royal Dental College, Palakkad, Kerala, India. ² Research Assistant, Department of Forest Product and Utilization College of Forestry, Kerala Agricultural University, Thrissur, Kerala, India. ³ Librarian, Government Engineering College, Thrissur, Kerala, India. ⁴ Librarian, KTN College of Pharmacy, Palakkad, Kerala, India.

Corresponding Author: Ms. Rekha. A. Menon, Librarian, Royal Dental College, Iron Hills, Chalissery, Palakkad, Kerala, India.

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OBJECTIVE

It is no new knowledge that a library to be effective in the dissemination of knowledge or information, or data has to be equipped with a highly proficient and efficient librarian who is keen on constant up-dating of professional skills. This paper intends to bring out the process of data or information dissemination through the possible course of action with respect to the librarians and professionals involved in dental colleges, in such a way that any user in the dental college library is simultaneously benefitted without any greater cost to the institution in the due process.

Scope:

The basic need for any dental science professional- a student, faculty, research scholar or practitioner is the availability of dental science information; if at their fingertip, then it is the icing on the cake. The article discusses the present scenario with respect to this issue of dental science information- its availability, accessioning, possibilities and future scope.

Limitations:

This discussion deals with the retrieval of information from the various e-resources available on Dental Science Information. As such, information retrieval from the physical sources in the context is the main limitation here. Since this era is of technology, and research scholars are much more inclined towards an updated knowledge in their fields, e- information being in plenty and easily accessible today, the paper deals exclusively with e-resources.

Digital Resources:

The digital resources in context may thus be narrowly categorized into two:

- Paid Subscription Resources.
- Free Access Resources

Paid Subscription Resources:

Paid Access Resources are the most common source of e-resources in our institutions.

- EBSCO is one of the favorites. Some other resources include:
- Information and Library Network Centre (INFLIBNET); (www.inflibnet.ac.in)
- Wiley Interscience (www.wiley.com)
- Linguamatics (www.linguamatics.com)
- Elsevier (www.elsevier.com)
- ResearchGate (www.researchgate.net)

The only barrier in availing these resources is the budget of any institution. Paid resources are often the most reliable current source of information but the heavy cost incurred by it compels the institutions to look for cheaper alternatives and hence the need for consortiums is a must today.

Free Access Resources:

This includes the free medical/dental science journals available 24x7 over the net free of any subscription charges. The list is quite extensive, yet an effort is made to list the most easily accessible resources.

Free Access Dental Databases/ Directories/ Libraries/ Resources:

Some of the open-access resources are detailed below. The list is exhaustive and yet not complete.....

- MedInd: The National Database of Indian Medical Journals. It provides free and full- text articles published in selected Indian Biomedical Journals. (medind.nic.in)
- Omics International: An open- access publisher and international conference organizer. (<https://www.omicsonline.org/>) The site has records of peer-reviewed open access multidisciplinary journals including medical and clinical practice journals, along with their impact factor. A list of Medical conferences convened in individual medical science branches is also provided.
- Free Medical Journals: The site extensively promotes free access to medical journals based on topic and title. (www.freemedicaljournals.com).
- National Centre for Biotechnology Information (NCBI): A division of the National Library of Medicine, it provides an extensive list of open-access journals of all the branches of medicine. (<https://www.ncbi.nlm.nih.gov/>)

- Journals for Free: It lists 52 journals under the subcategory of Dentistry and Oral Diseases of the Health Science category. (www.journals4free.com/)
- Meknow Publications: Wolter- Kluwer Medknow Publications is the largest open-access publisher with more than 300+ journals.
- Healthmantra: An Indian Private Organization that provides a complete health and wellness resources ranging in multidisciplinary branches of science. It also includes resources for doctors and dental practitioners. (www.healthmantra.com/dental_journals_online.shtml). It provides the latest news updates and links in dentistry along with a list of open access dental journals.
- MDlinx: An online-based service for physicians and health care professionals provided by M3 USA Corporation. It provides comprehensive literature for health care professionals to keep them updated on current happenings. (<https://www.mdlinx.com>).
- Wiley Online Library: This is one of the most exhaustible and authoritative collections of journals and articles across multidisciplinary branches covering life, health, medical, physical, and social sciences. (<https://onlinelibrary.wiley.com>).
- Directory of Open Access Journals (DOAJ): A directory of open access journals that provides access to 77 full txt dental titles. (<https://www.doaj.org>)
- Some other prominent databases include: Education Resources Information Center (ERIC), Medical Literature Analysis and Retrieval (MEDLARS), SCOPUS by Elsevier, Medscape/emedicine, The British Medical Journal (BMJ), Public Library of Science (PLOS), and Geneva Foundation for Medical Education and Research ((GFMER), etc.

Some dental e-journals include:

- International Journal of Dental Health Sciences: (www.ijdhs.com)
- Journal of Clinical and Experimental Dentistry: Official Journal of The Spanish Society of Oral Surgery (SECIB). (www.medicineoral.com/odo/indice.html)
- The European Journal of Dentistry: (www.eurjdent.com).
- International Journal of Science and Research: Multidisciplinary (www.ijsr.net)
- International Journal of Dentistry: (www.hindawi.com/journals/ijd).
- Indian Journal of Dentistry: Official publication of Gian Sagar Dental College and Hospital (www.ijdentistry.com)
- Dental Research Journal: Official publication of Isfahan University of Medical Sciences. (www.drjjournal.net)
- International Journal of Applied Dental Science; Official publication of International Association Trust (www.oraljournal.com).
- Some e-libraries include:
 - Dental Library: (dental-library.com)
 - Dental Care.Com: (<https://dentalcare.com>)
 - British Dental Association (BDA): <https://bda.org/library>.
 - University of Toronto Libraries: <https://dentistry.library.utoronto.ca/open-access>.

- The University of Iowa Libraries: <https://guides.lib.uiowa.edu/>).

Some Evidence-Based e- Libraries are:

- NHS Evidence: ([https:// www.evidence.nhs.uk](https://www.evidence.nhs.uk)).
- The Cochrane Library: (<https://cochranelibrary.com>)
- TRIP database: (www.tripdatabase.com)

Dental Consortiums:

- Electronic Resources in Medicine Consortium (ERMED): National Medical Library's (NLM) and ERMED are an excellent platform for obtaining free of cost recent journals and articles for its research colleges.

When, Where, What and How to Search: The Basics.

The above list of e-resources does put us in wonder, of the amount of information that is available. But as discussed above, the only dilemma is- of what, when, where and how to look for information.

Every individual today is at luxury with new information devices ranging from computers, laptops, I pads, tabs, iPods, Android devices, smartwatches, fitness bands/watches and whatnot. Think of the latest IT device and someone or the other, if not us, but close to us may be either the personal owner or may have detailed info on the same. Most of the time, the individual possessing these devices may be unaware of all the features of the devices and in many cases, may not even have complete knowledge about the utilization of the same. So is the case with the vast amount of information on the net.

Today, even a mediocre is acquainted with some basic searching techniques. But efficiency in searching is only achieved when the user is able to find the required information quickly and easily. For this, the user must also be aware of the searching tools that are readily available. A pin-point searching tool is hard to find but through gradual usage, each and every user can attain some eminence in searching these e-resources to their advantage. Though it is quite understood that the searching skills cannot be taught, but guidance in the matter would always be appreciated by the badly-informed. Most of the time it is observed that the user is very apprehensive to approach anyone for help regarding the matter since the dependency on Google for each and every search yields results and subsequently aids in developing a notion of efficient searching. But it is very important to realize that the e-database searching or rather searching for specific information on a topic from e-resources is very different from a general search on Google and the like search-engines. Databases, unlike search-engines yield better results with keywords and phrases rather than general search techniques. The hurdle in the study of searching skills includes the expertise in term truncation and Boolean search operators, which requires a patient approach.

- For a start, Midwestern University Library Guides (<https://lib.midwestern.edu/mwuhome>) has provided such a search tutorial for users/patrons, whereby the user can learn to use the e-database PubMed, besides providing information on Evidence-Based Dentistry and Drug Information.
- Elsevier (<https://www.elsevier.com/librarians>) also in its venture on open access resources provides exclusive facilities on its site for scholars on searching skills and techniques, besides links for professional up-gradation for librarians and faculties in health science.
- QMed Knowledge Foundation (<https://www.qmed.ngo/re>

search-resources/) is yet another resource for the interested which gives an insight to various tips of searching. The exclusive searching tutorial is the attraction here.

- Kent State University (<https://libguides.library.kent.edu/lit-review>) is another website that besides providing the various e-resources for multidisciplinary subjects has a page exclusively for the data of conducting literature review searches and database searches, including the Boolean operators.
- Some other information can be had from the sites of: Queen Mary University of London (<https://www.library.qmul.ac.uk/subject-guides/further-resources/>), University of Cambridge: ([https:// library, medschl.cam.ac.uk](https://library.medschl.cam.ac.uk)), University of Wollongong, Australia (<https://uow.libguides.com/literaturereview/how>), University of Toronto (<https://guides.library.utoronto.ca>)

DISCUSSIONS:

With all these online information, at the fingertips of the user/ assessor, the impasse is the effort in utilizing them. Various studies across the different aspects of the users have revealed or led into a retrospection that can be resounded into four. In other words, the utilization of this information is based on a four-level manifesto ranging from the institutional level to the user level:

1) Institutional Level:

As described or discussed previously, no institute can be self- sufficient in the process of collection of information available in such a vast quantity, be it the print media or the electronic media. Therefore, like-minded institutions aspiring to provide an updated information to its scholars must take it upon themselves to come together and display extensive schemes so as to share each and every information: e-resources, digital media such as CD-ROMs, videos, physical formats, slides or others; available with them and between them, through sharing of information techniques which includes the development and maintenance of dental consortiums, online institutional repositories, databases, or digital library facilities. Toronto University, Kent State University, Midwestern University, etc., are some of the institutes which have paved a direction in this context by developing institutional repositories, digital library facilities, digital archives, etc. They have also indulged in sharing of information to other dental institutes, scholars, and students so that they are able to update themselves of the latest in their field.

2) Faculty Level:

The faculties in any medical science field or branch are practitioners themselves and as such their role both as a user and creator of information becomes critical. The faculties with each and every session of their daily techniques inadvertently add something to the already existing resources. This is the level where the evidence-based dentistry is of importance. It is quite commonly observed that the practicing dentists or scholars use the same techniques and procedures they learned in their dental schools, which perhaps signified the best practice at that time. With the current soar in information in dentistry techniques, it is not surprising to find these practitioners in a state of self-doubt in deciding whether these techniques can relate to the current clinical management strategies. Keeping up-to-date with these advancements in their current hectic schedule is next to impossible. Evidence-based dentistry thus helps in bridging the gap between the real dental practice and clinical research.

To keep abreast of the recent advancements in their theoretical and clinical knowledge, faculties must acknowledge the fact that the inclusion of e-books and e-resources is a must in the curriculum. Inclusion is not enough rather, teaching the student cluster on how to use these abundant resources to their advantage is also necessary. This can be thoroughly achieved only when students are taught to formulate an exact and precise query pertaining to their study and research tactics.

Besides, any intra-departmental exchange of ideas or information pertaining to research techniques will also add to the pre-existing information retrieval resources in any institution.

3) Student Level:

Users today are very tech-savvy. Recent studies in the user behavior with IT devices have revealed that all the users are very adept at the so-called 'googling' or surfing over the net. But when it comes to the course curriculum, they show distinct patterns. Students are more prone to ineffective methods of searching for information. A study by Thomas et al reveals that the students look up to their teachers and peers more than anybody else when they are stuck in during the searching process. They either rely completely on their peers or depending upon the teacher's aptitude and attitude, turn to their teachers.¹ And so the chances are more that the student remains unsatisfied in their quest of information. The user hence has to be taught how to use these e-resources including the basic search techniques. A basic visit to any of the previously listed sites or databases will reveal that each and every site or database has its own search strategy. The searching query or the search strategy has to begin with a proper search query and include either of any of the keyword or phrases besides the title, author, date of publishing, name of the article, name of journal/resource, etc, and advances into a more enhanced build-up. Users must train themselves to use these searching tools and techniques for more effective retrieval of information from the internet. They must be abreast of the advanced searching tools listed on these websites which includes the setting of filters, keywords, subject-specific keywords, phrases, synonyms, etc. that will aid them in their queries.

4) At the Librarian's Counter:

It is no new knowledge that a library and its professionals hold the most important role in the dissemination of information in any institution. But, it is observed that users are much reluctant to approach the library staff or librarian for their requirements pertaining to e-resources. The reason may mostly be due to the pre-notion that a librarian or the library staff's role ends with the collection, storing and maintenance of the physical resources of information. Not many users may even be aware that the library professionals are the most trained personnel in searching, retrieval, and dissemination of information. After all, a library is about information and as such it would be a surprise if an efficient librarian is not adept with the latest sources, resources, and techniques for efficient dissemination of information.

Librarians on the other hand also have the responsibility to reach out to its users and guide them to the specific needs and queries in their field of study or research. A librarian must, in fact, be very adept in using the search tools and techniques and must be compulsorily aware of the know-hows of databases- bibliographic resources, database management systems, tools such as abstracting and indexing services, repository creation, and maintenance, keyword searching, etc.

Recommendations:

- Developing a digital library for any institution is a must.
- Faculties along with librarians must provide necessarily towards the building and maintenance of institutional repositories.
- Ready reference pertaining to printed materials is more preferred by practitioners during the tutoring practices. As such, evidence-based medical practice requires an efficient evidence base-librarian trained in medical terminology and medical science information is a prerequisite. Such clinical librarians will add on to develop a print collection of such materials besides the already available e-resources.
- Educators may ensure to include the primary IT techniques into the curriculum so as to help or teach the students in upgrading them in the research skills.
- Electronic books and other e-resources may be utilized for institutional purposes.
- Students rely on alternative sites for their research or study purposes. They must be enlightened about the various e-resources other than the printed materials that can be effectively used in information seeking.
- Due to the major financial crunch in library welfare, the development of consortium is the next step ahead. Consortia are basically developed with the objective of enhancing the purchasing power of the participating libraries. In the current scenario, the best step forward should include strategies to develop dental consortiums.
- It should be the institution's primary goal to include and make available high-quality resources that support the curriculum
- Users must be encouraged to build and hone searching skills, learn appropriate and effective information formats, and apply critical and creative thinking skills.
- Lastly, but not the least, an extensive survey and research should be carried out to understand the available resources and infrastructure in the dental colleges across states and borders, so as to help in devising a system for the collection, accessioning and modernize the dissemination of information quickly and effectively between dental institutions.

CONCLUSIONS:

The print media is no doubt the most preferred source of information across users in any library. But keeping in view of the technological advancements and the tech-savvy nature of today's generation along with the abundant resources available on net, it is high time, that institutions, faculty, researchers, students, scholars, library professionals come together with the common thought of developing each and every institution into technological hub of information resources.

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