

Ophthalmologists Attitudes Towards Handling Situational Information Demand: A Study in India

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Abstract

Background:

Ophthalmologists – Eye Doctors working in academic eye hospitals confront various information demands for their services towards patient care, teaching, research, etc. The purpose of this study is to investigate how the ophthalmologists handle their situational information demands.

Methodology:

The study design is cross sectional and convenience sampling method is adopted. A structured questionnaire was used to collect data. SPSS 18 PASW Statistical package was used for statistical analysis. Frequencies, percentages, Mann-Whitney U test, Kruskal-Wallis test were used in the study.

Findings:

Around 633 ophthalmologists working in 47 academic eye hospitals from 16 states of India were included in the study. The study results revealed that majority of the ophthalmologists exhibit the attitude “seek the information during situation”, followed by “I forecast such a need and gather information in advance”, “Seek the information after handling the situation” and “I will not seek for any information”. The statistical test results showed up that the ophthalmologists’ attitude towards handling situational information demand doesn’t differ by gender, age, designation, experience, and institution type.

Conclusion:

The study results revealed that when a situation demands information, the ophthalmologists will need a range of quality infor-

mation resources within a short time span. This will be helpful to the ophthalmic librarians to understand nature of the ophthalmologist’s information demand and build the resource collection and deliver information services accordingly. The ophthalmic institutions to provide appropriate infrastructure and facilities and equip the libraries to deliver efficient information services.

Keywords: Information Demand, Ophthalmologists, Information Behavior, Information Need, Information-Seeking Behavior

Introduction

Information behavior studies describes what people need and how people seek, search, use, manage, store, organize, share, and create information in different contexts. Information seeking is a basic activity and a part of the process of decision making, problem solving, planning, resource allocation, etc. It may be current or anticipated use of information. When a need is felt for anything, more often than not, people take action in order to satisfy that need in different ways. The information-seeking behavior studies usually focus on what are all the strategies the individual follows to attain the information to satisfy the need.

The information behavior studies of the professionals depict their information need and behavior on their basis of the profession. It also reflects on the innate responsibilities of their work position, information demand situations they need to confront in their work position and their behavior towards it.

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When a situation demands for information, the professionals choose one among the four options

- Anticipate the need and be proactive
- Act during the situation
- Act after the situation
- Opt out

These four choices depend on the professionals' individual characteristics and capacity, urgency of situation, their work position role and responsibility in the institution climate. The Information behavior studies of professionals clearly describe their information behavior in comprehensive way. But majority of the studies focus on what is their information need and how they handle the information need. Their reaction time and attitude towards the information demand is a crucial input to the ophthalmic libraries and information community. This will help the information community to build the information sources and reshape their information services accordingly.

As per the Universal Eye Health: A Global Action Plan 2014-2019, there exists 18,100 Ophthalmologists – Eye Doctors in India. The ophthalmologists endeavor to combat the blindness by providing efficient clinical services to the community. To treat the patients, they purely depend on the patients' medical records and their accumulated medical college. They also need information from different information sources, prompt information services and support from the information professionals. Along with the patient care related information, ophthalmologists working in academic eye hospitals confront various information demands for their services towards teaching and research, administration, social compliance, etc. The purpose of this study is to investigate how the ophthalmologists handle their situational information demands. A survey method is used to obtain the opinion from ophthalmologists' opinion. 633 ophthalmologists working in 47 academic eye hospitals from 16 states of India were included in the study. This particular study is a part of the main study "Information Needs and Seeking Behavior of Ophthalmologists in Academic Eye Hospitals in India". The outcome of the study will be helpful to the ophthalmic librarians, information community and the ophthalmic institutions.

Review of Literature

Mahmoud et al. (2012), administered a "Survey of the attitudes of Nigerian ophthalmologists and resources

for ophthalmic research" in 2012. The main aim of the study is to inquire about the views of ophthalmologists on their attitude and draw appropriate policy implications. Data were collected from 89 ophthalmologists. Research function was rated a distant last by 49.5% of the respondents after clinical service (93.2%), teaching (63.1%), and community service (62.8%). Advancement of knowledge was the strongest motivating factor for conducting research (78.2%).

Mishra, Ramesh, Nanda, Jena, and Khuntia (2015) studied about the Information need and Seeking Behavior of the Health Science Students of an Indian Deemed University. A total of 420 students were included in the study. Majority of the students seek information to enhance their knowledge.

Newman, Doran, and Nagle (2014) examined the relationship between critical care nurses' information-seeking behavior and the non-routineness of task. A cross-sectional survey design was used. A total of 177 nurses were included in the study. Non-routineness of the task and the perception of the problem-solving ability domain of personal control had positive relationships with information-seeking behavior.

Newman, Dobbins, Yost, and Ciliska (2017) explored the relationship between Canadian public health professionals' perceptions of their problem-solving abilities and their information-seeking behaviors. An electronic survey was used to gather data from 58 public health professionals. The results revealed that the professionals take active approach in problem solving and have confidence.

Studies related to how the medical professionals handle the situational information demand are not much and particularly studies related to ophthalmologists were not found in the existing literature. This study is one of its kinds.

Objectives of the Study

- To identify the ophthalmologists' attitude towards handling situational information demand.
- To examine male and female ophthalmologists' attitude towards handling situational information demand.
- To find out ophthalmologists' attitude towards handling situational information demand with age group.

- To find out ophthalmologists' attitude towards handling situational information demand with designation .
- To find out ophthalmologists' attitude towards handling situational information demand with experience.
- To find out ophthalmologists' attitude towards handling situational information demand with their institution type.

Hypotheses of the Study

- Ophthalmologists' attitude towards handling situational information demand differs by gender.
- Ophthalmologists' attitude towards handling situational information demand differ by age group.
- Ophthalmologists' attitude towards handling situational information demand differ by designation.
- Ophthalmologists' attitude towards handling situational information demand differ by experience.
- Ophthalmologists' attitude towards handling situational information demand differ by institution type.

Methodology

The main purpose of the study was to find out the ophthalmologists attitude towards handling situational information demand. The research design adopted for this study was cross sectional. Convenience sampling method was found appropriate to enroll the wide-spread ophthalmologist population and the same was followed

in the study. A structured questionnaire was used as a data collection tool to record the ophthalmologists' attitude towards situational information demand. The data collection was started in December 2016 and ended on May 2017. A total of 633 ophthalmologists from 47 academic eye hospitals in 16 states of India were included in the study. The collected data were entered into data-entry software, purposefully developed for the study. The software was developed in Microsoft Visual Basic 6.0 with backend SQL Server 2000. For further analysis, the data stored in SQL Server 2000 was extracted into MS-Excel 2007 spreadsheets. MS-Excel 2017 was used to organize and tabulate the data. SPSS 18 PASW Statistical package was used for statistical analysis. Frequency counts and Ranks were used to find out the most common attitude of ophthalmologists. The Mann-Whitney U test was used to examine ophthalmologists' attitude with gender. The Kruskal-Wallis test was used to examine the ophthalmologists' attitude with age, designation, experience, and institution type.

Analysis

Handling situational information demand had been ascertained based on four variables with a five point scale such as "1-Never", "2-Rarely", "3-Seldom", "4-Often" and "5-Most Often". The internal consistency of the variables were measured by Cronbach's alpha (Alpha >0.70 considered as acceptable). The alpha coefficient for the four variables is .07541 which indicates that the variables have relatively high internal consistency. Number of responses, percentage, mean, standard deviation, median and rank were shown in Table 1. Ranks were assigned based on mean and standard deviation.

Table 1: Handling Situational Information Demands – Summary

S. No.	Description	Never (%)	Rarely (%)	Seldom (%)	Often (%)	Most Often (%)	Mean (SD)	Median	Rank
1	I forecast such a need and gather information in advance	7 (1.1%)	68 (10.7%)	153 (24.2%)	307 (48.5%)	98 (15.5%)	3.67 (0.9)	Often	2
2	Seek the information during the situation	14 (2.2%)	45 (7.1%)	133 (21%)	325 (51.3%)	116 (18.3%)	3.77 (0.91)	Often	1
3	Seek the information after handling the situation	47 (7.4%)	147 (23.2%)	149 (23.5%)	230 (36.3%)	60 (9.5%)	3.16 (1.12)	Seldom	3
4	I will not seek for any information	382 (60.3%)	90 (14.2%)	54 (8.5%)	71 (11.2%)	36 (5.7%)	1.86 (1.27)	Never	4

It can be seen from the Table 1 that “seek the information during the situation” was the first preference of ophthalmologists. It is followed by “I forecast such a need and gather information in advance” and “Seek the information after handling the situation” which were their second and third preferences. The least preference was “I will not seek for any information”. The mean value of the responses ranges between 1.86 and 3.77. The standard

deviation of the responses ranges between 0.9 and 1.27. The overall summary results revealed that majority of the ophthalmologists seek information during the situation.

Handling situational information demand of female and male ophthalmologists were analyzed further and ranks were assigned based on mean and standard deviation. The mean, standard deviation, rank and Mann-Whitney U test results were shown in Table 2.

Table 2: Ophthalmologists’ Attitude in Handling Situational Information Demand vs Gender

S. No.	Description	Female		Male		Mann-Whitney U test results		
		Mean (SD)	Rank	Mean (SD)	Rank	Mean Ranks		Asymp. Sig. (2-tailed)
						Female	Male	
1	I forecast such a need and gather information in advance	3.68 (0.94)	2	3.65 (0.87)	2	312.71	321.95	0.496
2	Seek the information during the situation	3.71 (0.95)	1	3.81 (0.86)	1	323.17	309.89	0.323
3	Seek the information after handling the situation	3.11 (1.14)	3	3.23 (1.09)	3	324.88	307.91	0.226
4	I will not seek for any information	1.87 (1.28)	4	1.88 (1.28)	4	316.96	317.05	0.994

Rank is derived for each gender group based on the mean and standard deviation of ophthalmologists’ attitudes towards handling the situational information demand. The ranks show up that most of the female and male ophthalmologists exhibit the attitude “seek the information during situation”. It was followed by “I forecast such a need and gather information in advance”, “Seek the information after handling the situation” and “I will not seek for any information”.

A Mann-Whitney U test was conducted to determine if ophthalmologists’ attitudes towards handling situational information demand differ with gender. The test showed that there doesn’t exist a significant difference between ophthalmologists attitude and gender – “I forecast such a need and gather information in advance

(P-value=0.496)”, “Seek the information during the situation (P-value=0.323)”, “Seek the information after handling the situation (P-value=0.226)”, “I will not seek for any information (P-value=0.994)”.

The Mann-Whitney results P-Values which are greater >0.05 reveals that there doesn’t exist any statistical relationship with ophthalmologists’ attitude in handling information demand and gender. Both the male and female ophthalmologists have same attitude towards handling situational information demand.

Handling situational information demand of ophthalmologists with age group was analyzed further and ranks were assigned based on mean and standard deviation. The mean, standard deviation, rank and Kruskal-Wallis test results were shown in Table 3

Table 3: Ophthalmologists’ Attitude in Handling Situational Information Demand vs Age Groups

S. No.	Description	Less than or equal to 30		31 to 40		41 to 50		51 to 60		61 and above		Asymp. Sig.
		Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	
1	I forecast such a need and gather information in advance	3.57 (0.9)	2	3.66 (0.92)	2	3.87 (0.87)	1	3.71 (0.96)	2	4 (0.53)	1	.060
2	Seek the information during the situation	3.79 (0.78)	1	3.76 (0.92)	1	3.72 (1.13)	2	3.86 (0.96)	1	3.75 (0.89)	2	.942

S. No.	Description	Less than or equal to 30		31 to 40		41 to 50		51 to 60		61 and above		Asymp. Sig.
		Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	
3	Seek the information after handling the situation	3.19 (1.07)	3	3.17 (1.1)	3	3.08 (1.31)	3	3.29 (1.06)	3	3.25 (0.89)	3	.972
4	I will not seek for any information	1.76 (1.22)	4	1.92 (1.28)	4	1.98 (1.44)	4	1.76 (1.09)	4	2.38 (1.51)	4	.540

Rank is derived for each age group based on the mean and standard deviation of ophthalmologists' attitudes towards handling the situational information demand. The ranks in each age group show up that most of the ophthalmologists in the age groups "Less than or equal to 30", "31 to 40", "51 to 60" exhibit the attitude "seek the information during situation" which was followed by "I forecast such a need and gather information in advance", "Seek the information after handling the situation" and "I will not seek for any information". Most of the ophthalmologists in the age group "41 to 50", "61 and above" exhibit the attitude "I forecast such a need and gather information in advance", followed by "seek the information during situation", "Seek the information after handling the situation" and "I will not seek for any information".

A Kruskal-Wallis H test was conducted to determine if ophthalmologists' attitudes towards handling situational information demand differ with age groups. The test showed that there doesn't exist a significant difference

between ophthalmologists' attitude and age groups - "I forecast such a need and gather information in advance ($\chi^2(2) = 9.034$, P-value=0.060)", "Seek the information during the situation ($\chi^2(2) = 0.775$, P-value=0.942)", "Seek the information after handling the situation ($\chi^2(2) = 0.515$, P-value=0.972)", "I will not seek for any information ($\chi^2(2) = 3.108$, P-value=0.540)".

The Kruskal-Wallis H test P-Values which are greater >0.05 reveals that there doesn't exist any statistical relationship with ophthalmologists' attitude in handling information demand and age group. Ophthalmologists in all the age groups have same attitude towards handling situational information demand.

Handling situational information demand of ophthalmologists with designation was analyzed further and ranks were assigned based on mean and standard deviation. The mean, standard deviation, rank and Kruskal-Wallis test results were shown in Table 4.

Table 4: Ophthalmologists' Attitude in Handling Situational Information Demand vs Designation

S. No.	Description	Medical Officer		Fellows		Senior Residents		Asymp. Sig.
		Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	
1	I forecast such a need and gather information in advance	3.69 (0.9)	2	3.64 (0.92)	2	3.5 (0.65)	2	.515
2	Seek the information during the situation	3.8 (0.95)	1	3.7 (0.85)	1	3.86 (0.66)	1	.134
3	Seek the information after handling the situation	3.21 (1.15)	3	3.13 (1.08)	3	2.93 (1)	3	.298
4	I will not seek for any information	1.92 (1.31)	4	1.84 (1.25)	4	1.5 (1.09)	4	.331

Rank is derived for each designation group based on the mean and standard deviation of ophthalmologists' attitudes towards handling the situational information demand. The ranks in each designation group show up that most of the ophthalmologists in all the designation groups exhibit the attitude "seek the information during situation", followed by "I forecast such a need and gather information in advance", "Seek the information

after handling the situation" and "I will not seek for any information".

A Kruskal-Wallis H test was conducted to determine if ophthalmologists' attitudes towards handling situational information demand differ with designation groups. The test showed that there doesn't exist a significant difference between ophthalmologists attitude and designation groups - "I forecast such a need and gather

information in advance ($\chi^2(2) = 1.326$, P-value=0.515)", "Seek the information during the situation ($\chi^2(2) = 4.014$, P-value=0.134)", "Seek the information after handling the situation ($\chi^2(2) = 2.418$, P-value=0.134)", "I will not seek for any information ($\chi^2(2) = 2.212$, P-value=0.331)".

The Kruskal-Wallis H test P-Values which are greater >0.05 reveals that there doesn't exist any statistical relationship with ophthalmologists' attitude in handling information

demand and designation group. Ophthalmologists in all the designation group have same attitude towards handling situational information demand.

Handling situational information demand of ophthalmologists with experience was analyzed further and ranks were assigned based on mean and standard deviation. The mean, standard deviation, rank and Kruskal-Wallis test results were shown in Table 5.

Table 5: Ophthalmologists' Attitude in Handling Situational Information Demand vs Experience

S. No.	Description	<=5 years		6 to 10 years		11 to 15 years		16 to 20 years		21 and above years		Asymp. Sig.
		Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	
1	I forecast such a need and gather information in advance	3.61 (0.9)	2	3.7 (0.85)	2	3.9 (0.8)	1	3.9 (0.83)	2	3.71 (0.96)	2	.163
2	Seek the information during the situation	3.73 (0.9)	1	3.85 (0.98)	1	3.53 (1.31)	2	4.03 (0.75)	1	3.84 (0.83)	1	.232
3	Seek the information after handling the situation	3.18 (1.08)	3	3.25 (1.28)	3	2.87 (1.28)	3	3.26 (1)	3	3.18 (1.17)	3	.684
4	I will not seek for any information	1.85 (1.24)	4	2.1 (1.55)	4	1.43 (0.94)	4	2.03 (1.38)	4	1.97 (1.34)	4	.401

Rank is derived for each experience group based on the mean and standard deviation of ophthalmologists' attitudes towards handling the situational information demand. The ranks in each experience group show up that most of the ophthalmologists in the experience groups "<=5 years", "6 to 10 years", "16 to 20 years", "21 and above years" exhibit the attitude "seek the information during situation", followed by "I forecast such a need and gather information in advance", "Seek the information after handling the situation" and "I will not seek for any information". Most of the ophthalmologists in the experience group "11 to 15 years" exhibit the attitude "I forecast such a need and gather information in advance", followed by "seek the information during situation", "Seek the information after handling the situation" and "I will not seek for any information".

A Kruskal-Wallis H test was conducted to determine if ophthalmologists' attitudes towards handling situational information demand differ with experience groups.

The test showed that there doesn't exist a significant difference between ophthalmologists attitude and designation groups - "I forecast such a need and gather information in advance ($\chi^2(2) = 6.524$, P-value=0.163)", "Seek the information during the situation ($\chi^2(2) = 5.592$, P-value=0.232)", "Seek the information after handling the situation ($\chi^2(2) = 2.280$, P-value=0.684)", "I will not seek for any information ($\chi^2(2) = 4.038$, P-value=0.401)".

The Kruskal-Wallis H test P-Values which are greater >0.05 reveals that there doesn't exist any statistical relationship with ophthalmologists' attitude in handling information demand and experience group. Ophthalmologists in all the experience group have same attitude towards handling situational information demand.

Handling situational information demand of ophthalmologists with institution type was analyzed further and ranks were assigned based on mean and standard deviation. The mean, standard deviation, rank and Kruskal-Wallis test results were shown in Table 6.

Table 6: Ophthalmologists' Attitude in Handling Situational Information Demand vs Institution Type

S. No.	Description	Government		NGO		Corporate		Asymp. Sig.
		Mean (SD)	Rank	Mean (SD)	Rank	Mean (SD)	Rank	
1	I forecast such a need and gather information in advance	3.59 (0.84)	2	3.67 (0.9)	2	3.66 (0.98)	2	.688
2	Seek the information during the situation	3.9 (0.8)	1	3.74 (0.91)	1	3.88 (0.9)	1	.253
3	Seek the information after handling the situation	3.41 (0.97)	3	3.18 (1.1)	3	3.01 (1.27)	3	.247
4	I will not seek for any information	2.05 (1.43)	4	1.88 (1.27)	4	1.74 (1.26)	4	.337

Rank is derived for each institution type group based on the mean and standard deviation of ophthalmologists' attitudes towards handling the situational information demand. The ranks in each institution type group show up that most of the ophthalmologists in all the institution type groups exhibit the attitude "seek the information during situation", followed by "I forecast such a need and gather information in advance", "Seek the information after handling the situation" and "I will not seek for any information".

A Kruskal-Wallis H test was conducted to determine if ophthalmologists' attitudes towards handling situational information differ with institution type groups. The test showed that there doesn't exist a significant difference between ophthalmologists attitude and institution type groups - "I forecast such a need and gather information in advance ($\chi^2(2) = 0.747$, P-value=0.688)", "Seek the information during the situation ($\chi^2(2) = 2.751$, P-value=0.253)", "Seek the information after handling the situation ($\chi^2(2) = 2.793$, P-value=0.247)", "I will not seek for any information ($\chi^2(2) = 2.176$, P-value=0.337)".

The Kruskal-Wallis H test P-Values which are greater >0.05 reveals that there doesn't exist any statistical relationship with ophthalmologists' attitude in handling information demand and institution group. Ophthalmologists in all the institution group have same attitude towards handling situational information demand.

The statistical results revealed that ophthalmologists' attitude is same towards handling situational information demand and it didn't differ with their individual characteristics and their institution type. It shows the attitude similarity among the ophthalmologists' group which will help to understand their attitude and serve them in a better manner.

Conclusion

Around 633 ophthalmologists working in 47 academic eye hospitals from 16 states of India were included in the study. The aim of the study is to investigate how the ophthalmologists handle their situational information demands. The study results revealed that majority of the ophthalmologists exhibit the attitude "seek the information during situation", followed by "I forecast such a need and gather information in advance", "Seek the information after handling the situation" and "I will not seek for any information". The statistical test results showed up that the ophthalmologists' attitude towards handling situational information demand doesn't differ by gender, age, designation, experience, and institution type.

The most common attitude among ophthalmologists was "seek the information during the situation". This reveals that the ophthalmologists will seek information only during the situation and they need a range of quality information resources within a short time span to confront the demand situation. The study results will be helpful to the ophthalmic librarians to understand attitude of the ophthalmologist's information demand handling and build the resource collection and shape their information services accordingly. The ophthalmic libraries should have an quality information collection and efficient information retrieval system. The ophthalmic libraries should deliver their information service on time. The ophthalmic institutions should equip the ophthalmic libraries and librarians with appropriate infrastructure and facilities for an effective service to their ophthalmologists. The information service providers like discussion forum sites should understand the ophthalmologists' urge of information demand and build their services accordingly.

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