CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

The review of related literature is an essential component for the research. It is regarded as the back-bone of research activity and it gives necessary input to the investigator to frame the research study on the selected topic. So far as the field of “Information needs and information seeking behavior” of a particular group is concerned, a large number of studies have been conducted and it is expanding rapidly. A number of research reports, articles, books and conference proceedings on the subject have been published. Undoubtedly Conceptual development and research output in information seeking behavior is increasing.

Faculty Members working in Medical Colleges play a vital role in primary care. Clinical Governance and advances in Information and Communications Technology (ICT) dominate the agenda for change. The aim of this literature review is to indicate publications that have made a significant contribution to understanding of the information wants, needs, behavior and preferences of Faculty members in the Government Medical colleges of Karnataka and there by to identify areas in which there is scope for further research.

The Annual Review of Information Science and Technology 1-14 (ARIST) review the literature on “Information needs and uses”. Fourteen volumes during the year 1966 to 2013 have provided elaborate review on the subject. The concepts on information needs and uses interspersed in these volumes of ARIST are seminal and fundamental in the area of Information Seeking Behaviour (ISB). All the observations made in further studies seem to be more or less restatements of what were observed in the volumes of ARIST. Since 1996 Three International Conferences 15-17 on research in Information needs. Information seeking and use in different contexts, held at Tampere, (Finland) Sheffield. (UK) and Gothenburg. (Sweden) presented a
collection of papers representing huge variety of research done in the area of information concepts with a wide and different geographical coverage of researchers.

Because of the vast amount of literature available in this field, an attempt has been made by the investigator to review only the significant studies of recent literature on the various aspects of Information needs and Information seeking behavior under the following sub-headings.

- Studies related to the concepts of Information needs and Information seeking behavior.
- Studies on the Information needs of Faculty members.
- Studies on the Information Seeking behavior of Faculty members.
- Studies related to different professions.
- Information seeking behavior models.

### 2.2 Studies related to the concepts of Information needs and Information Seeking behaviour


Sue (1982)\(^{19}\) reviewing the literature on information needs and uses in scholars in humanities concludes that the literature is piecemeal, confusing and that progress in giving guidelines to librarians is slow.

Stephen (1989)\(^{20}\) on examination of small the interdisciplinary groups seeking information on humanists states that humanists ignore online databases and seldom consult reference librarians. They depend on archives and special collections in the library. They disregard bibliography and find information by going to the person or location that can provide it.

Gessesse (1994)\(^{21}\) reviewed the literature of information seeking behavior of pure scientists and engineers. He states the ways and means in locating and using the literature relevant to their specializations.
Wilson (1995)\textsuperscript{22} outlined the concepts of information needs and information seeking behaviour and explained the methodology in designing the information systems to meet the users needs.

Rath (1996)\textsuperscript{23} analyzed the types of users, their nature of information needs and deficiencies in satisfying their needs. His studies reveal methods to overcome the problems in information seeking behaviour and lists out techniques in identifying user’s designing suitable information system.

Vakkari (1997)\textsuperscript{24} analyzed the growth of information science theory by a case study in information seeking studies. They found that scientific growth is identified with growth of theories. The result of reconstruction, specification and enrichment of the theory shows future prospects and it thus creates potential growth of knowledge of knowledge within this theory of information seeking.

Devadasan (1999)\textsuperscript{25} designed a methodology for the identification of information needs of users in specific environment.

Smith (2000)\textsuperscript{26} stressed the fundamental role within government departments. The diversity of information seeking behaviour in a sector where decision making is a consultative process, where decisions themselves are extremely complex and take account of many influences, and where decision makers tend to be experienced by information users.

Limberg (2004)\textsuperscript{27} through phenomena graphic method studied high school senior students. Three major ways of information seeking were identified namely 1.fact-finding, 2.Balancing information to make correct choices and 3.Scrutinizing and analyzing.

Irina (2006)\textsuperscript{28} investigated the information systems to evaluate their practical usefulness and discussed the common problems related to the conceptual ways to the information system development.

Parker (2009)\textsuperscript{29} described the student learning as information behaviour during literature based assessment tasks in higher education. He stated that understanding the interactions between seeking and using information is fundamental to the meaning – investigation of student learning.
Choo (2010)\(^{30}\) studied environmental scanning in the acquisition and use of information about events, trends and relationship in an organization’s external environment, the knowledge which would assist the management in planning the future course of action.

Mahapatra (2011)\(^{31}\) explained the theory of information seeking which provided an insight into the myriad minds of information seeking behaviour like its concept, associated psychological attributes, behavioral options and ecological influence, impact of dissonance theory, and methods of information seeking.

Xie (2012)\(^{32}\) elucidated the changes in the interactive intentions associated with the information seeking strategies. The findings show 8 types of interactive intentions, 4 types of entities, 8 types of methods and 6 types of resources to constitute interactive intentions and information seeking patterns.

### 2.3 Studies relating to Information needs of Faculty members

Royaltey (1988)\(^{33}\) studied the medical information needs of health care professionals and consumers in developing countries. Their study revealed that health care professionals in developing countries are more diverse in their backgrounds, training, experience, and in work settings than that of in developed countries. These differences combined with cultural variables, lack of resources and trained information professionals contribute to the complexity of health information delivery.

Glockner (1989)\(^{34}\) studied the information seeking behavior and needs of faculty doctors in Western Australia especially in relation to general practitioners and specialists practicing in the country. Recommendations are made on how access to information could be improved.

Premsmit (1990)\(^{35}\) information needs of academic medical scientists at Chulalongkorn University in Bangkok, Thailand. Results indicated that medical scientists have 3 types of information needs: identifying up-to-date information, obtaining relevant studies and data, and developing research topics. Their information seeking behavior was different from that of scientists in developed countries. Showed a high use of libraries as information providers and Thai medical scientists rely heavily on information from abroad.
Cimino (1993)\textsuperscript{36} described a model for automated information retrieval in which questions posed by clinical users are analyzed to establish common syntactic and semantic patterns. The work makes extensive use of the National Library of Medicine’s (NLM)’s Medical Language System (UMLS).

Dee (1996)\textsuperscript{37} studied the information needs and information seeking behavior of rural physicians. Rural physicians need immediate access to synthesized answers at the time of patient contact. A database of textbooks would meet the criteria. Also suggested an expert system focused on rural physicians’ information needs.

Addo (1997)\textsuperscript{38} described the successful application of medical databases on CD-ROM to the provision of medical information in Ghana.

Lundeen (1998)\textsuperscript{39} studied the information needs of Hawaii’s rural health care practitioners their methods of accessing through interviews, mailed questionnaires and identified the barriers to information.

Bowden (2000)\textsuperscript{40} investigated the information needs of faculty doctors in 4 countries of Texas state, to determine whether information use by faculty members was affected by location and proximity to an academic medical library. In particular, the study examined the used and non use of the MEDILINE database. Results indicated that differences in the health care profile did not affect the information usage of the faculty members.

Phillips (2001)\textsuperscript{41} probed the health information needs and opinions among physicians and area health consumers in Oakwood Hospital library. The study sought to discover with community sources, besides the hospital library. Users consulting for health information and how helpful the sources were, what types of health information physicians were providing to patients, and whether and how physicians and health consumers might differ in their perceptions of health information.
Hall (2002)\textsuperscript{42} described how often physiotherapists in private practice in Vermont use sources of information for clinical and practice management decision making ranging from colleagues and informal contracts to online databases such as MEDLINE.

Christensen (2003)\textsuperscript{43} described and presented the results of a survey undertaken to identify the information needs and problems of health care professionals in American Folk, Utah, a rural community. The survey findings are presented and discussed focusing on 4 areas: information needs of health care professionals, primary sources of information, attitude towards the public library and perceived information needs of patients.

Smith (1994)\textsuperscript{44} studied the information needs of doctors. He reviewed the existing research and draws conclusions about what information doctors’ need, what they think they need, how they try to find it and how they determine its value.

Dougall (1996)\textsuperscript{45} studied the health care services in Ireland and reported on the Information needs of Medical professionals and public.

Apalayine (1996)\textsuperscript{46} investigated the information needs and sources used by, community health nurses and midwives in Ghana. The range of information needs includes: socio cultural practices of the communities where they work, maternal and child health, current developments in the health profession and information on the way of life, beliefs and taboos of the people of the region, preferred sources of information were found to be chiefs and local heads, fellow health workers, courses, workshops and seminars.

Gorman (1997)\textsuperscript{47} offered a framework for physicians, explicitly defining the types of information they use. Physicians have many clinical questions in the course of patient care, but most of their questions are never answered. Examination of the clinical questions themselves revealed that they tend to be highly complex. The heavy reliance of physicians on human sources of information has implications for the nature of their information needs. Evaluation of clinical information systems must move beyond measures of the relevance of retrieved information to assess the extent to which information system help practitioners in solving the clinical problems they face in daily practice.
Cog dill (1997)\(^{48}\) reported the results of their study at North Abadgarcia and aims to investigate the physician’s current information needs with respect to their problem-solving requirements, to their information seeking behavior and to their use of sources to obtain information and to learn whether the information resources available at the hospital satisfies them at the University Clinic Hospital in Valencia, Spain.

Dorsch (1997)\(^{49}\) explored the information needs of rural health professionals in west and central Illinois. The rural health professionals were found to request current information on a wide range of topics in clinical medicine, nursing, health administration allied health, social sciences, and basic sciences. The study exemplified a method for need based periodical collection development and begins to identify titles commonly requested in a rural health setting.

Njongmeta (1998)\(^{50}\) reported results of a survey of the needs for information and its availability to health professionals in Cameroon. These revealed: need for health information for the purpose of current awareness, diagnosis, effective patient management, and about new drugs. While informal channels of information such as discussion with professional colleagues and allied health specialists, seminars, workshops and conferences have been quite useful, printed sources are indispensable and that the high cost of information materials and the nonavailability of effective information systems in Cameroon are serious constraints to accessing and using health information.

Gagliardi (1999)\(^{51}\) studied the Surgical Oncology Network of Cancer Care Ontario programme in Canada, that seeks to promote communication and the sharing of knowledge between general, specialty and Oncology surgeons in Canadian community, teaching hospitals and formal cancer centers for the treatment of cancer patients.

Pyne (1999)\(^{52}\) reported on the clinician’s use of library resources and the competencies they require to access information, based on the results of a study commissioned by North Thames Region of the UK health service to identify the training Carolina University at Chapel Hill, to provide a better understanding of the medical students information needs and their perceptions of information resources. The study was conducted on the first year students to review a clinical scenario and to record the information they would need to manage the patient’s problem.
Popoola (2000)\textsuperscript{53} studied the information needs and services of health consumers in Nigeria. The study found that there was a significant relationship between the levels of education of the health consumers and sources of information used. Books/reports medical laboratories, film houses and medical library/records office were rarely used when they were searching for pertinent information on health care services. Their specific areas of health information needs and services were also found to be health institution service quality, child and maternal care, drugs administration and family planning. He studied that the available health information systems failed to meet the demands made of them.

Yeoh (2000)\textsuperscript{54} considered the possible impact of the profound changes in the education and role of nurses in the UK. Findings revealed that nurses discontinue library use on completing study courses and the improvements to be expected with increased home access to electronic services.

Forrest (2000)\textsuperscript{55} investigated the information needs of faculty doctors-in-training and their preferred sources of information. The results included specific suggestions that have been used for the planning the library service for maximum support to users within the framework of evidence based medicine.

Bryant (2000)\textsuperscript{56} presented a literature review indicating publications that have made a significant contribution to understanding of the information needs, behavior, preferences of family physicians and identified areas in which there is scope for further research.

Huber (2000)\textsuperscript{57} studied a portion of the HIV / AIDS population in seeking out for information in support of self-care. Their studies concluded that a better understanding of the information needs and information seeking behaviours of individuals with HIV/AIDS will facilitate information intervention for this community.

Dorsch (2000)\textsuperscript{58} studied on the information needs of rural health professionals. These studies indicated that rural health practitioners appear to have the same basic needs for patient-care information as their urban counterparts and that both groups rely on colleagues and personal libraries as their main sources of information. Rural practitioners, however, tend to make less use
of periodicals and online databases for clinical questions. Rural practitioners experience pronounced barriers to information access including lack of time, isolation, and inadequate library access, lack of equipment, lack of skills, costs, and inadequate internet infrastructure.

Guard (2000)\textsuperscript{50} investigated on the perspectives of library outreach activities of health professionals and citizens in rural communities of Ohio state, USA.

Adams (2001)\textsuperscript{60} studied the information needs of Pharmacists, considered Pharmacist as member of health care team. They need the most recent and the most accurate information available on drug therapeutics.

Zawawi (2001)\textsuperscript{61} explored the information needs and information seeking behavior of biomedical scientists at the Institute for Medical Research (IMR), Malaysia. Biomedical scientists involved in research work, considered periodical articles as the most preferred information source. Researchers’ lecturers considered books as the most preferred information source in meeting their information needs. Both categories of scientists considered interaction with colleagues as an important source for satisfying their information needs.

Jerome (2001)\textsuperscript{62} examined the types of questions received by Clinical Informatics Consult Service (CICS) librarians from clinicians on rounds to analyze the number of clearly differentiated viewpoints provided in response. Questions generated by clinicians frequently require comprehensive, critical appraisal of the medical literature. This study demonstrated that many questions require representation of more than one viewpoint to answer completely.

Ash (2001)\textsuperscript{63} studied the opportunities of health science librarians to provide clinicians with information that can directly impact patient care. Librarians need to understand the tasks and associated information needs of users in the clinical workplace. Knowledge about the concept of what are termed ‘bundles’ can increase the understanding of the information needs of clinicians.

Payne (2002)\textsuperscript{64} investigated the current issues in the production and use of patient information leaflets by exploring a number of assumptions that underpin the production of written information in healthcare, namely that information is a commodity conveyed through the printed word or electronically and that health professionals have information which can be given to patients.
Chang (2003)\(^{65}\) in case study on the of the information needs and the information seeking behavior of physicians using the HINT users showed that the information needs of clinical physicians focuses on clinical treatment, followed by medical conference and teaching/learning training. When it comes to selecting and evaluating information, the main concern is the language, followed by the currency, the authority and the evidence of information.

Buba (2003)\(^{66}\) described the results of an investigation on the information needs and information gathering behavior of Medical doctors in Maiduguri, Nigeria. Medical faculty doctors need specific medical information to enhance their knowledge on a day-to-day basis, particularly with the information explosion such as e-mail and internet facilities.

Medical faculty members prefer the use of publishers catalogues as the most important source for new developments in their relevant fields. Many do not have access to local data bases that are supposed to have remarkable impact on their information gathering behavior.

Ankica (2004)\(^{67}\) carried out research to explore the possibilities of creating a web based patient information system within the areas of thoracic surgery. Data we collected to distinguish and assesses the actual information needs of patients. Analysis of the data resulted in different categories describing and giving a picture of the patient’s information needs and apprehensions of received care.

Gluse (2006)\(^{68}\) conducted a study to provide insight to understanding public health officials’ needs and promote access to data repositories and communication tools.

A clear trend of significant barriers to computer and internet access can be identified across the public health community. This contributes to an overall limited use of existing electronic resources that inhabits evidence based practice.

Cogdill (2008)\(^{69}\) made an investigation to understand the information related needs of nurse practitioners (NPs), a population of clinicians responsible for an increasing proportion of primary care. NPs most frequently needed information related to drug therapy and diagnosis. NPs most frequently used medical information sources were consultations with colleagues, drug reference
manuals, and textbooks and protocol manuals. NPs were more likely to pursue needs related to drug therapy with a print resource and needs related to diagnosis with a colleague.

The results of this research underscored the importance of access to information resources in primary care practices and the findings also support the development of educational and outreach programmes to promote evidence-based decision making among primary care clinicians.

Wakeham (2009)\textsuperscript{70} provided an overview of the information needs of nurses and describes the findings of the Information Seeking behavior of Nurses. Discussed how librarians consider the nurses’ use of libraries could be improved. Library provision and use can be improved only by co-operation between nurses, students, librarians.

Barh (2011)\textsuperscript{71} examined the vaccination scare, its impact on parents of young children and its effect on need for information. Parents consider trustworthiness of information source to be an important factor.

Harrison (2012)\textsuperscript{72} conducted a survey with quantitative and qualitative methods to study the information needs of people with Multiple Sclerosis (PWMS) in UK. Categories of information need were identified, and their importance and the difficulty in obtaining them were quantified. The results revealed that there is considerable scope for improving provision of information to people with MS.

2.4 Studies relating to Information seeking behavior of Faculty members

Cheng (1996)\textsuperscript{73} investigated the information seeking behavior of health professionals working in 37 public hospitals in Hong Kong, to examine their information needs, assess user satisfaction with and the impact of library services (including the Hospital Authority, Library Information System (HALIS), the investigation revealed that hospital libraries sometimes fail to meet user needs.

Ocholla (1996)\textsuperscript{74} examined the information seeking behavior of academics from Health sciences, Information sciences, Environmental studies and Education at Moi University Kenya.
They found that students who use English as their primary language are usually more successful in using the library than those who use English as second language.

Gollop (1997)\textsuperscript{75} described the results of their study, the ways in which, older, African American women obtain health information and some of the factors that influence such activity. Among the possible determinants examined were self perceived literacy, access to health information, and mobility.

Curtis (1997)\textsuperscript{76} investigated into the information seeking behavior of health sciences faculties, their use of new information technologies, faculty’s use of electronic resources, documented any shift from the use of print to electronic formats, and measures the utilization of library training.

Adedibu (1997)\textsuperscript{77} investigated the information seeking patterns of medical students at Ladoke Akintola University of Technology, Nigeria, which revealed 70\% of respondents spent 3 to 8 hours in the library to consult books and 68\% of respondents needed the assistance of library staff for searching the books of their choice.

Peizer (1998)\textsuperscript{78} reported the results of a questionnaire survey, conducted with veterinary medical students at Iowa State University in 1997 to determine their general use of the Veterinary Medical Library and how they sought information in an electronic environment.

Detlefsen (1998)\textsuperscript{79} investigated on the information seeking behavior of medical and health professionals. Discussed the paucity of models for information seeking behavior that have been tested in health care populations, and the frequently used methods of investigation and data collection methods. Two case studies on the diffusion of medical knowledge on drug information and faculty doctor’s behavior are used as examples of information behavior research.

Lomax (1999)\textsuperscript{80} provided an overview of information resources in Oncology and argues that there is at present no grand theory or political paradigm in the library and information science literature to explain information seeking behavior, of oncologists, a number of conceptual frameworks have developed. They reported the results of a study using a multi-method approach
to survey the information seeking behaviour of a group of medical Oncologists in clinical practice in Metropolitan Pittsburgh, Pennsylvania, USA in the course of patient care.

Anita (2000)\textsuperscript{81} investigated on the useful literature retrieval method for General Practitioners. They found that printed index Medicus was the most effective literature retrieval method for G.P’s.

Sue (2000)\textsuperscript{82} reviewed the literature to indicate publications that have made a significant contribution to understanding of the information wants, needs, behaviour and preferences of family physicians and to identify areas in which there is scope for further research.

Davidoff (2000)\textsuperscript{83} expressed their opinion on their investigation that the medical profession falls far short in its efforts to make the critical link between the huge body of information hidden away in the medical literature and the information needed at the point of care. This failure means not only that many opportunities for improved patient care and continued learning are missed but also that much of the effect, creativity, and money that go into biomedical research is simply wasted. Clinical librarianship programs are in fact efficient and effective. They add to clinicians’ knowledge, affect clinical decisions.

Lynn (2001)\textsuperscript{84} investigated on the existence of early onset childhood bipolar disorder. This research provided reliable sources. We sites, databases, key authors, electronic groups, and other accessible medical information in order to better serve the Pediatric bipolar community.

Khalil (2001)\textsuperscript{85} presented a brief analysis of the information seeking behavior and needs of consumers with regard to health information. The field of consumer health information is emerging slowly but surely, as consumers strive to understand diagnoses, maintain states of wellness, or even practice precautions to avoid known triggers of illnesses.

Jeffry (2002)\textsuperscript{86} studied the problems involved in the drug knowledge which are one of the most causes of medication errors. They evaluated the clinical contribution of a drug data base developed for the computer. Their study revealed that self reported prescriptions by responding clinicians endorse improved access to drug information and improved practice efficiency.
Rozic (2002)\textsuperscript{87} evaluated the web site usage at the Central Medical library (CMK) Ljubljane University, Slovenia. They inferred that analyzing and exploring regularities in the visitors’ behavior can be used to enhance the quality and facilitate delivery of information service, identify visitors’ interests, and improve the server’s performance.

Fang (2003)\textsuperscript{88} investigated the information seeking behavior of health professionals seeking Complementary and Alternative Medicine (CAM). They found books and databases most frequently cited as useful had information about herbs. Health professionals are frequently unable to locate the CAM resources, relying instead on MEDLINE. Medical librarians need to educate health professionals in the identification and use of authoritative CAM resources.

Mendonca (2004)\textsuperscript{89} studied the possibility of using the co-occurrence of MeSH terms in MEDLINE citations for a knowledge based inter related concepts. This study evaluated the relevance of the relationship between the semantic pairs and the clinical validity of the semantic types involved in the process.

Decrtchin (2004)\textsuperscript{90} examined resource use to see whether or not changes occurred in the types, quantity, or variety of resource used by students as they progressed through a longitudinal problem-based learning course.

The resources examined were categorized as printed materials, electronic resources, human resources, or physical evidence (i.e., models, displays, and demonstrations). The use of a variety of resources – i.e., resources from more than one category of resources has been encouraged in the IPL curriculum so that students may gain experience and skill in assessing the perspective taken by an information source, the nature and quality of the information.

Zhang (2004)\textsuperscript{91} focused specifically on how users in a medical science and clinical setting carry out their daily information seeking through a customizable information portal system (My Welch).

Zipperer (2005)\textsuperscript{92} investigated on the patient safety, found that Librarians could improve the safety of medical care through greater participation in patient safety initiatives. A librarian’ could improve the safety of medical care through greater participation in patient safety initiatives. A
librarian’s expertise in accessing the evidence base could enhance the safety and appropriateness of care in a clinical environment. In addition, librarians could apply specific technical knowledge management skills to medicine. To realize improvements from these skill sets, healthcare leaders must consider ways of working with librarians to enhance patient safety.

Nungia (2006)\textsuperscript{93} are on the opinion that combining clinical experience with informatics tools is an effective strategy for delivering the medical evidence needed to support patient care decisions.

Cullen (2007)\textsuperscript{94} at 70th IFLA conference studied on the empowering of patients through health information literacy training and explored some aspects of health information literacy training that are fundamental to health consumers to find, evaluate, and use online information sources.

Pameela (2008)\textsuperscript{95} identified some specific types of discursive positioning and showed that how participants in a clinical care setting positing themselves with one another in ways that justify different forms of information seeking and giving.

Donna (2009)\textsuperscript{96} studied quantitatively the information-seeking behaviors of general Pediatricians and specifically compare their use of computers, including digital libraries, before and after an educational intervention.

Jain (2010)\textsuperscript{97} displayed the power of information technology (IT) to facilitate communication about important health care information. The information is of Merck’s press release about the instant withdrawal of ‘rofecoxib’ and the staff of the Cleveland clinic’s immediate response.

Badgett, (2011)\textsuperscript{98} studied the Jain and his colleagues display (Jain)\textsuperscript{97} applauded Cleveland Clinic’s innovative use of their Electronic Medical Record (EMR) to take responsibility for notifying individual patients and physicians. They propose institutions to take a large step toward realizing their power by establishing institutional knowledge centers that formalize responsibility for monitoring, sorting, and communicating medical evidence. Institutions are ideal resources for accomplishing these tasks, which are often beyond the reach of the individual clinician.
Casebeer (2001)\textsuperscript{99} investigated on the physician’s internet medical information seeking behavior at Alabama school of medicine, Birmingham, Alabama. The purpose of this study was to examine physician medical information-seeking behaviors and their relevance to continuing education (CE) providers who design and develop on-line CE activities.

Their results revealed that nearly all physicians have access to the internet, know how to use it and access it for medical information. The Internet’s professional importance to physicians currently is in the area of professional development and information seeking to provide better care rather than for patient-physician communication.

They found that importance of the Internet to physician professional development is growing rapidly. Access to on-line continuing medical education must be immediate, relevant, credible, and easy to use.

Hart (2013)\textsuperscript{100} explored patient’s and practitioner’s use of the internet in UK to consider whether use of the Internet is changing relationships between patients and health-care practitioners.

The study used qualitative interviews and observations of patient-practitioner interaction. In addition to patients, they interviewed 10 health-care practitioners about their own health information seeking practices and those of their patients.

Their qualitative study suggested that use of the Internet is contributing to subtle changes in the relationship between health-care practitioners and their patients, rather than effecting the dramatic transformation some people envisage for it.

2.5 Studies related to other Professions

Davies (1994)\textsuperscript{101} presented preliminary results of a study concerning the impact of information technology developments on the information handling technique of research scientists from the perspective of perceived value, based on subjective evaluation by users.
Bose (1997)\textsuperscript{102} examined the information seeking methods of awarded farmers of Jalgon District, Maharashtra for innovation in cultivation, use of fertilizers, use of modern agricultural gadgets and also on financial assistance provided by Agricultural banking sector.

Ellis (1997)\textsuperscript{103} explored the role of information and information seeking in the research and development department of an international oil and gas company. They analyzed the requirements for different types of information in an environment where the need for internal and external resources is intertwined.

Barry (1997)\textsuperscript{104} reported the results of the Information Access project, funded by King’s College London and the British Library, Research and Development Department, set up to examine the effects of information technology, the electronic library and the internet on the information seeking behavior and research behavior of academics in higher education.

Marcella (1999)\textsuperscript{105} reported the results of a survey of information needs and information seeking behavior of a national sample of the UK population. Major findings include: that the majority of respondents had sought information in the past and that an even greater number predicted a future need for information.

Serema (1999)\textsuperscript{106} studied the information needs of MPs in the House of Commons (UK Parliament). Members’ request for information continues on its upward trend and shown no sign of reaching a plateau. The Library was considered an indispensable source of information.

Ammini (1999)\textsuperscript{107} conducted a study at Cochin University, India, to assess the information requirements of the users of the Library by B.Tech, M.Tech students and research scholars of the Department of Ship Technology.

Brown (1999)\textsuperscript{108} assessed the information seeking behavior of astronomers, chemists mathematicians, and physicists at the University of Oklahoma, USA, using an electronically distributed questionnaire.

Siatri (1999)\textsuperscript{109} examined the information seeking behavior of academic computer scientists in an electronic environment and compare the information seeking behavior of users in Universities in the UK and Greece.
Fernandez (1999)\textsuperscript{110} studied the information seeking behavior of Indian scientists and information professionals and the use of the Internet in their work, in order to determine subject specific differences in Internet use, participants included physicists, mathematicians, chemists, biomedical scientists, and information professionals.

Maheswarappa (1999)\textsuperscript{111} studied at Karnataka University, Dharward of the relative importance of information sources among biological scientists and the influence of personal attributes.

Haruna (2001)\textsuperscript{112} examined the information needs and seeking behavior of lawyers in Lagos, Nigeria, Results reveal that many lawyers perceive the need to know the latest decisions of superior courts at their greatest professional information need. The library has been identified as the most heavily consulted information source for job-related information, but librarians do not fulfill their role in meeting the information needs of lawyers.

David (2003)\textsuperscript{113} studied on six faculty members in the department of chemistry and biochemistry at University of Texas information about their information-seeking behavior, favored resources, and opinions about the transition from a print to an electronic information environment. In most cases, these chemistry faculty members have eagerly embraced the enhanced access to chemical information made possible by the steady addition of electronic journals and networked databases systems.

The most-cited benefits by the faculty members include significant time-saving and convenience as well as access to more journals than ever. The use of the physical library and its printed collections by faculty is declining. Chemistry faculty expressed a strong self-reliance in their information-seeking skills and showed sophistication in their choice of tools.

Ikoja-Odongo (2004)\textsuperscript{114} presented insights into the information needs and information seeking strategies of women in the Ugandan informal sector. Explored and represented their business characteristics and sources, the channels they used to access information and the constraints they faced in information seeking.
Majid (2005) explored the information needs and information seeking behavior of Malaysian agricultural scientists. Recommended that science and technology libraries should periodically survey the information needs of their users, assess their collections and facilities, and strengthen their promotional activities.

Qayyum (2006) reviewed the nature of queries posed by library patrons during a regular reference interview, within the conceptual framework of internet reference services in the Engineering and Computer Science Library, Toronto University, Ontario. He presented the viewpoint of a reference librarian indicating that library users, armed with the newly acquired knowledge of Internet/electronic tools, leave the reference desk with a vastly different perspective on carrying out a literature search than they arrived with. The observation is that while the basic theme and nature of queries remain much the same, it is the role of the reference librarian in responding to these queries that has undergone an immense change.

Senthilkumaran (2007) in their case study revealed the use of pattern of information channels by scientists of the Central Electrochemical Research Institute, Karaikudi and the engineers of Bharath Heavy Electronics Ltd., Tiruchirappali, Tamil Nadu, India

Hallmark (2008) described in their study the methods of access and retrieval of periodical articles that were cited during 2000-2001 by atmospheric scientists from universities, federal government agencies, and private research institutes.

Murphy (2009) surveyed to gain a clear picture of how the interdisciplinary scientist seeks information, and in particular how the interdisciplinary scientists manages their time in regard to information gathering tasks at the US Environmental Protection Agency (EPA) in Research Triangle Park, North Carolina.

Anna (2010) conducted a Web based survey to determine usage of information and communication technologies by faculty for research and teaching. Their survey results highlighted solutions to help faculty in this era of information overload and rapid development of technologies.
Julie (2011)\textsuperscript{121} described the methods of access and retrieval of recent journal articles cited by geoscientists and chemists who work in academia, government, and industry.

Amritapal (2012)\textsuperscript{122} examined the medical college libraries of Punjab related to modern medicine of Allopathy. A brief overview of Medical science education in India with special reference to Punjab was given in this study. Suggested that the rapid changes in medical education demand support from libraries to collect, sort and recall the wide variety of information.

Roman Nair (2013)\textsuperscript{123} studied on the information Resources and Services on Aqua sciences and Fisheries in India. The resources, facilities and services of the information units of Fisheries related organizations in India were evaluated in the study. Suggestions are made for establishing an FIS and resource sharing network to extract maximum utility of the information resources available in India.

2.6 Studies related to Information seeking behavior models

Kuhlthau (1991)\textsuperscript{124} described the users perspective of information seeking and derived a information search process model.

Ellis (1993)\textsuperscript{125} focused the grounded theory approach to derive models of the information seeking patterns of academic researchers.

Kuhlthau (1994)\textsuperscript{126} studied the information seeking behavior of students doing in a research assignment, formulated a model depicting common factors of tasks, feelings, thoughts and actions.

Leckie (1996)\textsuperscript{127} developed a general model of information seeking and practices of three groups such as engineers, health care professionals and lawyers based on six components such as work roles, associated tasks, characteristic of information needs, awareness, sources and outcomes.
Wilson (1997)\textsuperscript{128} reviewed the literature of information seeking behavior in a variety of disciplines, other than information science and presented a general model of information seeking behavior.

Wilson (1999)\textsuperscript{129} presented models of information seeking and other aspects of information behavior and suggests that these models addresses issues at various levels of information behavior, which can be related by envisaging nesting models.

Beaulieu (2005)\textsuperscript{130} explored the concepts of interaction and interactivity in different theoretical models in the fields of human-computer interaction and information seeking behaviour.

Van Lill (2012)\textsuperscript{131} investigated on the aims to construct a theoretical framework, or model, to position existing studies and to serve as a basis for planning new studies.

Moore (2013) 132 observed in his investigation six dimensions in social information namely function, form, clusters, agents, users and mechanisms. These dimensions provide the basis for a model that can be used to analyze social information needs and the ways in which they are met. These models provide basic framework for studies with a bearing on ISB.

2.7. Inferences drawn from studies on Information needs and Information seeking behaviour

From the above review of literature the following inferences are drawn:

1. Studies on information needs and information seeking behaviour have been conducted in large numbers covering people from various branches of medicine.

2. Studies of information needs and information seeking behaviour of faculty members of medical profession have been carried out at Institutional and National level surveys.

3. Studies on information needs and information seeking behavior have been conducted in large numbers covering people various branches of knowledge other than medical professionals like engineers, academicians, Lawyers, industrial personnel etc.
4. Observed the studies on the designing of conceptual models of information seeking behaviour.

5. The review identifies the development of research on the conceptual studies on the information needs and seeking behaviour.

6. A quantum of research has been noticed from India.

7. It has been observed that there is no single study on the information needs and information seeking patterns of faculty members.

8. The review shows that substantive theoretical work has been carried out within information needs and information seeking behaviour.

9. The review indicates further development in the area of study that can be attributed to:

10. By the review it is observed that there is a paradigm shift from information system/resource approach to an alternative one characterized by focus on constructive, active users, subjective Information, situational views on experience, systematic individuality and quality research.

   In view of the current developments of information needs and information seeking behaviour, the investigator has chosen the present investigation.
REFERENCES:


15. Proceedings of the 1st International Conference on Research in Information needs, Seeking and use in different contexts held at Tampere, Finland, 1996.


119. Murphy, Janet. (2013).Information seeking habits of environmental Scientists: a study of interdisciplinary scientists at the Environmental Protection Agency in Research Triangle Park, North Carolina Available at: http://www.istl.org/03-summer/refereed.html