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Information Needs, Sources and Barriers of Doctors in Primary Health Centres in Haryana: A Survey

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Abstract: The present study was investigated among the doctors of Primary Health Centre of Haryana to assess information needs, sources and the barriers to accessing information. For which the survey method has been applied and 227 questionnaires were distributed in all strata based on the proportional number of PHC and 133 questionnaires were found appropriate for the analysis process. It is found that the main reason for the information requirements of doctors is to maintain patient records and clinical decision making for which they accessed the information commonly from the general browser and Colleagues. The study also found that the most common barriers faced by respondents when accessing information resources were time constraints. The outcome of the present study will be helpful for information professionals to understand the information needs of doctors and develop the collection accordingly, which will provide appropriate information services to the health community.

Keywords: Information needs, Information Sources, Primary Health Centres, Doctors

1. Introduction

Information-seeking behaviour refers to the way information is needed, searched and used. It is based on and influenced by many factors such as demographic, psychological, role-related, environmental factors and source characteristics. It does not only consider the 'information need', but also observes and examines the user's behaviour and use of the information. According to the Wilson (2000), “It is the purposive seeking for information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems such as a newspaper or a library or with computer-based systems such as the World Wide Web”.

2. Review of Related Literature

Review of literature is an essential aspect of researches that describe of the related literature and help researchers to understand with sufficient clarity that what has been done and what is to be done, and provides more information about knowledge in a particular field. Several different sources were discovered to detect relevant information on information needs and seeking behaviour.

(Jose, 2020) conducted a study on "A healthcare professional’s understanding of the medication information-seeking behaviour of patients: significance in the digital era" and indicated that today, patients have more information about the disease and treatment with the help of the internet and other sources. But these resources have their own limitations. Healthcare professionals should recognize the value of these educated patients to facilitate shared decision-making. But not all patients have the same skills, so along with this, healthcare professionals should direct patients to high-quality favourable information sources so that they can get the right information.

(Addis, 2018) investigated information needs on precision medicine through a survey based study entitled “Information needs on precision medicine: a survey of Italian health care professionals”. In which they collected data from the Italian healthcare professional through the questionnaires. The questionnaire was filled by 1173 professionals and half of them indicate that they did not get completely informed on precision medicine.

(Scott, 2018) carried out a study on "Paediatric information seeking behaviour, information needs, and information preferences of health care professionals in general emergency

departments: Results from the Translating Emergency Knowledge for Kids (TREKK) Needs Assessment" to assess the information sources used by healthcare professionals working in general emergency departments for paediatrics. The study revealed that most health care professionals meet their demand for information about children's health care by talking to colleagues or visiting specialized medical / health websites.

3. Statement of the Problem

The doctor is considered as a form of God in Indian culture and is expected to maintain a healthy life of humans in society, for which they must have adequate, up-to-date, and timely information in any available format to enhance their performance (Nwezeh et al. 2011). Davis (2007) said that "Clinical information needs may have tight deadlines or may occur outside the hours a library is staffed so a degree of end-user searching should be anticipated". Consequently, the accurate understanding of the information needs and seeking behaviour is important to enhancing the satisfaction level of end-user through timely and accurate information.

4. Background of the Study

Primary Health centres are the backbone of health services delivery and referral unit for sub-centres. It is performed as the first link between the population and the medical officer. PHCs services are mainly concentrated in rural areas. At the state level, each state government is established and maintained the PHCs under the Minimum Needs Programs and Basic Minimum Services Programs. PHCs work for providing integrated curative and preventive health care services and also an emphasis on quality health. As per the minimum norm, PHCs covered 30000 population in the plain areas and 20000 population in the Tribal, Hilly, and Desert areas through the beginning of the Eighth Plan. One PHC covered the six sub-centres. At present, the Health Department of Haryana is providing quality health care services in the state through a network of 2617 sub-centres, 485 Primary Health Centres (PHCs), 131 Community Health Centres (CHCs), 22 District Hospitals, and 15 district TB centres.

5. Objectives of the Study

The main objective of the study is to examine the information-seeking behaviour of doctors of primary health centres in Haryana. The specific objectives of the study are as follows:

- To determine the type of information needs;
- To identifying the information Source used by doctors
- To know the barriers that encounter in information-seeking

6. Research Methodology

The study is mainly concerned with the purpose of identifying the information-seeking behaviour of doctors of Haryana state. The survey method was used for the study. The primary health centre is the main area of the current study, and a total of 542 doctors are working in it according to Rural Health Statistics 2018-19 by the Ministry of Health and Family Welfare, Government of India. The sample size for the current study was estimated using various methods such as the Krejesi and Morgan table, Yemen formula, and found that 226 doctors are a good sample for this study. For the sampling purpose, the state of Haryana was divided into six Strata according to the administrative division, and a random sampling technique was applied at each stratum to select the sample. A questionnaire was designed to collect the required information from the population. The questionnaire contains both open and closed-ended questions and it was divided into various sub-sections so that information can be managed in a better way. The data collected by the present study has been analysed through various statistical techniques.

7. Data analysis and Interpretation

A total of 227 questionnaires were distributed in all strata based on the proportional number of PHC, and only 145 responses were received back having a response rate of 63.87%. The researcher discarded some questionnaires from the study due to a lack of completeness of the information. The final data consisting of 133 questionnaires were found appropriate for the analysis process.

7.1. Reasons of information needs

The table provides the information about the reasons behind the information needs of the doctors. The percentage of respondents is made up of the reasons for the information requirements. In which important general reasons have been taken into account such as maintain the patient record, improve the clinical decision, improving knowledge, answering colleagues' question, specific patient problem medical diagnosis, ailments and treatment

choices, continuing education and other. The respondent had the option to choose more than one reason for expressing the information needs.

Reasons	Responses	
	N	Percent
Maintain patient record	119	92.2%
Improving clinical decision	105	81.4%
Improving knowledge	78	60.5%
Continuing education	23	17.8%
Specific patient problem	63	48.8%
Answering colleagues' question	38	29.5%
Medical diagnosis, ailments, and treatment choices	31	24.0%
Others	17	13.2%
Total	**474**	**367.4%**

Table 7.1: Reasons of information needs

There are many reasons behind the information needs of doctors. Which are presented in Table 6.1. It is visible that the 119 respondents (89.47%) feel that maintain patient record is the top-ranked reason followed by improving clinical decision 105 (78.95%), improving knowledge 78 (58.65%), specific patent problem 63 (47.37%), medical diagnosis, answering colleagues' questions (28.57%), ailments and treatment choices 31 (23.31%) and continuing education (17.29%). Only 17 respondents (12.78%) of the respondents indicated any other reason for information needs.

7.2. Types and frequency of required information

Respondents were asked what information do you required for medical practice and what the frequency of that requirement is. Respondents indicated that they needed different types of information for medical practice and the frequency of those needs varied by their type. The researcher calculated the percentage of each frequency and presented it in the parentheses

below the frequency. The mean of each area of the required information is also calculated. The responses given by the respondents are presented in the table 7.2.

The table indicated that the drug has a maximum 3.62 mean value, which means it is the most frequently required information for the medical practice. Its requirement is weekly 63.90%, monthly 15.79% occasionally 14.29%, and daily 6.02 %. The next area of information needed is treatment (mean =3.56), with a frequency of monthly 45.86%, weekly 36.09%, daily 12.78%, and occasionally 5.26%.

Types of Required Information	**Frequency**				**Total**	**Mean**
	Daily	**Weekly**	**Monthly**	**Occasionally**		
Drug	8	85	21	19	133	3.62
	(6.02)	(63.90)	(15.79)	(14.29)	(100)	
Lab test and results	5	68	49	11	133	3.50
	(3.76)	(51.13)	(36.84)	(8.27)	(100)	
Diagnosis	9	35	79	10	133	3.32
	(6.77)	(26.32)	(59.40)	(7.52)	(100)	
Treatment	17	48	61	7	133	3.56
	(12.78)	(36.09)	(45.86)	(5.26)	(100)	
New medical Equipments	NIL	11	33	89	133	2.41
		(8.27)	(24.81)	(66.92)	(100)	
Referral Information	NIL	36	70	27	133	3.07
		(27.07)	(52.63)	(20.30)	(100)	

Table 7.2: Types and frequency of required information

This is followed by laboratory tests and results (mean =3.50), the frequency of required information is weekly 51.13%, monthly36.84%, occasionally 8.27%, and daily 3.76%. Another area of the required information is the diagnosis (mean =3.32), which required information frequency is monthly 59.40%, weekly 26.32% occasionally 7.52%, and daily 6.77%. Referral

information is the second least required information with the mean value of 3.07, which frequency of requirement is monthly 52.63%, weekly 27.07%, and occasionally 20.30%. The new medical equipment (2.41) is the least required information for medical practice. The frequency of its requirement is occasionally 66.92%, monthly 24.81%, and weekly 8.27%.

7.3. Sources of information and their frequency

Respondents were asked to indicate the frequency of using the sources of information. The response of the participant is indicated with the help of mean and frequency.

Sources of Information	Frequency				Total	Mean
	Daily	Weekly	Monthly	Occasionally		
General Search engine	18	95	20	0	133	3.98
	(13.53)	(71.43)	(15.04)	(0.00)	(100)	
Journals	0	56	69	8	133	3.36
	(0.00)	(42.11)	(51.88)	(6.01)	(100)	
Colleagues	0	63	49	21	133	3.32
	(0.00)	(47.37)	(36.84)	(15.79)	(100)	
Professional associations/ societies	0	43	76	14	133	3.22
	(0.00)	(32.33)	(57.14)	(10.53)	100	
Medical Reference books	0	35	68	30	133	3.04
	(0.00)	(26.32)	(51.12)	(22.56)	(100)	
Online database (EBSCO, MEDLINE, Science Direct)	0	43	62	28	133	3.11
	(0.00)	(32.33)	(46.62)	(21.05)	(100)	
Medical / Drugs representatives	0	19	85	29	133	2.92
	(0.00)	(14.29)	(63.91)	(21.80)	(100)	

Values in parentheses indicate the percentage

Table 7.3: Frequency of access to sources of information

The table showed that the most commonly used source of information is the general search engine (mean = 3.98) through respondents accessing information related to clinical practice.

The general search engine is accessed weekly by 71.43%, monthly by 15.04%, and daily by 13.53% of the respondents. The next source of information is a journal, which is used by the respondents (mean 3.36), it is accessed monthly by 51.88 %, weekly by 42.11 % and occasionally by 6.01 % of respondents. Colleagues are another source of information, which is used by the (mean=3.32) respondents. The frequency of access is weekly by 47.37 %, monthly by 36.84%, and occasionally by 15.79% of the respondents. Which is being followed by professional associations or societies (mean=3.22). It is accessed monthly by 57.14%, weekly by 32.33%, and occasionally by 10.53% of the respondents. Subsequently, the online database is used by the respondents as a source of information (mean = 3.11), with the frequency of access being 46.62% monthly, 32.33% weekly, and occasionally 21.05%. The mean of respondents using medical reference books as a source of information is 3.04, and their access frequency is 51.12% monthly, 26.32% weekly, and occasionally 22.56%. The least used source of information is the medical or pharmaceutical representative (mean = 2.92). Which is accessed monthly by 63.91%, occasionally by 21.80 %, and weekly by 14.29% of the respondents.

7.4. Events attend to obtaining clinical information

Respondents were asked to indicate the events in which they participate and obtain clinical information. The responses are represented by frequency and percentage.

Event	Frequency	Percentage
Conference	37	27.82
Workshops	33	24.81
Medical Meeting	56	42.11
Other	7	5.26
Total	**133**	**100**

Table 7.4: Events attend to obtaining clinical information

The table depicts that the highest number of 42.11% respondents highly indicated for medical meetings, followed by 27.82% for conferences and 21.24% for workshops for obtaining clinical information. Whereas other events are indicated by only 5.26% of the respondents. Thus, respondents attend medical meetings on a priority basis and attend conferences and workshops on a secondary basis, to obtain clinical information.

7.5. Information channel used to obtaining information

Respondents were asked to indicate the sequence of information channels useful for obtaining work-place related information. Responses are analysed with the help of the mean and rank one is used for the most common and seven for the least common information channel.

Information Channels	Frequency*					Score	Mean	Rank
	5	4	3	2	1			
Internet/telephone	70	18	25	14	6	531	3.99	**1**
Personal/Colleague Collection	28	53	41	8	3	494	3.71	**2**
Personal visit to subject specialists	21	53	45	9	5	475	3.57	**3**
Medical Library	2	67	45	11	8	443	3.33	**4**
Seminars, Conferences, Symposiums	5	19	36	60	13	342	2.57	**5**

**** 5 for most common and 1 for least common***

Table: 7.5: Information channel used to obtaining information

The table shows that internet or telephonic communication were the most common useful channel for obtaining information among respondents, with the highest average value among all channels being 3.99. It was followed by the personal/Colleague collections 3.71, personal visits to subject specialists 3.57, and medical libraries 3.33. Whereas seminars, conferences, and symposia are indicated as the least common channels with an average value of 2.57.

7.6. Barriers to access to information

Table 7.6 depicts the barriers faced by the respondents in accessing the information. The researchers asked the respondents to respond in a ranking order, where five is used for the most common and one is used for the least common barrier.

Barrier	Frequency*					Score	Mean	Rank
	5	4	3	2	1			
Lack of time	95	32	6	0	0	192	4.92	1

Issues with IT or online resources	63	32	29	9	0	135	3.46	2
Limited search skills	17	30	52	27	7	129	3.31	3
Cost	55	26	32	14	6	127	3.26	4
Lack of interest or urgency	5	11	61	9	47	115	2.95	5

***** ***5 for most common and 1 for least common***

Table 7.6: Barriers to access to information

The most common barriers faced by respondents when accessing information resources were time constraints (mean = 4.92) followed by issues with IT or online resources (mean = 3.46), limited search skills (mean = 3 .31), and cost (mean = 3.26). Another barrier that was encountered to some extent were the lack of interest or urgency (mean = 2.95).

8. Major Findings

- Majority of the respondents need information to maintain patient record, clinical decision making, improving knowledge and specific patent problem.
- The type of information required for medical practice were drug, laboratory tests and their results and diagnosis.
- The most common information source were the general browser and Colleagues to seeking information related to clinical practice.
- Study depicts that the highest number of respondents were attended the medical meetings and conferences to obtain the clinical information.
- The frequently accessed information sources were internet/telephone and personal/colleagues collection.
- The most common barriers faced by respondents when accessing information resources were time constraints and issues with IT or online resources.

9. Conclusions

The present study assessed the information-seeking behaviour of doctors in primary health centres. The findings of the study concluded that doctors have many information needs that arise

at the time of patient care. To fulfil these needs they depend on variety of information such as about medications, laboratory tests, and results and diagnoses. Another aspect of information seeking by doctors is maintaining patient records, improving clinical judgment or knowledge, and addressing specific patient problems. For which doctors rely on patient records, online resources, the Internet, clinical manuals, medical journals and books. Doctors access essential information through the general search engine, journals, colleagues, professional associations/ societies and online databases like EBSCO, MEDLINE and, Science Direct. But they face a lot of difficulties in accessing information sources, the most common barriers being time constraints, problems with IT or online resources, limited search skills and cost. The outcome of the present study will be helpful for information professionals to understand the information needs of doctors and develop the collection accordingly, which will provide appropriate information services to the health community.

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