

Information Use in Improving Professional Competencies among the Medical Practitioners in Chennai City: A Study

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Abstract - Information access and use pattern is a major topic in LIS research. Research on information seeking and use by professionals has been applied to a variety of disciplines such as law, education, engineering, and accountancy. The lack of information and knowledge in health care centres could lead to serious problems for patients, such as physical disability, financial loss and in the worse case death. Therefore, an intensive reliance on information and communication technology (ICT) and establishing information systems (IS) that enable access, use and communicate information within the health care sector is essential to avoid such problems. It is assumed that building and developing a health information system should be preceded by an accurate understanding of the information seeking behaviour and the information needs which motivate the beneficiaries to seek information. Bearing in mind the importance of health information systems in satisfying the health professionals' information needs and the central role of the doctors in the health care services, this study investigates the information needs and the information seeking behaviour of a sample of doctors working in Chennai city. The findings of the study will lead to the areas in which the information dissemination is lagging behind and helps to improve those areas for maximizing the use of pooled information.

Keywords: Information use pattern, Information Access Pattern, Professional competencies, Medical Practitioners, Chennai city

I. INTRODUCTION

Information seeking and use is a major topic in LIS research. Research on information seeking and use by professionals has been applied to a variety of disciplines such as law, education, engineering, and accountancy. Medical science depends on having good information. Gbadamosi (2004) states that the performance of medical practitioners is contingent upon the sources and skill of medical doctors while searching for relevant information. The role of information expert entails not only information gathering but also guiding users to it. Akinade and Adedipe (1994) indicate that information seeking can be observed, recorded, and measured. Sharing of important information by people involved in health care services provides avenue to develop and share important information on preventive and curative measures.

It could be argued that the ultimate objective of health institutions is to provide health care services to those in need at a reasonable cost. This may not be achieved on the ground without systematic use of available information and knowledge. The lack of information and knowledge in health care centres could lead to serious problems for patients, such as physical disability, financial loss and in the worse case death. Therefore, an intensive reliance on information and communication technology (ICT) and establishing information systems (IS) that enable access, use and communicate information within the health care sector is essential to avoid such problems. In addition, ICT and IS can be applied in all health care centres, private clinics, and hospitals, whether they are major or small hospitals. Where doctors play a key role in the health care system, it is vitally important that the health information system should be able to meet their information needs and respond to their preferences. It is worth mentioning that the information system may not be able to respond to the beneficiaries' needs, unless needs have already been expressed. Consequently, it is assumed that building and developing a health information system should be preceded by an accurate understanding of the information seeking behaviour and the information needs which motivate the beneficiaries to seek information. Bearing in mind the importance of health information systems in satisfying the health professionals' information needs and the central role of the doctors in the health care services, this study investigates the information needs and the information seeking behaviour of a sample of doctors working in Chennai city.

II. REVIEW OF LITERATURE

Aina (2002), Salman (2002), and Popoola (2003) observe that information is the accumulated or cumulative knowledge obtained from different subjects in all forms and from all channels that can assist in rational decision-making. Information can also be used to solve problems arising from daily routines among professionals and make them more creative and innovative.

Tahir, Mahmood, and Shafique (2008) acknowledge that the knowledge of information needs and information-seeking behaviour of users is vital for developing library collections, upgrading facilities, and improving services to effectively meet the information needs of users. Electronic information retrieval systems are an important aspect of information seeking and use (Hjorland 2000).

Leckie, Pettigrew, and Sylvain (1996) posited that the primary focus of many nurses is patient care, a role that creates tasks requiring information deliverable in specific formats. Akinade (2000) points out that the users of a medical library are predominantly people working in the fields of medicine, dentistry, pharmacy, nursing, biomedical sciences, and public health. Medical practitioners, in order to work together, require digital and electronic information.

Books, journals, audiovisual media, and other electronic resources can be used to disseminate information to professionals (Ogunronbi, 2001). Doctors' information needs, especially those related to patient care, may vary widely from one doctor to the other. Murray (1992) confirms that the use of the library increases with reasons of training and consultation with colleagues and decreases as doctors grow older. The use of various information sources is as a result of factors that include types of practices, specialty, location of practice, professional age, and the size of hospitals, as confirmed in the studies by Gruppen, Walf, Van Voorhees, and Stross (1987).

III. OBJECTIVES OF THE STUDY

The main objective of this study is to identify information sources that are relevant in the

discharge of medical duties, including varying formats and characteristics of each to medical practice and practitioners. The study will include individual preferences of medical practitioners towards the approach to different medical information.

The specific objectives of the study are:

1. To investigate the qualification of study among the medical practitioners in Chennai city.
2. To determine the frequency of visit to libraries by the medical practitioners of Chennai city
3. To identify the involvement of Medical Professionals of Chennai city in other assignments.
4. To determine the dependency of library resources by Medical Professionals of Chennai city.
5. To suggest possible measures to improve the quality and service in libraries of medical hospitals and medical colleges of Chennai city.

IV. HYPOTHESES OF THE STUDY

1. There is no association between the Qualification of respondents and their use of library resources.
2. There is no association between the professional categories and their frequencies of visit to library.
3. There is no association between the professional categories and their involvement in other assignments.
4. There is no association between the professional categories and their dependency on library resources

V. ANALYSIS AND INTERPRETATION

TABLE I ANALYSIS OF MEDICAL PROFESSIONALS ACCORDING TO THEIR QUALIFICATION OF STUDY

Sl.No.	Employment Detail	M.B.B.S		M.D		Total
		Male	Female	Male	Female	
1.	Consultant	62 (28.45)	18 (8.26)	110 (50.45)	28 (12.84)	218
2.	Resident Doctors	25 (27.47)	18 (19.78)	27 (29.67)	21 (23.07)	91
3.	Own Hospital	15 (6.32)	14 (05.89)	104 (43.70)	105 (44.19)	238
4.	Govt. Doctors	28 (15.31)	04 (2.18)	89 (48.63)	62 (33.88)	183
5.	Lab Scientists	12 (10.00)	26 (21.67)	13 (10.83)	69 (57.50)	120
	Total	142	80	343	285	850

The table I shows the analysis of medical professionals according to their qualification of study. The medical professionals are found highly qualified and have specialized in their respective field of study. The present study has taken UG and PG of the respondents for analysis. Out of 850 respondents about 24 percent of respondents

have acquired only UG Qualification rest of 6 percent of medical professionals have done their PG. The Gender wise analysis reflects that about 16.71 Percentages of male and 9.41 percentages of female respondents are doing their medical practice with UG Qualification, The Male category is found high with UG Qualification.

TABLE Ia ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	30816.67	1	30816.67	62.74177	0.015567	18.51282
Columns	13030.33	2	6515.167	13.26468	0.070103	19
Error	982.3333	2	491.1667			
Total	44829.33	5				

The Medical Practitioners with PG Qualification in the present study is about 75.88 percentages, among them male respondents are observed around 40.35 Percentages and female respondents are above 33.53 percentages. While analyzing individual category to consultants are highly found with UG Qualification. (62+18=80) followed by resident doctors (25+18=43). In the case of PG The own hospital possessed doctors are observed high with PG Qualification (104+105=209) followed by Government

doctors (89+62=151). The other professionals are total more or less substantive level.

For the above analysis two way anova is tested and the calculated p value is found more than the table value so the framed null hypothesis of there is no association between the Qualification of respondents and their use of library resources is disproved and rejected.

TABLE II ANALYSIS OF FREQUENCY OF VISIT MAKE TO LIBRARIES BY MEDICAL PROFESSIONALS.

Sl.No.	Type of Professional	Every day	Once in a Week	Once in a Fortnight	Once in a Month	Very rarely	Total
1.	Consultant	53 (24.31)	66 (30.27)	84 (38.53)	04 (01.83)	01 (00.45)	218
2.	Resident Doctors	38 (41.75)	14 (15.38)	32 (35.16)	02 (02.19)	05 (05.49)	91
3.	Own Hospital	27 (11.34)	102 (42.85)	97 (40.75)	06 (02.52)	06 (02.52)	238
4.	Govt. Doctors	29 (15.84)	94 (51.36)	50 (27.32)	08 (04.37)	02 (01.09)	183
5.	Lab Scientists	43 (35.83)	24 (20.00)	37 (30.83)	10 (08.33)	06 (0.05)	120
	Total	190 (22.35)	310 (36.47)	300 (35.29)	30 (03.52)	20 (02.35)	850

TABLE II A ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	39500	4	9875	51.97368	0.001056	6.388233
Columns	1440	1	1440	7.578947	0.051217	7.708647
Error	760	4	190			
Total	41700	9				

Table II lights on the analysis of frequency of visit make to libraries by medical professionals. There are 5 frequency scales are tabulated at the presents study. They are everyday, once in a week, once in a fortnight once in a month and very rarely. Out of 850 Respondents 36.47 percentages of Respondents reflect that they make visit to libraries the frequency of once in a week. Some 35.29 Percentages of Respondents express the frequency of once in a fortnight. About 22.35 percentages of Respondents are

found to be the Regular visitors of Libraries and expressed the frequency of every day. The other two frequencies are observed with fewer amounts of data.

While analyzing the frequency followed among individual professionals it is noted that majority of 38.53 percentage of Consultants make visit libraries once in a fortnight followed by the next ranked frequency of once in a week with the percentage of 30.27. The Resident doctors are found to be

the regular visitors of Libraries and hence 41.75 percentage of this category use to visit Libraries every day Yet some 35.16 percentages of Respondents among resident doctors visit libraries once in a fortnight. The Own hospital doctors, and government doctors are observed with the habit of visiting libraries at the frequencies of once in a week and once in fortnight. The Lab scientist are highly noted with the frequency of every day followed by the once in a

fortnight. The minimum among of Respondent have said that they visit Libraries rarely.

For the above analysis two way anova is tested and the calculated p value is found more than the table value so the framed null hypothesis of there is no association between the professional categories and their frequencies of visit to library is disproved and rejected.

TABLE III GENDER WISE ANALYSIS ON QUANTUM OF TIME SPENT BY MEDICAL PROFESSIONALS OF CHENNAI CITY IN LIBRARIES

Time spend in the library	Male	Female	Total
½ Hour to 1 hour	265 (57.60)	195 (42.39)	460 (54.12)
1 Hours to 2 hour	185 (54.41)	155 (45.58)	340 (40.00)
2 hours to 4 Hours	20 (66.66)	10 (33.54)	30 (3.53)
4 hours to 5 Hours	15 (75.00)	5 (25.00)	20 (2.35)
Total	485 (57.05)	365 (42.94)	850

Table III shows the Gender wise analysis on Quantum of time spent by Medical Professionals of Chennai city in Libraries. Out of 485 Male respondents 265 among them spend half an hour to one hour in Libraries. About 185 Male Respondents are observed with the habit of spending above one hour to two hour in libraries. There are around 15 Male Respondents who are noticed as voracious readers of libraries. There are around 15 Male Respondents who are

noticed as voracious readers of Library as the spend 4 to 5 hours in Libraries.

In the case of female respondents out of 365 total female category, above 195 female Gender spend half an hour to one hour, 155 respondents spend above one hour to two hours. There are five respondents fall in the voracious readers' category that they spend more than 4 hours to 5 hours.

TABLE IV ANALYSIS ON THE INVOLVEMENT OF MEDICAL PROFESSIONALS OF CHENNAI CITY IN OTHER ASSIGNMENTS.

Type of Professional	Research	Teaching	Management	Further study	Business	Total
Consultant	80 (36.69)	41 (18.80)	32 (14.67)	40 (18.34)	25 (11.46)	218
Resident Doctors	34 (37.36)	30 (32.96)	05 (05.49)	12 (13.18)	10 (10.98)	91
Own Hospital	49 (20.58)	70 (29.41)	28 (11.76)	54 (22.68)	37 (15.54)	238
Govt. Doctors	55 (30.05)	46 (25.13)	50 (27.32)	10 (05.46)	22 (12.02)	183
Lab Scientists	25 (20.83)	45 (37.5)	20 (16.66)	20 (16.66)	10 (08.33)	120
Total	243 (28.58)	232 (27.29)	135 (15.88)	136 (16.00)	58 (06.82)	850

TABLE IV ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	1377.778	2	688.8889	7.095445	0.012071	4.102821
Columns	11552.44	5	2310.489	23.79767	.0029	3.325835
Error	970.8889	10	97.08889			
Total	13901.11	17				

While analysing individual professional categories, the Resident doctors and Consultants are observed doing research activities. The additional work of teaching is highly concentrated by Lab scientists and Own hospital doctors. The Government doctors show higher interest in management activities. Some Lab Scientists and Own hospital own hospital doctors are found doing higher

studies. The business involvement is highly noted among Consultants and Own hospital doctors.

For the above analysis two way anova is tested and the calculated p value is found less than the table value so the framed null hypothesis of there is no association between the professional categories and their involvement in other assignments is proved and accepted.

TABLE V ANALYSIS ON THE DEPENDENCY OF LIBRARY RESOURCES BY MEDICAL PROFESSIONALS OF CHENNAI CITY

Type of Professional	V. High	High	To some Extent	Low	V. Low	Total
Consultant	64 (29.35)	62 (28.44)	34 (15.59)	15 (06.88)	43 (19.72)	218
Resident Doctors	37 (40.65)	28 (30.76)	11 (12.08)	10 (10.98)	05 (05.49)	91
Own Hospital	51 (21.42)	63 (26.47)	33 (13.86)	36 (15.12)	55 (23.10)	238
Govt. Doctors	62 (33.88)	49 (26.77)	37 (20.21)	10 (05.46)	25 (13.66)	183
Lab Scientists	44 (36.66)	33 (27.50)	21 (17.50)	09 (07.50)	13 (10.83)	120
Total	258 (30.35)	235 (27.64)	136 (16.00)	80 (09.41)	141 (16.58)	850

Table VA ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	1440	1	1440	6.567845	0.062454	7.708647
Columns	11033	4	2758.25	12.58039	0.015468	6.388233
Error	877	4	219.25			
Total	13350	9				

Table V shows the dependency of medical professionals on the resources of Library. It is understood from the data in the table that more than 30 percentages of respondents are found inseparable of library resources. The next scale of high dependent shows about 27.65 percentages. Yet 16.58 percentages have said that they are not at all using library resources. The consultants, Own hospital doctors and Government doctors are found using library resources to the fullest extent and found highly dependable. The Resident

doctors and Lab scientists are observed less in usage compared to other professional category.

For the above analysis two way anova is tested and the calculated p value is found less than the table value so the framed null hypothesis of there is no association between the professional categories and their dependency on library resources is proved and accepted.

VI.FINDINGS AND CONCLUSION

Information seeking can be observed, recorded, and measured. Sharing of important information by professionals involved in health care services provides avenue to develop and share important information on preventive and curative measures. The purpose of this study is to investigate extent of information use in improving professional competencies among the medical practitioners of Chennai city. The study also focuses the information search pattern and its extent of use by the Medical Professionals. The findings of the study are as follows;

The findings on the analysis of medical professionals according to their Qualification of study bring out the fact that about 75 percentages of respondents are doing their practice with PG Qualification. Yet 25 percentages are on the progress. The Male participants are found high among UG Qualification. The own hospital practitioners are highly found with PG Qualification followed by resident doctors. The female medical practitioners having own hospitals are observed with PG Qualification remarkably. The lab scientists with PG Qualifications are notably high among female category.

The findings on the analysis of frequency of visit make to libraries by medical professionals light on the fact that the frequency of visit highly noted among the medical professionals once in a week followed by once in a fortnight. The Consultants and Lab scientists are highly found with the habit of visiting Libraries every day. Own hospital doctors and Government doctors are relatively visiting Libraries once in a week. The resident doctors are observed with the frequency of ones in a fortnight. At some 5.87 percentage of Respondents of all categories are found with the habit of visiting libraries at the frequencies of once in a month and rarely. Some 5.87 percentage of Respondents of all category are found with the habit of all category are found with the habit of visiting libraries.

The findings on the gender wise analysis on Quantum of time spent by Medical Professionals of Chennai city in libraries reveal the result that majority of male and female respondents wish to spend half an hour to one hour for collecting their required information from libraries. Yet some of the male and female respondents like to extend their time in libraries above one hour to two hours. The study clearly shows that there is no association between male and female respondents in sending their time in libraries.

The findings on the analysis on the involvement of Medical Professionals of Chennai city in other assignments focus the result that all the medical professionals of Chennai city not only do the medical practice but also involve in additional activities by which they improve their

professional competencies. The Research is the prime activity found among professionals followed by teaching. Management involvement and carrying out further study are the other remarkable assignment shoulder by the medical practitioners of Chennai city.

The findings on the analysis on the dependency of library resources by Medical Professionals of Chennai city deduce the result that the consultants, Own hospital doctors and Government doctors are found using library resources to the fullest extent and found highly dependable. The Resident doctors and Lab scientists are observed less in usage compared to other professional category.

The role of information expert entails not only information gathering but also guiding users to it. The Doctors who practices in Chennai city have got different information needs due to the very different environments that they practice within. The findings of the study will lead to the areas in which the information dissemination is lagging behind and helps to improve those areas for maximizing the use of pooled information.

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