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Information Needs and Information-Seeking Behaviour of Allopathic Medical Practitioners in Tirppur District in Tamilnadu, India

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Introduction:

Medical professionals must continuously develop their professional and personal abilities for better treatment and diagnosis procedures (Pillay 2004). The phenomenal development of modern scientific medicine in the turn of 20th century has made dramatic changes in the quality and quantity of knowledge and applications in the field of health care (Elizabeth 2008). The growth of medicine branches has been phenomenal; there has been an explosion of new knowledge in these areas in the last decade. The numerous publications books, journals, and news-letters are the indicators of the parameters (Singhi, Sunit, Surpure, S Jagannath 2010). Physicians seek information regarding various issues in medical care especially in drug information (Fly, Burch, Vinson 1992)

Review of Literature

Premssmit (1990) study results among the academic medical scientists in Thailand revealed the three types of information needs: identifying up-to-date information, obtaining relevant studies and data, and developing research topics.

Rajan, et al., (2009) carried out a study on information seeking behaviour of clinicians in a semi-urban town in South India. Result of the study indicated that many clinicians used textbooks, drug indexes like CIMS/MIMS and less use of journals and internet for information seeking.

Gorman (2001) surveyed the information needs in primary centers. The results reveal that, physicians in USA used Physicians Desk Reference is the most

commonly used resources for immediate references.

Laila (2010) has found out that the social science faculties heavily depend on books and journals for teaching. Their use of informal sources is comparatively less than formal sources. Journals and books are considered as the most important for sources to meet their needs. Among the informal sources conferences, subject experts, and colleagues are given higher importance than librarians and government officials.

Bennet et al., (2005) survey results show that in developed countries like USA, physicians in their day-to-day practice increasingly use computers. 80% of physicians have hand held computers used for accessing the electronic journals, medical textbooks, downloadable journals/books, and patient tracking programs.

Zawai (2001), study findings reveals that are, biomedical scientists who were solely involved in research work considered journal articles as the most preferred information sources.

Aim

Aim of this study is to find out the information needs and seeking behaviour of allopathic medical practitioners (general /specialists) in Tirppur district, Tamilnadu, India.

Objectives

The following main objectives are framed to conduct this study. The objectives are

1. To find out the medical practitioners need for clinical information
2. To find out the medical practitioners use of formal, informal, digital and other online sources.

Research Design

a. Universe of the sample: Allopathic medical practitioners in Tirppur district, in Tamilnadu, India are the universe of the sample. There are 730 medical practitioners working in this district. Study sample details are collected from the government hospitals and IMA members' lists.

b. Sample selection procedure: Stratified random sampling method is adopted for selection of the samples. Gender, educational qualification, and work place are the main classification of the samples.

c. Study samples: Among the total sample 10% of the samples are selected for this study. Based on the stratified random sampling method the samples are classified by gender, educational qualification, experience, and work place. Selected sample details are shown in the table numbers, 5.1, 5.2, and 5.3.

d. Study variable: The following independent and dependent variables are identified for analysis the data

i. Independent variables

- a. gender
- b. educational qualification
- c. experience
- d. work place

ii. Dependent variables

a. needed clinical information

b. used formal sources

c. informal sources

d. digital and on-line sources

e. Methods of data collection: Survey method is used for collection of the primary data. Pre-tested questionnaire was used for data collection tool.

f. Assumptions of this study: Based on the aim, objectives, and study variables the following assumptions are made

i. Medical practitioners' clinical information needs would be more common /general.

ii. Medical practitioners would be using different types information sources.

g. Hypothesis: based on the assumption the following hypotheses are framed to analysis the collected data.

i. There is a significant association / difference between the educational qualifications / workplace / experiences of the respondents with regard to there clinical information needs

ii. There is a significant association / difference between the educational qualifications / workplace / experience of the respondents with regard to use of information sources.

Data Analysis

Collected data are tabulated based on the educational qualification, Place of work, and experience.

Table 1. Details of study sample based on educational qualification and gender.

Gender	Educational Qualification			Total
	UG	PGD	PG	
Male	11(26.19)	14(33.33)	17(40.48)	42
Female	7(22.58)	11(35.48)	13(41.94)	31
Total	18(24.66)	25(34.45)	30(41.10)	73(100)

(Figures in parenthesis are percentages)

The above table 1 express the study participants' gender and their educational qualification. Among the total respondents 73, 18(24.66) having UG (MBBS) degree, 25(34.45) having PGD (MBBS with Diploma), and 30(41.10) having PG (MD/MS/DNB) qualification. The study also reveals that more number of women doctors (41.94) involved than male counter part. The following chart no. 5.1.1. also expressed pictorial view of the above data.

Table 2. Details of the study participants' gender and place of work.

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Gender	Place of work			Total
	Rural	Suburban	Urban	
Male	10 (23.81)	17 (40.48)	15 (35.71)	42
Female	13 (41.94)	9 (29.03)	9 (29.03)	31
Total	23 (31.51)	26(35.62)	24(32.88)	73(100)

(Figures in parenthesis are percentages)

Table 2 shows the respondents gender and their place of work. Among the total sample, 23(31.51) samples are working in rural area, 26(35.62) are working in sub-urban, and 24(32.88) are working in the urban area of the study regions. It is also inferred that compare to male doctors, majority of female doctors works in rural (41.94) and sub-urban (29.03) area. The following chart no.5.2.1. expressed pictorial view of the above data.

Table 3. Details of the study participants' gender and the experience.

Gender	Experience in years						Total
	>5yrs	5 & <10 yrs	10 & <15 yrs	15 & <20 yrs	20 & <25 yrs	25 yrs and above	
Male	4	3	10	12	5	8	42
Female	5	3	8	6	7	2	31
Total	9 (12.33)	6 (08.20)	18 (24.66)	18 (24.66)	12 (16.44)	10 (13.7)	73 (100)

(Figures in parenthesis are percentages)

Experience of the practitioners is classified into six categories. The above table shows the details of the gender of the respondents and their experiences. Among the total samples, 9(12.33) respondents having less than 5yrs, 6(8.20) having 5-10 yrs, 18(24.66) having 10-15yrs, 18(24.66) having 20-25yrs, and 10(13.70) having more than 25yrs of experience in the allopathic medical practice.

Table 4. Details of the Practitioners Needed Clinical Information Vs Educational qualification, Work Place and Experience

S.No	Needed Clinical Information	Educational Qualification		Work Place		Experience	
		P value	Significance	P value	Significance	P value	Significance
1	Clinical Epidemiology	4.996 df6	NS	5.437 df 8	NS	11.655 df 20	NS
2	Diagnosis / Etiology	6.087 df	NS	8.514 df	NS	18.997	NS

		8		8		df 20	
3	Diagnostic procedures	4.317 df 6	NS	4.998 df 6	NS	18.345 df 15	NS
4.	Differential Diagnosis	1.791 df 6	NS	10.561 df6	NS	8.950 df 15	NS
5.	Disease Descriptions	6.098 df 6	NS	6.535 df8	NS	9.797 df 15	NS
6.	Disease Complications	9.599 df 8	NS	6.994 df 8	NS	14.809 df 20	NS
7.	Disease Prognosis	6.213 df 8	NS	10.391 df8	NS	17.115 df 20	NS
8.	Treatment Drug Therapy	5.635 df 8	NS	7.689 df8	NS	20.484 df 20	NS
9.	Treatment Adverse effect	6.986 df 8	NS	8.354 df8	NS	22.021 df 20	NS
10.	Treatment Efficacy	3.333 df 8	NS	4.143 df 8	NS	18.472 df 20	NS
11.	Follow-up	6.138 df 8	NS	9.841 df8	NS	14.748 df 20	NS
12.	Emergency Protocol	6.649 df 8	NS	9.145 df8	NS	21.912 df 20	NS

Table 4 shows that the practitioners needed clinical information and their educational qualification, workplace, and experience. Test the hypothesis1, the statistical result reveals that there is no significant difference / association between the needed clinical information and practitioners' educational qualification, workplace, and experience.

Table 5. Details of the practitioners use of formal sources Vs educational qualification, work place and experience

S.No	Used formal sources	Educational Qualification		Work Place		Experience	
		P value	Significance	P value	Significance	P value	Significance
1.	Text Book	5.515 df 6	NS	5.997 df3	NS	10.73 df 15	NS
2.	Reference Book	11.181 df 8	NS	9.742 df 8	NS	25.872 df 20	HS
3.	CIMS/IDR/DDR/MIMS	18.518	HS	16.559	HS	20.907	NS

		df 8		df8		df20	
4.	Drug information sheet	7.558 df 8	NS	6.335 df 8	NS	13.049 df20	NS
5.	Printed journal	16.163 df 8	HS	6.753 df 8	NS	21.682 df20	NS
6.	Review Articles	16.163 df 8	HS	6.753 df 8	NS	21.682 df20	NS
7.	Information Bulletin	8.168 df8	NS	5.571 df 8	NS	17.556 df20	NS
8	Association News Letters	16.122 df 8	HS	5.758 df 8	NS	32.201 df 20	HS
9.	Conference proceedings	2.333 df 8	NS	7.959 df 8	NS	22.881 df20	NS
10.	News Paper	3.953 df8	NS	7.283 df 8	NS	12.291 df 20	NS

Table 5 describes the practitioners used formal information sources and their educational qualification workplace, and experience. Test the hypothesis 2, there is a significant association between the practitioners educational qualification and the following information sources like, CIMS/IDR/DDR/MIMS, printed journals, review articles, and association news letters. Based on work place, there is a significant association between the practitioners' work place and the used CIMC/IDR/DDR/MIMS. In experience, use of reference books and association news-letters are statistically significantly associated with practitioners' experience.

Table 6. Details of the practitioners use of informal sources Vs educational qualification, work place and experience

S.No	Used informal sources	Educational Qualification		Work Place		Experience	
		P value	Significance	P value	Significance	P value	Significance
1. Informal sources							
1.	Discussion with colleague	4.143 df 8	NS	7.378 df 8	NS	27.164 df 20	NS
2.	Subject experts	4.303 df 8	NS	10.249 df 8	NS	15.786 df 20	NS
3.	Conference / workshops	6.917 df 8	NS	7.595 df 8	NS	22.881 df 20	NS
4.	Medical Librarian	11.240	NS	5.345 df	NS	15.718	NS

		df 8		8		df 20	
5.	Medical representatives	20.858 df 8	HS	13.600 df 8	NS	28.706 df 20	NS

Table 6 shows that the medical practitioners use of informal sources and their educational qualification, work place and experience. Medical representative is one of the influencing informal sources of information for the medical practitioner. There is a significant association between the practitioners' educational qualification and discussion with medical representatives. Remaining depending and independent variables are not significantly associated with each other.

Table 7. Details of the practitioners use of informal sources Vs educational qualification, work place and experience

S.No.	Used Digital and On-line sources	Educational Qualification		Work Place		Experience	
		P value	Significance	P value	P value	Significance	P value
1.	TV	18.630 df 8	HS	11.463 df 8	NS	29.616 df 20	NS
2.	Audio	11.740 df 8	NS	16.310 df 8	HS	17.446 df 20	NS
3.	Video	5.379 df 8	NS	17.968 df 8	HS	18.882 df 20	NS
4.	Floppies	4.752 df 8	NS	13.033 df 8	NS	25.368 df 20	NS
5.	CD/DVD	6.992 df 8	NS	5.093 df 8	NS	28.990 df 20	NS
6.	E-Journals	13.423 df 8	NS	7.944 df 8	NS	19.807 df 20	NS
7.	E-Book	9.770 df 8	NS	6.142 df 8	NS	19.206 df 20	NS
8.	Access to Medical Database	12.657 df 8	NS	12.903 df 8	NS	25.257 df 20	NS
9.	Internet	15.944 df 8	S	2.791 df 8	NS	26.268 df 20	NS

Table 7 shows the medical practitioners use of digital and online sources. Statistical analysis result shows that, there is a significant association between the educational qualification and the use of television and internet. Similarly, there is a significant association between the work place and audio, video sources. And remaining sources does not have significant relationship between them.

Summary of the Study

- There is no bias between the study samples gender, educational qualification, and work place.
- There is no significant difference / association between the needed clinical information and practitioners' educational qualification, workplace, and experience.
- There is a significant association between the following information sources like, CIMS/IDR/DDR/MIMS, printed journals, review articles, association news letter and practitioners educational qualification.
- There is a significant association between the practitioners work place and the used CIMC/IDR/DDR/MIMS.
- Reference books and association news-letters are statistically significantly associated with practitioners' experience.
- There is a significant association between the practitioners' educational qualification and discussion with medical representatives.
- There is a significant association between the educational qualification and the use of television and internet.
- There is a significant association between the work place and audio, video sources

Conclusion

This study results show that the medical practitioners in developing countries need more awareness about the use of various information sources (including digital) for their professional/personal competency developments. They may utilize the various training programs (PDC(Professional Development Course of ten weeks duration for district level medical officers, RTI/STI in RCH, RCH-2, EmOC (Emergency Obstetric Care, MTP(Medical Termination of Pregnancy), etc.) offered by the government of India ⁽¹⁾. Government of India is providing Continuing Medical Education (CME) programs for the medical practitioner offered not only for the government doctors and also qualified private practitioners. The training programmes offered by the government could include a separate module on "Information literacy for medical practitioners' which may include digital information literacy skills.

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