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Study on Information Needs and Seeking Behavior of the Health Science Researchers in an Indian Tertiary Health Care Institution

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Abstract:

The interest of health science researchers depend upon their moral and professional requirements to seek the information as the libraries are services oriented departments. The exponential growth of knowledge cause abundant of documents in various forms such as print and non-print materials and others that is, electronic information resources. The demand for specialized information by the users has necessitated the library to repackage the information from various sources to suit the user's needs. The health science information seekers accept evidence based context and problem based learning is a part of information needs and they prefer their friends

and colleagues as the most relevant sources to seek information, but print texts are more preferred than different database by the law students. The health science researchers fulfill their primary information needs through internet sources to enhance research activity. The e-resources are easy to save and copy and consume less time to access the required information. Understanding the relation between information needs and technology based information service can provide meaningful result to address the information seeker's unmet health information. Further studies can expand the findings of this current study to better understand their barriers to health information.

Key Words: Health Science Researcher; e-journal; Current Awareness Service; OPAC; Information Seeking

Introduction

The exponential growth of knowledge cause abundant of documents in various forms such as print and non-print materials and others that is, electronic information resources. The demand for specialized information by the users has necessitated the library to repackage the information from various sources to suit the user's needs.

Medical and allied education has an important role in the transformation of an individual and also in the growth and development of the health care society as well as the economic development of the nation as a whole. These factors have a tremendous impact not only on the academic institutions but the library and professional working in the libraries in order to accomplish the aim and objectives of the institutions to provide effective services as per the need of the health science information seekers. The interest of health science researchers depend upon their moral and professional requirements to seek the information as the libraries are services

oriented departments. The exponential growth of knowledge cause abundant of documents in various forms such as print and non-print materials and others that is, electronic information resources. The demand for specialized information by the users has necessitated the library to repackage the information from various sources to suit the user's needs. Libraries adopt modern technology such as computers, RFID technology, OPAC, machines and other paraphernalia to meet the needs of the users. It is also essential to maintain the speed, accuracy and reliability of these technologies. The professionals should have the knowledge to consider a variety of technical knowhow in order to guide the users properly.

The approaching support for health science researchers is to encourage health information seeking and provide easy access of health information resources. The self management of seeking health information should be patient –centered and the required information is to be demonstrated in a positive way. The need and seeking of information correlates self care behaviors with management and prevention of diseases ^{1,2,3}.

Review of similar study

The ability to access health literacy is a confounder for self-efficacy and positive information seeking experiences. We can recognize health literacy as the determinant of health and healthy behaviors ^{4,5,6} and proper utilization of healthcare access ⁷. Ickes and Cottrell (2010) developed the association between education and health literacy among college students in the junior and senior grades taking a total number of 409 samples. Their study concluded that the higher level of education has no significant relation with levels of health literacy ⁸ where Richardson et al. (2012) found that education level influenced information seeking behaviors and confidence on health information ⁹. It is understood from both of the studies that education is an influencing character on information seeking behaviors. Health insurance is not the agent to access health

care and not to enhance the strength to read, realize and develop health information. But James et al. (2018) clarified that knowledge about health insurance and the ability to access insurance significantly moderated healthcare utilization among college students in south USA ¹⁰. Arnold et al. (2017) measured self efficacy on confidence in recipient's ability to perform a request with knowledge and belief within the test. Their study indicates that screening and mailing in self efficacy significantly increased within the supported groups with p value is less than 0.0001 ¹¹. Bangerter et al. (2019) and Richardson et al. (2012) made their study on self confidence to receive the needful health and medical information using dichotomous measure of health literacy and 5-point ordinal measure respectively ^{12,9}.

Objectives:

The main aim of the study is to understand the information needs and seeking behavior of a sample of health science researcher's working in Institute of Medical Sciences and SUM Hospital (IMS & SH), Bhubaneswar, Odisha. The study has the following objectives:

- To identify the information needs of health science researchers in this institution.
- To identify the situations and the personal contexts that are associated with the information needs.
- To identify whether the medical libraries and librarians have any influence on the information seeking behavior.
- To identify the information sources utilized by them.
- To identify the information channels utilized by them.
- To identify the characteristics of the preferred information sources.
- To identify the obstacles that hamper from satisfying their information needs.

Methodology

Population

The target population of this study was the health science researchers working for Institute of Medical Science and SUM Hospital including faculties, research scholars and scholars pursuing their higher studies in some super special wings (endocrinology, gastroenterology, urology, oncology, neurology, nephrology etc.). The health science information seekers accept evidence based context and problem based learning which is a part of information needs ¹³ and they prefer their friends and colleagues ¹⁴ as the most relevant sources to seek information, but print texts are more preferred than different database by the law students ¹⁵.

Sampling Procedures

This present study was undergone with a sample survey. There are more than 600 researchers working at Institute of Medical Science & SUM Hospital (IMS & SUM Hospital) under Siksha 'O' Anusandhan Deemed to be University at Bhubaneswar, Odisha, India. There were 300 samples distributed randomly among the researchers including Assistant Professor, Associate Professor, Post Graduate students, Ph D scholars and scholars admitted to super special wings of medical science. This study found suitable only 215 samples after examination and considered for data analysis.

About IMS & SUM Hospital:

IMS & SUM Hospital was established in the year 2005 with an objective of delivering quality health care in a cost-effective manner to the people. As an adjunct to health care it is committed to provide high standards of undergraduate (After the permission of MCI in 2007) and Post Graduate Medical education commensurate with international standards, bringing together educational facilities for training of personnel of all cadres in all branches of health care in order

to attain self sufficiency in Education and practice. It provides value-based medical education, helping students to attain the competency and character required to live up to the highest principles of the healthcare profession.

IMS & SUM Hospital is marching forward in synchrony with the rhythm of growth of other sister concerns of S'O'A University. Within a span of 16 years, it has achieved a niche in the medical history of Odisha and in the country by addressing the health issues of the public of Odisha and neighboring states as well as opening up the avenues of research in Medical Science, relentless endeavor towards achieving the mission and vision of S'O'A University.

Institute of Medical Sciences is creating a model educational environment in which every point of contact between students and curriculum reinforces ethical and professional conduct, anchored in the beliefs of our vision of professional excellence. Slowly but steadily this institute is growing in popularity for its conduct and academics not only in the state but in entire eastern India. The faculties are outstanding educators who have been recognized nationally and internationally for their performance. The faculties and the other staff prepared to take up the newer challenges through outstanding curriculum and advanced health care facilities. The faculty development program takes place regularly through the Continuous Medical Education (C M E) of this institution.

Data Analysis and Discussion

Data analysis is a major part in the research field. This process includes both qualitative and quantitative analysis. The verbal and numerical study of data analysis interprets quantities, figures and charts. This process helps the researcher to justify the main findings of the whole process. Responsibility of the researcher is to compare the general research findings and the

literature review findings to reach at the facts and gaps in research count. The information collected for this present study is discussed below in form of different tables and graphs.

Table 1 – Information Seeking Frequency

	FREQUENCY	PERCENTAGE
Daily	114	53.02
Weekly	32	14.88
Monthly	15	6.98
When Need Arises	54	25.12
Total	215	100.00

It is understood from this study that the health science researchers of this institute visit library to have their needs. 53% of the respondents visit library daily whereas 25% of the researchers seek information when need arises. 7% of respondent's needs information monthly and 15% visit library weekly to fulfill their needs. (Table 1)

Table 2 – Information Seeking Purpose

PURPOSE	FREQUENCY	PERCENTAGE
Research Work	85	39.53
Conference presentation	13	6.05
Writing articles	136	63.26
Enhance knowledge	142	66.05
Project thesis	96	44.65

Collecting on information seeking purpose among health science researchers of Institute of Medical Sciences (IMS) & SUM Hospital, it is considered that 40% researchers visit library for research work, 66 % use library for enhancing knowledge. 63% respondents agreed that they

visit library for writing articles, 44% health science researchers utilize library resources for their project thesis work and only 6% respondents visit library for their conference presentation. It is understood that the researchers don't visit library for single purpose as the aggregate of percentage exceeds 100. (Table 2)

Table 3 – Sources of Information Seeking

INFORMATION SOURCES	FREQUENCY	PERCENTAGE
Colleague/friends	52	24.19
Reference books	111	51.63
Journal articles	27	12.56
Research report	12	5.58
Librarian	32	14.88
Other libraries	15	6.98
Internet	114	53.02

There are so many sources available for seeking of information. Health science researchers are to choose their relevant sources for their needs. More number of researchers (53%) finds their information from internet sources followed by reference books (51.6%) colleagues / friends (24%) and institute librarian (15%). (Table 3)

Table 4 – Using of Information tools

USED INFORMATION TOOLS	FREQUENCY	PERCENTAGE
Textbook	121	56.28
Journals	20	9.3

Reference books	63	29.3
E-resources	33	15.35
Internet sources	83	38.6

This study reveals that textbook is used by more number of researchers (56%) for academic purpose. Anyone cannot ignore textbooks for basic fundamental knowledge. Other information tools like: journals, reference books, e-resources and internet sources are also used for academic needs. (Table 4)

Table 5 – Information Seeking Barriers

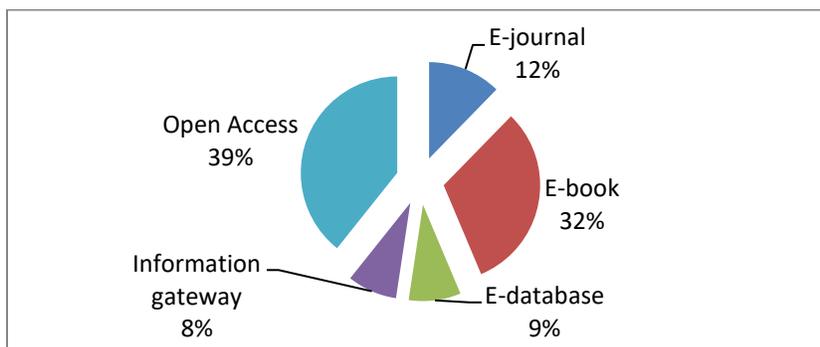
BARRIERS	FREQUENCY	PERCENTAGE
Lack of time	112	52.09
Lack of searching skill	36	16.74
In availability of needed materials	33	15.35
Lack of knowledge	35	16.28
In availability of trained library staff	2	0.93
Lack of subject knowledge among library staff	18	8.37

Most of the health science researchers (52%) mentioned that they cannot seek their required information due to lack of time. They are engaged in their clinical practice, taking classes for the under graduate students and also in research activity. This study reveals that there is trained library staff present in the library for proper guidance and some of them also mentioned on the lack of subject knowledge among the working professionals. (Table 5)

Table 6 – Preference of electronic information resources

RESOURCES	FREQUENCY	PERCENTAGE
E-journal	31	14.42
E-book	79	36.74
E-database	22	10.23
Information gateway	21	9.77
Open Access	99	46.05

Electronic information resources are more useful for the library users in order to fulfill their basic requirements in social activity, academic purpose and research performance. Health science researchers of this institute basically depend on open access documents available online. They also prefer to access e-books available / provided by the institute library. E-journals and different database are also helpful to meet their needs (Table 6). The percentile access of resources is distributed in graph 1.



Graph 1 – Preference of electronic information resources

Table 7 – Preference of Library service

SERVICES	FREQUENCY	PERCENTAGE
Circulation source	67	31.16

Reference service	99	46.05
Bibliographic service	16	7.44
Abstracting / Indexing	15	6.98
CAS / SDI	117	54.42
E-document delivery service	35	16.28
E-resources	66	30.7
E-databases	26	12.09
OPAC search	16	7.44

Library services are much important for the library users. Quality of the library services depend on needs of the library users. So far as the needs of the health science researchers is concerned they focus more (54%) on the current awareness service (CAS) and selective dissemination of information (SDI). There are 46% researchers prefer reference service of the library. Less number of respondents (7%) are in for of bibliographic and OPAC search service facilities of the institutional library. (Table 7)

Table 8 – Awareness of Current Development

SOURCE	FREQUENCY	PERCENTAGE
Browsing current journal	39	18.14
Browsing online journals	31	14.42
Attending conference	51	23.72
Internet searching	117	54.42
E-mail alert	42	19.53

Publisher CAS / SDI	9	4.19
Personal Communication	47	21.86

Current development process is most essential in research activities. Health science research is such a platform where this process is required more attention for drug changing activity, advancing procedures in clinical practice and changing dimensions in operating techniques. Health science researchers find their needs through internet surfing browsing electronic resources. More than 54% of researchers from this institute fulfill their needs with internet searching and more than 23% agree to aware themselves on attending conferences. Some of them also receive their current development knowledge through personal communication and only 4% of the respondents are agree to develop their personal awareness through CAS / SDI provided by the publishers. (Table 8)

Online journals, electronic books, electronic magazines etc are now available in different libraries attached to the academic institutions and some special and research organizations. There are also many online database subscribed by different organizations to facilitate the researcher's needs to carry out their research. The purpose of utilizing institutional e-resources is to enhance research activity, to strengthen teaching techniques as per curriculum need and more important is to update knowledge.

Table 9 – Preference of e-resources

SOURCES	FREQUENCY	PERCENTAGE
Internet	152	70.7
Online database	32	14.88
E-books	63	29.3

E-journal	28	13.02
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Selection of resources differs from person to person. The researchers have to choose their relevant sources for their need. The information seeking behavior also depends upon their preference and liking of different sources. It is found from this study that internet is the most preferring source for the health science researchers. Some of the researchers prefer e- books, online database and e-journals for their needs. Table 9 depicts the status of preference of the health science researchers on different online resources.

Table 10 – Sources for Searching E-Journal Articles

SOURCE	FREQUENCY	PERCENTAGE
E-library	91	42.33
Library website	16	7.44
Institutional Repositories	13	6.05
Open access journals	27	12.56
Publisher's website	23	10.70
General search engine	58	26.98

Researchers can find their required e-journal articles from their own choice. These documents can be accessed through various sources. E-Library attached to the institutional library is accessed more than the other available sources. General search engines like: Google, Yahoo and MSN etc. are also used by the health science researchers of this institute. Institutional Repository (IR) is less used whereas library website, open access journal and publisher’s website is used averagely to fulfill the needs of the health science researchers. (Table 10)

Table 11 – Opinion on use and Publications in Open Access Journals

USE OF OPEN ACCESS JOURNAL			PUBLICATION IN OPEN ACCESS JOURNAL	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
Yes	94	45.56	139	70.56
No	89	42.78	45	18.89
Neutral	32	11.67	31	10.56
Total		100.00		100.00

The open access journals are freely available in internet sites. It costs nothing to access. Only good connectivity of internet is required to download the required authenticated information. 46% of the users agree to access open access journals and 71% of the researchers agree to publish their research findings in open access journals. Because the open access documents are cited more than the others. 43% of the users are not in favor of using open access journals and 19% of the researchers are not willing to publish their articles in these journals. This study found that 11% of the users are neutral in using open access journals and 10% of the researchers are also neutral to publish their documents in open access journals. (Table 11)

Conclusion

Health science researchers of this institute visit library daily to seek knowledge and to enhance their knowledge. They use both print and non book materials for their purpose. Institutional library and services help them getting required information. They refer online resources more ever open access documents and mentioned that time is a major factor. The health science

researchers fulfill their primary information needs through internet sources to enhance research activity. The e-resources are easy to save and copy and consume less time to access the required information. It also supports remote access and easy to handle where ever internet connection is available. The researchers of this institute are satisfied with collection of e – journal articles. They browse / access the journal articles using e – Library within the institutional library and different general search engines. All the fundamental library services offered are distributed among all the health science researchers. They accept CAS, Indexing / Abstracting, Bibliographic, e – Mail / SMS service of the institutional library. This study confirms the information seeking behavior of the health science researchers through library services. They consider both library resources including print and electronic. They also use the internet service provided by the library and the advantage of various health science databases. Understanding the relation between information needs and technology based information service can provide meaningful result to address the information seeker’s unmet health information. Further studies can expand the findings of this current study to better understand their barriers to health information.

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