DESIDOC Journal of Library & Information Technology, Vol. 33, No. 2, March 2013, pp. 83-86

Information Seeking and Searching Behaviour of Dental Science Professionals in Karnataka

Umesha* and Chandrashekara M.**

**VS Dental College and Hospital, KR Road, VV Puram Bangalore-560 004*
E-mail: umeshlib@gmail.com

***Department of Library and Information Science, University of Mysore, Mansagangotri, Mysore-570 008*
E-mail: Chandra.uom@gmail.com

ABSTRACT

Libraries in health sciences or dental sciences are not just collecting or licensing the information resources. They have various task to match the needs like curriculum based learning, research and point of care. The present study tries to understand the information seeking and searching behaviour of dental science professional in Karnataka. This paper tries to find out the suitable information sources available for dental professionals, the areas in which dental professionals are seeking information, and the barriers they are facing in accessing information.

Keywords: Information seeking behaviour, dental science, Karnataka, searching behaviour

1. INTRODUCTION

Medical libraries, like other libraries, have a long history as a traditional print library having many tools for organisation and location of information resources like classification, cataloguing, abstracting, and indexing. The '*Index Medicus*', as a printed abstracting, and indexing tool, was very helpful to medical community, which later became *MEDLARS* (computerised bibliographic database); since a decade it is called as *Pubmed*, available and accessible at free of cost on internet. In fact, the dental science was part of medical field and has grown as an independent discipline particularly in 19th century with proper study, treatment and prevention of the diseases of the mouth, teeth, gums and jawbones[1]. Of late, there are many exclusive textbooks, reference books, journals and electronic databases[2]. Dental libraries were part of medical libraries, later with the growth of literature and corresponding specialsation necessitated the creation of separate libraries. Of course, dental colleges have established libraries due to mandatory norms insisted by the Dental Council of India. The specialisations[1] in dental sciences are orthodontics (treat maloccluded teeth using wires and appliances), prosthodontics (builds dentures and bridges), periodontics (is the treatment of gums and underlying bones), endodontic (concerned with protection or removal of the tooth's pulp in root canal therapy), and pedodontics (dental practice limited to treating children).

2. CONCEPT OF INFORMATION SEEKING AND SEARCHING BEHAVIOUR

In context of this study, there are many concepts like information behaviour, information seeking behaviour, information searching behaviour and information use behaviour. Majority of these concepts are discussed right from traditional media libraries and carried on to e-environment, with media dependent changes. The 'information needs' depend on the context, media of access and problem, whereas 'information behaviour' is about the understanding of human relationship to information like interaction, seeking and utilising information[2,3], further clarified as the totality in relation to sources and channels of information (both active and passive) like face-to-face communication, watching TV advertisements, without any intention to act on the information and a purposive seeking for information as a consequence of a need is to satisfy some goal, may be it printed media or an electronic. Spencer[4] states, that information seeking of known-item are the easiest to understand, as the user knows what they want, what search terms/ words to use to describe it and where to start.

Information Searching Behaviour[3] is the 'micro-level' behaviour employed by the searcher in interacting with information systems of all kinds, it may be a human computer interaction (use of the mouse and clicks on links) or at the intellectual level (adopting a Boolean search strategy or determining the criteria for deciding relevant one) involve mental acts, such

Received 15 December 2012, online published 19 March 2013

as judging the relevance of data or information retrieved. Information use behaviour,consists of the physical and mental acts involved in incorporating the information found into the person's existing knowledge base. It may involve, therefore, physical acts such as marking sections in a text to note their importance or significance, as well as mental acts that involve, for example, comparison of new information with existing knowledge[3].

Information searching and information retrieval, in Jansen & Rieh[5] view, is focusing both on the interaction between people and content in information systems. These two aspects share common ground largely because both are concerned with the three perspectives people, information, and technology in locating information stored in computer systems. Information searching refers to people's interaction with information retrieval systems, ranging from adopting search strategy to judging the relevance of information retrieved[3].

Information searching versus information seeking was addressed as 'the act of searching itself' particularly on the problems encountered and skills needed to search information, including the complexities in identifying sources and to locate the desired information[2].

Many studies are published on information seeking behaviour. Yet, there is a need for further studies to come out with new interpretation of old or new data with respect to media change or technology to derive new approaches. Majority of the studies have focused around research needs, not on other activities like at the point of care or academia. The information seeking behavior and searching behaviour, as per many studies, is depending on the purpose of users and access to relevant information. Carmel[6] viewed around the purpose, urgency and use of information sources. He also observed the overlap of interpretation in various aspects like demand, need and use.

The number of studies on information seeking behaviour are many and each author viewed it differently. Maslow[7] viewed that motivational needs are not information needs, Beal[8] viewed in terms of accessibility of information, Roberts[9] considered it as wants, desires, demands and requirements. The seeking behaviour of the information, in context of this study, is viewed as patterns and levels of information transfer in context of their academic, research and practice. The information seeking, as per Moslow's hierarchy, could be within the individual and intrinsically motivated (as internal desire) or even extrinsic (based on the reward or satisfaction), and found that both are interrelated[10]. The need is a cognitive effect[11], where it scales from the basic needs or from their behaviour, satisfaction becomes the key factors in information seeking behaviour[10].

3. SEEKING AND SEARCHING BEHAVIOUR OF DENTISTS

The first choice of information searching, as per many studies, is Google (internet search engine) where dental professionals are not an exclusion, may be it a diagnosis of difficult cases or otherwise. Even the patients are using the Google to diagnose their own problem.Tanq & Kwoon[12] found that Google is likely to be a useful aid in diagnosis, being easier to use and is freely available on the internet, specifically mentioned that "Doctors and patients are increasing proficient with the internet and frequently use Google to search for medical information". Also the study point out that "Internet search engines are useful for a diagnosis and becoming the latest tools in clinical medicine, and doctors are in need of training to become proficient in their use". Nizam[13], indicated that professionals spend more time on the Internet than the students and research scholars. Although internet search engines were the preferred information searching tool, other sources such as databases, gateways and aggregations databases are also used. Study by Ashin[14] reveals that though libraries were willing to serve, use of libraries by dentists is low. Lundeen[15], *et al.* felt that there is insufficient knowledge about information sources and their use. Mcloughlin[16] found the need for structured information provision but there is lack of co-operation between various stakeholders in information landscape.

Majority of the studies have discussed around users interaction with content and machine. Bowden[17], *et al.* found that there is a difference in seeking behaviour between those who access libraries physically and access remotely, still the totality is in relation to sources and channels of information. The searcher has to interact with information systems, may be a human-computer interaction and intellectual level, study found that users need required training. Many of these studies overlap their interpretation around demand, need and use. The user in searching or seeking information, as a first step, requires to set the context, may be it an interaction between humans and machines, or an information acquisition and use. All these aspects form a set for a holistic cognitive approach. Information searching process requires query construction, understanding terminological relationship, adding advanced search features, making information architecture visible to users, and encouraging evaluation of search results.

4. AIM AND METHODOLOGY

The present study, in context of continued development of information repackages (electronically) and latest searching aids, found likely changes in information seeking and perceived that change are continuous, hence the research questions for this

study were:

- How dental professionals are seeking information?
- What are the suitable information sources available for dental professionals?
- How dental professionals are meeting their routine and long-term needs in the work-academic and research?
- What are the barriers in accessing information and how to overcome the barriers?

The present study, in its survey of dental professionals about the seeking and searching of information, has the sample of 623 (193 PG students and 430 faculty members) respondents, selected from 12 dental colleges in Karnataka.

5. FINDINGS

5.1 Access to Internet

On the whole, 97.40 % of the respondents indicated that they have access to internet of which 97.90 % were PGs and 97.20 % were teaching faculty, wherein 64.40 % were satisfied with the internet speed, 53.90 % of the respondents are accommodated in the LAN/campus network (53.90 % PGs and 52.80 % teaching faculty).

5.2 Use of Internet and E-resources

The survey response to the statement 'maximum time spent on internet' is that 'regular usage' with (91 %) followed by 'Rarely' (8.7 %) and 'use of email' is (87.3 %), 'rarely' (10.5 %) and 'never' (1.8 %).

5.3 Accessing E-journals through Rajiv Gandhi University of Health Sciences (RGUHS)

The response to the statement 'accessing the journals from RGUHS consortia', 56 % PG students and 67.9% teaching faculty indicated 'yes' to the statement. The response to the statement 'how frequently accessing online journals', is 38.8 % (regularly), 29.5 % (weekly), 16.5 % (irregularly) and 15.1 % (monthly).

5.4 Need for Training

Response to the statement 'formal training or orientation was usefuls' very positive with (71.6 %) indication 'very much useful' followed by 'undecided' (25.2 %). In context of the review conducted for the study, it was found that lack of training and information overload was indicated as some of the factors affecting the usage. The study found the need of a well-planned internet literacy programme and preparation of subject gateways to meet the needs of the dental professionals.

5.5 Interest in Online Library

The response towards the statement of 'online version in the library' was, 'strongly preferred' (46.4 %), 'preferred' (43.8 %) and 'undecided' (5 %).

5.6 Interest on Free Publication on Net

The response of the respondents to the statement 'free publication available on net' was 'strongly preferred' (50.6 %), 'preferred' (38.7 %)and 'undecided' (6.9 %).

The present study, based on the interview and the observation, found that majority of the dental colleges in Karnataka, are equipped with good number of computer terminals, having good internet bandwidth, but information resources are more in traditional print media. It has found a miss-match between users' attitude and the collection in the libraries in Karnataka, though they have good IT infrastructure. The e-collection is provided through a consortium called HELINET from RGUHS, but there is no cohesive system among dental institutions to meet the needs of the professionals in the field.

6. DISCUSSIONS

Libraries in health science or dental sciences are not just collecting or licensing the information resources. They have various task to match the needs like support to curriculum-based learning, research and point of care.To get align to new environment, librarians have to study the users information seeking behaviour considering the purpose, needs, and domain-based resources so that the interaction between the library staff and the users will be meaningful. The needs of the users are not identical or similar as the purpose of the users varies like updating of knowledge, starting a new research or on practice doubts. Many studies have observed that dissimilarities of the need are based on the domain knowledge, situation-specific, nature of libraries/librarians and library facilities which directly influence their perceived needs and retrieval activity of the libraries. Even now, with all these facilities, dental professionals continue to clarify their doubts from colleagues, continuing education courses and most frequently used resources for professional development and rely on personal experience, credibility of the journal, and discussions with colleagues.

The study found that there is a need for librarians collaboration either to teach users or mediate in searching information whereby information seeking or search behavior alter, as users may not have the clear perception about the keywords, specifying elements (specific aspects of the topic), appropriate terminologies (specifically from thesaurus) and syntax. Majority of the studies on information seeking and

searching are based on librarians perspective, it is required to measure from users' perspective and more closely related to complexity than the subjective measures. Users are lacking in knowledge to refine a search, about relationship and proximity of the terminologies used in the search.

7. CONCLUSIONS

Seeking and searching behaviour is maximum driven by internet search engines like google, very few are able to differentiate between scholarly database and internet search engine. The information availability at free of cost, though not authentic sources (like peer reviewed information) using the internet search engines are drawing more attention, not just because it is simple, it is more because each searcher gets some information (whether authentic or otherwise). Majority of the studies also have revealed that users have shifted from scholarly information to free un-authenticated content (driven by internet search engine). It is also observed in many studies that latest searching behavior are influenced by e-commerce searching and shopping behaviour. At the same time many users are influenced by peer group of the age, not by information literacy program from the libraries. The competition among the publishers, visibility competition, more Google visibility etc., are driving the users and this behaviour continues strengthening. Of course, many discovery tools are now making scholarly search, much better than Google to increase users' loyalty like in traditional libraries. In this information ecosystem, dentists are passionate about solving problems in a professional manner, which requires the detailed study about most suitable and balanced way to seeking information.

REFERENCES

1. Comptons' Encyclopaedia, 1996.
2. Bates, M.J. Information behavior. Encyclopedia of Library and Information Sciences. Ed. 3. 2010. http://pages.gseis.ucla.edu/faculty/bates/articles/information-behavior.html (accessed on 18 July 2012).
3. Wilson, T.D. Human information bahaviour. special issue on Information Research, **3**(2), 200. http://inform.nu/Articles/Vol3/v3n2p49-56.pdf (accessed on 18 July 2012).
4. Spencer, D. Four modes of seeking information and how to design for them. 2006.http://www.boxesandarrows.com/view/four_modes_of_seeking_information_and_how_to_design_for_them (accessed on 18 July 2012).
5. Jansen, B.J. & Rieh, S.Y. The seventeen theoretical constructs of information searching and information retrieval. *J. Amer. Soc. Inf. Sci. & Tech.*, 2010, **61**(8), 1517-34 (accessed on 18 July 2010).
6. Carmel, M. Medical librarianship. The Library Association, London, 1981. pp. 92.
7. Maslow, A.H. Motivation and personality. Ed. 2. Harper and Row, New York, 1970.
8. Beal, C. Studying the public's information needs. *Journal of Librarianship*, 1979, **11**(2), 130-51.
9. Roberts, N. Draft definitions: Information and library needs, wants, demands and uses: A comment. *Aslib Proceedings*, 1975, **27**(7), 308-13.
10. Kruger, J. A. & Fourie, J. A. Basic and developmental information needs of secondary school pupils. *Mousaion*, 1995, **13**(1/2), 225-27.
11. Wilson, T.D. On user studies and information needs. *Journal of Documentation*, 1981, **37**(1), 3-15.
12. Tanq, H. & Kwoon, J.H. Googling for a diagnosis: Use of Google as a diagnostic aid: Internet based study. *BMJ*, 2 December 2006, **333**(7579), 1143-145. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1676146/
13. Nazim, Mohammad. Information searching behavior in the internet age: A users' study of Aligarh Muslim University. *Inter. Inf. & Lib. Rev.*, 2008, **40**(1), 73-81.
14. Ashin, E. Library service to dental practitioners. *Bull. Medical Lib. Asso.*, 1983, **71**(4), 400-02.
15. Lundeen, G., *et al.* Information needs of rural health care practitioners in Hawaii. *Bull. Medical Lib. Asso.*, 1994, **82**(2), 197-204.
16. Mcloughlin, H. The information needs of cancer patients in the Republic of South Africa. M.Bibl Thesis: Rand Afrikaanse Universiteit, 1994.
17. Bowden, V.M., *et al*. Assessment of physicians' information needs in five counties. *Bull. Medical Lib. Asso.*, 1994, **82**(2), 189-96.