

# Internet's Effect on Information Seeking Behavior of Medical Professionals in Uttarakhand: A Study

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**Abstract.** - Accelerating progress in IT and SM during the last 5 years. It has become common practice to look for medical data on the internet. It's generally agreed that people doing better health-wise as a result of their increased use of the internet to get relevant health information. Research on people's habits while looking for health-related information online has been conducted from several angles because of its significance. To better support and encourage this seeking activity, and to enhance the services of online health information access and supply, Online health information seekers want a systematic review that combines the findings of the most recent studies. In this paper discuss the Internet's Effect on Information Seeking Behavior of Medical Professionals in Uttarakhand.

**Keywords** - Internet, Information Seeking Behavior(ISB), Medical.

## I INTRODUCTION

The current era has acquired the name "Information era". The new technologies have accelerated research and development and led to an information explosion. The advancement of information technology has effects on all fields of knowledge. Technology has an impact on all fields of library and information science starting from the collection, storage, organization, retrieval, and dissemination of information in pinpointed, exhaustive, and expedite. The present day's library users are heavily utilizing information technology gadgets for the day today activities. Due to the above reasons, libraries are much eager to adopt technology-based resources and services for their users. Information is treated as a lifeline for the development of the nation. It is required for decision-making in every field. Information seeking behavior of the users depends on/her qualification, experiences, and working capabilities.

Every user has different seeking behavior of the information. Most of the users are well aware of the information technology and need not require any assistance in searching for desired information but in most cases, people seek assistance when he or she is approaching any information products.[1]

The study of the information-seeking behavior is the most impartment part of the development of the information system because people are one of the components of the information system. After all, an information system is developed for library users only. When we understand the role of the users in the information system, it's come to know that information seeking is a part of learning which enables users to find out relevant information, evaluate it, and utilized it legally and ethically. Information-seeking behavior also helps to evaluate the system designed for the library and information system.[2]

**Uttarakhand Medical System**

Uttarakhand has a decent system of hospitals & health centers. As of the year 2018, the state had 297 essential health centers, 21 district hospitals, 27 sub-district hospitals & 4 blood bank centers. Under State Budget 2018-19, an allocation of Rs. 2,286.57 crore had been made for health and family welfare, AYUSH, and medical education. Many health professionals are working in the medical and research centers in Uttarakhand. They are seeking information for the various activities related to education and research in the field of the health sciences.[3]

**Data**

The idea of data as it is utilized is normally alluded to as 'raw' data– an assortment of content, numbers, and images with no importance. Data in this way must be handled or given a specific situation before it can have meaning.

**Information**

Information is an important concept that is utilized in information innovation. Information is the consequence of preparing data, as a rule by computer. This outcome, in reality, empowers the prepared data to be utilized in the setting and have meaning. Information will be data that has meaning.

**Knowledge**

To put acquired facts to use is to possess knowledge. Knowledge covers not just who, what, where, and when, but also how and why. The knowledge links all the information together to produce a comprehensive policy, process, or procedure. Knowledge allows management to gain accurate and complete pictures of the enterprise's policies, procedures, and processes.[4]

**Information Seeking Process**

The user does something to go about getting the information they need. The term "information-seeking pattern" is used to describe how a user goes about trying to get certain details. Wilson has provided an explanation of the information-seeking pattern that emerges throughout the course of an information exchange. His approach places the ideas of information need, information seeking, information sharing, and information usage in a flowchart that may be interpreted as a map of how a person could act when confronted with the challenge of locating certain data. Wilson argued that a general model of this kind was useful in identifying the areas, where additional research could be of value and pointed to the lack of research on information use. According to Wilson 1981 general model of information-seeking behavior needs to include at least the following elements.[5]

**Information Seeking Behaviour (ISB)**

Information-seeking behavior is a broad term and continuous process. It involves many access points to express the information needs, seeking, selection, evaluation, and finally utilization of the information to satisfy the needs. Various factors may determine the ISB of an individual or group of people. It describes understanding which information is required, in which circumstances it will be used, channels and sources used for acquiring the information, and barriers to access the information. [6]

It is a way of gathering information for personal use, knowledge-up-dating, and development of personal and professional caliber. It is used for individual development or a group of persons. It describes the way individuals/groups seek, evaluate, and use the

right information at the right time. In an information-seeking situation, the individual/group may use different sources and use different tools.

**Elements of Information Seeking Behavior**

There are six elements of Information Seeking Behavior which are as follows:[7]

- The origination of information as subjective versus objective
- Information clients as latent beneficiary or target information versus purposive, self-controlling, and sense-production creatures;
- Client of information on behavior applied across circumstances versus behavior comprehended as the consequence of discourse among framework and the client in which need enunciation experiences situationally bound cooperation's;
- The investigation of client behavior fundamentally with regards to client connection with the framework versus all-encompassing methodologies that emphasize in general social collaboration;

Concentrate on outside behavior versus internal cognizance;  
 Worries that an emphasis on singular behavior yields an excessive amount of variety for frameworks to incorporate versus the need, with distinction in client behavior. They, in any case, infer that conventional methodologies have tried to advance quantitative procedures yet with regards to the force of the changes in perspective, researchers are currently calling for enhancing quantitative methodologies with inductive and subjective methodologies.

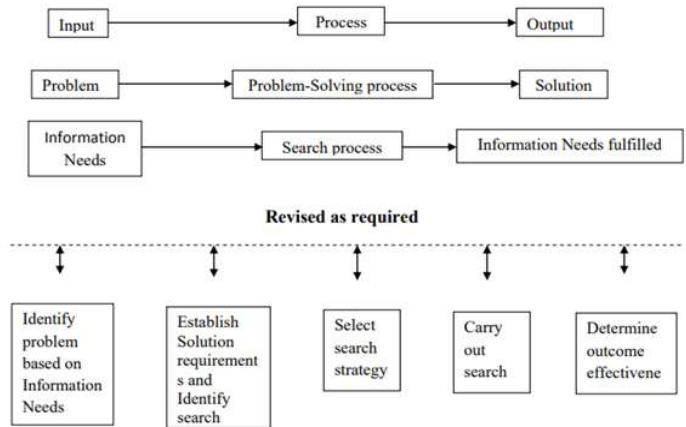


Figure 1: Model in the Identification of Information Needs.

**Types of Information**

Six types of information based on its use and the purpose for which it is used:[8]

- Conceptual Information: It relates to ideas, theories, and hypotheses about the relationship which exists among the variables in the area of problems.
- Empirical Information: It relates to data and experiments of research that may be drawn from oneself or communication from others.
- Procedural Information: It relates to data of investigation which is obtained, manipulated, and tested.

- Stimulatory Information: It relates to motivation by oneself or is environmentally derived.
- Policy Information: It relates to the decision-making process.

Directive Information: It relates to the information which is used for coordination and for enabling effective group activity.

## II. Review of Literature

Case, D.O. (2002) "Conducted a study of the information-seeking behavior of sociologists of the University of Delhi and Jawaharlal Nehru University, Delhi. The results indicate that discussion with colleagues within the organization, consultation with the supervisor, and knowledgeable person in the field seem to be on high priority. It was found sociologists used books heavily as compared with articles in journals".[9]

Gonzalez et al. (2007) made an attempt to study the Spanish primary care physicians' information needs and seeking behavior. Physicians received the most frequent questions from the patients that related to diagnosis (53%) and treatment (26%). They used the following resources: drug compendium, books, colleagues, journals, specialists, medical representatives, and databases on the internet.[10]

Du (2010) "has surveyed library science students majoring in school librarianship to learn about their information-seeking and -avoiding habits on the Internet. Students might fall back on one of two distinct coping strategies. Students' unique preferences, worries about efficiency, and a lack of mutual trust were noted to be obstacles to online cooperation. It includes a poll on collaborative learning. [11]

Kalantzi (2015) Background: The goal of this project is to investigate a hitherto uncharted area of diabetes care: the information behavior of patients with the disease, including their information requirements, resources utilized, hurdles faced, and level of satisfaction with acquiring knowledge about the disease. Methods: A validated questionnaire was used to evaluate 203 individuals (males: 110, type: 2:172) who were being followed in the outpatient Diabetes Clinics of a University-affiliated hospital in Greece. Results: Diabetes patients ranked their treating physician as the "most significant" information resource (91.4%), followed by the topics of food (61.4%) and diabetic complications (41.9%).

The value and prevalence of Internet usage were rated poorly. "Lack of time" and "expense" were cited as the primary roadblocks to researching a topic. More over two-thirds of respondents (71.4%) said they were either "very" or "very happy" with the ways they could get information. This study's findings suggest that a future information campaign might benefit from taking into account the information requirements and sources identified by diabetic patients, as well as their primary barriers to getting this information..[12]

Lemire (2008) The goal here is to learn what kinds of individual, societal, and cultural aspects contribute to Internet use for health information rather than traditional methods. Methods A cross-sectional survey was administered to a random sample of 2923 visitors of a popular health-focused website. It was determined via multiple regression

analysis what factors contributed to the site's popularity. Beliefs, intentions, user happiness, and socio-demographic factors were the four groups of variables included in the analytic template used for measuring Internet usage. [13]

Moghe (2014) Patients with insomnia typically base their decisions on information they find online about possible treatments. Insomnia sufferers were studied to determine how they used the internet to find and digest medical information. Between July 2012 and March 2013, a total of 1013 people answered an online survey on sleep health. The Insomnia Severity Index and the Dysfunctional Beliefs and Attitudes about Sleep Scale were also completed by the participants. Insomnia-related information seekers conducted extensive internet searches, with the findings seeming to affect critical health behaviors including treatment selection, medication adherence, and the choice to consult a doctor.

The symptoms and treatments for insomnia were the primary topics of discussion. However, as focused e-health treatments become more common in the normal therapy of insomnia, it is clear that the Internet is a significant healthcare gateway for insomnia patients and deserves additional exploration, even though no predictors for Internet usage were found. [14]

Garg (2016) discusses models searching for information. He felt that all ISB models are mutually complimentary and focus on a wide approach to describing the process of information search. Most generic information about behavioral models seems to be aware that a user needing information may utilize a range of information sources, services, systems, or even contact people to resolve an issue.[15]

Machendranath et.al. (2014) researched the behavior of academic members of Gulbarga University seeking information. The majority of respondents said that their way of searching for information via contacting an expert in the area was 81.66 percent. To prepare for lectures, 87.05 percent of respondents seek information. References from a book were 12,05 percent of faculty members accessing more materials. Most faculty members track library items through the internet. It is disclosed. For communication, they often utilize e-mail. The usage of the Databases in their respective topics was judged to be very well known to 20% of respondents.[16]

#### **Objective of The Study**

- To identify information, need of practicing medical professionals of Uttarakhand in terms of different variables such as nature and type of information required, sources of information used, etc.
- To identify the purposes of seeking information and how the practicing medical professional of Uttarakhand learn the existence of the information sources they used.
- To identify the problems faced by the practicing medical professionals of Uttarakhand for gathering information and to provide suggestions to overcome such problems.

### **III. Method of Data Collection**

To accomplish the stated objectives, a questionnaire instrument was designed based on the Questionnaire along with Likert's Five-point Scale. The questionnaires consisted of

open and close-ended questions on demographic characteristics, library use, information need, sources of information, use of e-resources, the satisfaction of the users with ICT-based resources and services, and performance of the library in satisfying the needs of the users.

To collect the data from users, a definite methodology is required in the field of information needs and surveys. There are several techniques for user studies such as questionnaire method, interview method i.e. personal and telephonic, Dairy method and observation method, etc. Methods like analyzing library records and citation analysis are also being used to compile data on information use studies. For this study, the investigator will use questionnaires, observation, and interview methods for data collection. If a study requires, some more methods such as the sampling technique will be used at a later stage. For data interpretation, standard statistical techniques will be used

### Secondary sources

A thorough review of relevant literature was conducted to get a full understanding of users' information demands and information-seeking behavior, especially among social scientists. The following are some of the resources that were utilized for this purpose:

- Library and Information Science Abstracts (LISA),
- Indian Library Science Abstracts,
- Bibliographies of books, theses, dissertations, and reviewed articles,
- Different types of references are appended in various research papers, etc,
- List of Research in Progress,
- Websites available from internet resources,
- Directory of books, journals, etc.

### Sampling

There were 5317 doctors registered in Uttarakhand Medical Counseling till December 2014. And by 2020 10424 doctors have been registered. Out of this 10424, 1043 samples were taken, out of which 680 acceptable responses were received.

## IV. Result and Discussion

### Personal Identification

Table 1: Age of the respondents

S. NO.	AGE	RESPONDENTS
1.	Less than 25	68
2.	25-35	189
3	36-45	266
4.	Greater than 45	157
	Total	680

Table 2: Qualification of the respondents

S. NO.	QUALIFICATION	RESPONDENTS
1.	MBBS	245
2.	BDS	115
3.	MDS	96
4.	MD	130
5.	Other	94
	Total	680

Table 3: Gender of the respondents

S. NO.	GENDER	RESPONDENTS
1.	Male	422
2.	Female	258
	Total	680

Table 4: Types of hospitals of respondents

S. NO.	TYPES OF HOSPITALS OF RESPONDENTS	RESPONDENTS
1.	Private	456
2.	Government	224
	Total	680

### ICT Skills

Table 5: Computer Literature of respondents

S. NO.	COMPUTER LITERATURE	RESPONDENTS
1.	Yes	608
2.	No	72
	Total	680

Table 6: Internet usages times of the respondents

S. NO.	INTERNET USAGES	RESPONDENTS
1.	Daily	510
2.	1-3 times a week	122
3.	More than 3 times a week	30
4.	Rarely	18
	Total	680

Table 7: Location of accessing internet of the respondents

S. NO.	LOCATION OF ACCESSING THE INTERNET	RESPONDENTS
1.	The institution where I am working	200
2.	Institutional libraries	30
3.	Community information center	18
4.	State informatics center	2
5.	Districts informatics center	3
6.	Internet café	95
7.	At home	332
	Total	680

Table 8: Government Hospitals Subscribing to Medical Information System

S. NO.	Government Hospitals Subscribing to Medical Information System	Respondents (Percentage)
1.	Yes	100%
2.	No	0%
	Total	100%

Table 9: Medical Practitioners are using the Internet

S. NO.	Medical Practitioners are using the Internet	Private Medical Practitioners	Government Medical Practitioners
1.	Yes	76%	38%
2.	No	24%	62%
	Total	100%	100%

Table 10: Medical Practitioners using the Internet -Age wise

S. NO.	Medical Practitioners are using the Internet	Regularly use internet	Don't or rarely use the internet
1.	Less than 25	100%	0%
2.	25-35	96%	4%
3.	36-45	88%	12%
4.	Greater than 45	63%	37%

## V. Conclusion

To identify information, need of practicing medical professional of Uttarakhand in terms of different variables such as nature and type of information required, sources of information used, etc., there are such types of information we suppose 85% to get information through journal articles, 70% from review articles, 40 % from general books, 50% from a reference book, 30% from monographs, 55% thesis/dissertation, 35% from government publications, 58% from research reports, 52% from Seminar/Conference Proceedings, 45% from Patents and Standards, 60% from Reprints from the Authors, 25% from Field Trip/ Survey, 38% from Medical Information Networks, 90% from E-Books, 95% from E-Journals, 28% from CD- ROM bibliographic databases, 32% from Online bibliographic databases, 92% from Subject-specific Information Websites, 93% from Professional Association Websites.

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