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A STUDY ON OVERCROWDING OF OUT-PATIENT DEPARTMENT OF A TERTIARY CARE TUBERCULOSIS INSTITUTE IN DELHI

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ABSTRACT

Objective was to know the sociodemographic and clinical profile and health seeking attitude of patients attend outpatient department without being referred by lower level health care organization. It was a cross-sectional study. This hospital based study conducted in National Institute of TB and RD, a tertiary care Chest Institute of south Delhi by collecting data through pre-tested semi-structured interview schedule from every fifth patient attending OPD. Out of 945 patients who were included in the present study only 44% were referred by either some health care personnel or health care organization. More number of participants were illiterate (p value-0.03) and belonged to nuclear family (p value-0.00) have reached this Institute directly compared to people who were more educated and belonged to joint family. Reasons of reaching this Institute without referral mentioned by the participants were “big hospital so all facilities will be available”, “no improvement from other places”, “no body talked properly in other places”, “advised by family and friends”, “no medicines available”, “no doctor available”. Overcrowding in tertiary care hospitals are due to lack of referral system from primary and secondary care levels which requires proper attention.

Keywords: *Overcrowding, Out- Patient Department, Tertiary Care Organization*

INTRODUCTION

India has three tiers of health system, primary, secondary and tertiary and ideally patient flow from lower level to the higher level of health care is only through referral. Very often the tertiary care institutes are faced with a situation where out patient departments have overcrowding of the patients (Demography, Health and Nutrition, 2007) leading to delay in consultation. This is often blamed to a low doctor-population ratio and poor management practices of the hospital (Simmons, 2005). Another reason often reported is patients who can be managed at primary or secondary level are attending tertiary level without a proper referral. This overcrowding often affects patients' symptoms, clinical outcome, and satisfaction. It also affects physician's effectiveness, causing frustration among medical staff (Mishra, 2001) and also denies services to those who actually need them. The present study was conducted in the out-patient department of a tertiary care tuberculosis and respiratory disease institute. Chest diseases constitute an important cause of morbidity all over the world (Banerji and Anderson, 1963). In India, the common chest diseases include bronchitis-emphysema syndrome, asthma, and tuberculosis (Ashoo *et al.*, 2003). We did the present study to find out the demographic and clinical profile of patients who attend the out-patient department of this tertiary care institute. We also tried to find out the reasons and characteristics of the patients who have reached this hospital directly, i.e. not referred by lower health care organization.

MATERIALS AND METHODS

This hospital based cross sectional study was done at National Institute of TB and Respiratory diseases, New Delhi, India. Under Revised National Tuberculosis Control Programme (RNTCP) directly observed

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treatment short course (DOTS) is provided by the institute through 10 DOT cum microscopy centers covering a population of around 1 million spread over South Delhi. Besides this, patient referred from different Government and Private Hospitals also attend this Institute. A total of 32,935 chest symptomatics attended hospital OPD in the year 2006-2007 (Annual Report, LRS Institute of Tuberculosis and Respiratory Diseases, New Delhi, 2006-2007). Out of these patients 16347 (50%) came from the hospital specified area, 9010 (27%) from non-area i.e. other areas of Delhi and 7578 (23%) from outside Delhi as per as hospital census.

The data for the present study was collected from mid March to mid May, 2008 from the patients attending OPD in the Institute through a pre tested, semi-structured interview schedule. Every fifth patient attending the OPD was recruited for the study after obtaining informed consent.

In the cases of the children below 15 years of age if the accompanying person was parent with the child, information was obtained from him, otherwise the subject was not considered eligible for the study. The information was obtained on basic demographic and clinical profile of the study subjects. To find out income per capita, the whole income of the family was considered. If members of a household had shared same kitchen then they were considered one family.

To know health care seeking behavior, type of service they use. To find out if a patient was referred or not, they were asked if they were given any instruction either verbally or written to attend this tertiary care level.

In order to calculate the sample size, we referred to a study carried out in a teaching hospital of Jammu and Kashmir (Rangrez *et al.*, 2005) which reported that 64% of the participants had reached the institution directly that is without any referral.

Therefore, based on this study, as we could not find any data about overloading of general OPD or OPD of a tuberculosis institute, we assumed a prevalence of overloading of 64%, and an absolute error of 4%, the sample size was calculated to be 736 with power 80% and confidence level 95%. The study is approved by hospital research and ethics committee.

Data Analysis

Data was entered in MS-Excel and was analyzed using SPSS-12 and Epi-info-2004. To find out the association between two variables chi-square test was used and OR was calculated to observe the trend. A p value of 0.05 and less was considered to be statistically significant.

RESULTS AND DISCUSSION

Results

A total of 5500 patients attended the OPD in the time specified above. Taking consideration that every fifth patient will be recruited, 1100 patients were eligible for the study.

Seventy-three (6.6%) refused to participate in the study, 45 patients (4%) were too sick to participate, 20 (1.8%) patients though started the process of interview left the OPD before the procedure was completed, another 17 (1.5%) patients were excluded because they were < 15 years of age and the accompanying person either was not there or was not the parent of the child. A total of 945 patients were included in the present study.

Basic Demographic Characteristics of the Study Participants (Table-1)

Seventy-three percent of the study participants were male. Mean age of the study participants was 32.13 years \pm 13 SD. Thirty-four percent of the population was in the age group of 15-20 years. Pediatric age group (0-14 years) and geriatric age group (> 60 years) constituted 1.6% and 3.7% of the study population respectively. Eighty-two percent of the study population was Hindu, another 16% were from the Muslim community.

Fifteen percent of the study population was illiterate. Average family size (total number of people in the family) of the study population was 6.27 \pm 2.5, minimum number being 1 and maximum being 16. Forty-six percent of the study population had an income per capita between rupees 501 to 1000. Fifty-four percent of the study population belonged to nuclear family.

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Table 1: Basic demographic and clinical profile of the study participants

Characteristics	Number	Percent
Gender		
Male	686	73
Female	259	27
Age Group		
0-14	15	1.6
15-20	327	34.6
21-30	154	16.3
31-40	237	25.1
41-50	126	13.3
51-60	51	5.4
>60	35	3.7
Religion		
Hindu	777	82
Muslim	148	16
Others (Sikh, Jain)	20	2
Education		
Illiterate	148	15.7
Up-to 5 th std	168	17.8
6th-8th std	231	24.4
Upto 10th std	184	19.5
12th std	160	16.9
Graduate and above	54	5.7
Income per capita (Rupees)		
Up to 500	138	14.6
501-1000	438	46.3
1001-1500	182	19.3
1500-2000	97	10.3
>2000	90	9.5
Family type		
nuclear	507	53.7
Joint	438	46.3
Presenting complaints		
Cough > 2 weeks	465	49
Cough < 2 weeks	285	30
Fever > 2 weeks	349	37
Fever < 2 weeks	239	25
Breathlessness	111	12
Haemoptysis	89	9
Chest pain	25	3
Weakness	26	3
Weight loss	20	2
If referred by any health care staff or organization		
Yes	419	44
No	526	56

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Clinical Profile of the Study Participants (Table-1)

Forty-nine percent of the study participants had presented with cough > 2 weeks while 30% had cough < 2weeks. Thirty-seven percent of the participants had fever > 2weeks at the time of reaching hospital while another 25% had fever < 2 weeks. Breathlessness was complained by 12% of the study population, another 9% complained of producing sputum mixed with blood. Eight percent of the participants complained of symptoms like chest pain, weakness, and weight loss in total.

Only 44% (419) of the participants had reached this tertiary care institute referred by either some health care personnel or by some health care organization.

Characteristics of the Participants who were not referred by Any Health Care Organization or Personnel (Table-2)

We found that 68% of the illiterate participants have reached this institute directly compared to 54%, 55% and 56% of the people whose education was in the level of 10th standard, 12th standard and graduate and above respectively and this difference was statistically significant (p value -0.03). Sixty-one percent of the participants belonging to nuclear family had reached tertiary care hospital by their own compared to 49% of the participants who belonged to joint family (p value-0.00).

Table 2: Characteristics of the people who have reached OPD not referred by any health care organization or staffs

Characteristics	Number	percent	OR	P value*
Age Group				
0-14	10	67	1.00	0.10
15-20	190	58	0.69	
21-30	86	56	0.63	
31-40	122	51	0.53	
41-50	72	57	0.67	
51-60	29	57	0.66	
>60	17	49	0.47	
Gender				
Male	383	56	1.03	.86

Reasons for Reaching the Tertiary Care Hospital without a Referral (Table 3)

A total of 526 study participants had reached this hospital directly, i.e. without being referred by any health care organization inspite all of them were aware of the existence of a near-by organization. Multiple answers were given by one person about the reason for reaching this institute without referral. Forty-three percent (226 patients) mentioned, “big hospital so all facilities will be available”, 18% (95 patients) mentioned “no improvement from other places”, another 17% (90 patients) of the participants mentioned “nobody talked properly in other places”, 15% (79 patients) said “advised by family and friends” 9% (47 patients) mentioned they “wanted to consult a big doctor,” 6% (32 patients) of the study participants said “no medicines available”, 4% (21 patients) of the participants mentioned “no doctor available in the near-by hospital.”

Table 3: Reasons for reaching the tertiary care hospital without a referral

Reasons	Number	Percentage
Big hospital so as facility will be available	226	43
No improvement from other places	95	18
Nobody talked properly in other place	90	17
Advised by family and friends	79	15
Wanted to consult a big Doctors	47	9
No medicines available	32	6
No Doctors available in the nearby hospital	21	4

Note: One participant given more than one reason

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Discussion

The secondary and tertiary health care infrastructure are currently taking care of the primary health care needs of the population and thus inevitably leading to overcrowding. As there is no screening and referral system, the available equipment and expertise in primary hospitals are underutilized; inappropriate use of available diagnostic and therapeutic facilities result in escalating cost of health care without commensurate health benefits (Tenth five year plan).

We found that 30% of the study participants who attended the OPD of a tertiary care institute had cough < 2 weeks and 25% had fever < 2 weeks. These types of patients ideally should be seen at the primary care level. Even the patients who have cough or fever of longer duration also can be managed at the lower level.

Ten percent of the study participants who reached this institute without any referral mentioned non-availability of doctors and medicines in near by health facility made them seek health care from tertiary care source.

The non-availability of key personnel in public health facilities due to vacancies, or shortage against prescribed norms and absenteeism is considered as the main reason for the under-utilization of public health facilities at lower level. Other authors have also noted that insufficient staffing and lack of supplies with resulting poor service quality may actually impede the efficient delivery of health care to patients (Annis, 1981).

This study found that 56% (526) of the study participants had reached this tertiary care institute without being referred by lower health care organization. In one study in a teaching hospital Jammu and Kashmir it was found that 64% of the patient attended the OPD without any referral letter (Rangrez *et al.*, 2005). In a study done in Zimbabwe (Hongoro *et al.*, 1998) it was found that the community does not know the functional differences between a primary care “clinic” and a tertiary care “hospital. That is one of the reasons why the choice of a point of entry into the health care delivery system is not always correct.

We acknowledge certain limitations of the study. Firstly, we do not have detail information about participants who refused to participate in the study. Secondly, we considered a patient was referred even when he was unable to show any documents for referral but attended tertiary institute without any referral.

Conclusions

More than half of the patients have attended OPD of study institute without any referral. Overcrowding in tertiary care hospitals due to lack of a referral system by primary and secondary care levels which requires proper referral mechanism. The patients to be educated to get referral paper from primary or secondary institute before leaving for tertiary institute.

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