Original Article

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Infectious Diseases Section

Care Seeking Behavior of the TB Patients who were Registered in an Urban Government Tuberculosis Control in Chennai, Tamilnadu, India

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ABSTRACT

Background: Tuberculosis (TB) is a major public health challenge for various reasons, with the patient delay in the diagnosis of TB being one of the important hurdles in the TB control.

Aims: The present study was undertaken among TB patients to (a) determine the number of days that the patients delayed in seeking care (b) find out the different types of health facilities that they visited prior to their diagnosis (c) examine the association of certain socio-demographic variables with the patient delay and (d) to capture the patient's reaction to the diagnosis of tuberculosis.

Settings and Design: This was a cross sectional study which was conducted among patients who were registered under the Revised National TB control program (RNTCP) in all the Tuberculosis Units (TUs) of Chennai Corporation, an urban metropolitan city in south India.

Methods and Material: A pre-tested, semi-quantitative questionnaire was administered to the TB patients who came for Direct Observed Treatment to all the TUs.

Results: of the 300 patients, 30.6% patients were diagnosed at their first point of contact with the health facility and 75.6% of the patients had been diagnosed on their second visit. The mean patient delay in this study was 18.3 days, which was less as compared to that in other studies. Patients with extra-pulmonary TB had more mean patient delay (55.7) as compared to the patients with pulmonary TB.

Conclusion: This study which has shown a reduced patient delay could probably reflect the efforts of the RNTCP in partnering with different stakeholders in creating both awareness about the disease and appropriate referral to health facility. This study has also highlighted the need for an active and ongoing IEC (information, education and communication) campaign, with special focus on an early diagnosis. Building partnerships with the private health sector for reducing the delays in the diagnosis of TB would also be very important.

Key Words: Care seeking, Tuberculosis, Patient delay, Delay in diagnosis, Chennai, Private health sector

INTRODUCTION

Tuberculosis (TB) causes enormous social and economic disruption and it hampers the nation's development [1]. Although the RNTCP (Revised National TB Control Program) was expanded to cover the whole country, a substantial number of patients with TB are still treated within the private sector [2]. To provide access to the RNTCP for these 'missing patients', it is important to involve Private Practitioners (PPs) in the RNTCP [2]. Several studies have also shown that the patients quite often 'shopped around' for a diagnosis, before they were started on treatment under the program, as there was a variety of providers who catered to the people's health needs [3]. Many patients are treated by private providers, and these are not notified to the health authorities. Studies have also shown that the mean patient delay in seeking care was from 25 to 120 days [4] and that the patients met several health care providers before getting diagnosed and starting with the TB treatment [4, 5, 6]. A delay in the TB diagnosis could lead to worsening of the disease and an increased transmission and spread of TB in the community. Further, the delays in the diagnosis can be associated with increased costs to the patients in the form of out-of pocket payments for medications, special foods, tests, and lost work time [6]. Knowledge about the patient delay and the facilities which are visited is very crucial for the subsequent implementation of awareness and communication activities and these will influence the type of stakeholders who are needed to be involved for a successful TB program. Henceforth, the present study was undertaken among TB patients to (a) determine the number of days that the patients delayed in seeking care (b) find out the different types of health facilities that they visited prior to their diagnosis (c) examine the association of certain socio-demographic variables with the patient delay and (d) to capture the patient's reaction to the diagnosis of tuberculosis.

METHODS

A cross sectional study was done among the TB patients who were registered in the RNTCP in Chennai city, an urban metropolitan city in Tamilnadu, India. The TB patients who were registered in all the Tuberculosis Units (TU) of Chennai between March 2007 and June 2007 were taken up for the study. Adult TB patients of both the sexes who were registered under RNTCP, who came to the TU for Direct observed Treatment, whose HIV status was negative, were considered eligible for the study. A pre-tested, semi-quantitative questionnaire was used to collect information on demographic and socio-economic characteristics of the patients and on their delay in seeking care. The delay in seeking care was defined as the duration

in days from the onset of the symptoms to the first care-seeking incident with a health provider. Questions which were related to the perception of the patients to the diagnosis of TB were asked as open ended questions and the answers were then subsequently coded and entered. All the patients who met the eligibility criteria were interviewed after obtaining a written informed consent from them at the TU. Ethical approval for the study was obtained from the Ethics Committee of Sri Ramachandra University, Chennai. The data was validated throughout the interview by repeated questioning. Subsequently, the data was verified, entered and analyzed by using SPSS (15.0 version). In the univariate analysis, the t-test was used was used to compare the association between the socio-demographic variables and the patient delay and ANOVA was used to compare the mean patient delay for more than 2 groups. A p-value of <0.05 was considered as statistically significant.

RESULTS

In all the 10 TUs of Chennai Corporation, about 300 patients were interviewed over a 4 month period. The percentage of the coverage in the ten zones ranged from 87% to 92% during the study period.

Profile of the Respondents

Most of the patients were males (62%) males and 30.0% had primary school education, while 14.0% were illiterate. About 36.4% of the respondents were involved in skilled work and most (65.4%) of the patients belonged to a family size of less than and equal to 4. A majority of the patients 214(71.3%) belonged to nuclear families and 52.7% were in the income range (per capita income) of Rs.1100 to Rs.2250 [Table/Fig-1]. Among the 300 patients, 219 (73.0%) patients had pulmonary TB, which included 149(49.7%) sputum positive patients and 70 (23.3 %) sputum negative patients. [Table/Fig-1].

Shift of facilities by the TB patients

Of the 300 patients, 92 (30.6%) patients were diagnosed at their first point of contact with the health facility and 135 (45.0%) were diagnosed at their second visit. In all, 89.3% patients were diagnosed by the third visit and the remaining were diagnosed by the sixth visit. A majority of the patients [287 (95.7%)] were diagnosed at government centres, while 13(4.3%) were diagnosed at the private health centres. [Table/Fig-2]. In all, each patient had to make on an average of 2.8 visits for getting a diagnosis established. It was noticed that among the 208(62.3%) patients who were diagnosed at the first visit, there were 326 shift of facilities among these patients.

Patients' delay in seeking care

The mean number of patient delay in seeking care was 18.3 days (median 7 days).

The mean patient delay was more among literates, unemployed people, males and patients with a per capita income of less than Rs.1100, though this was not statistically significant.

Patients with extra-pulmonary TB showed more mean patient delay (55.7) as compared to the patients with pulmonary TB(14.8) and this difference was found to be statistically significant (p value< 0.001) [Table/Fig-3].

Reasons for the patient delay

A majority (51.2%) of the shifts were attributed to the lack of recovery of the patients, while 42.6% attributed the shifting to referrals by the consulting doctor. Other reasons are cited in [Table/Fig-4].

Patient characteristics	Profile of the patients	Frequency	%
Age	<55	260	86.7
	55+	40	13.3
Gender	Male	186	62
	Female	114	38
Educational Qualification	Professional degree, PG degree	4	1.3
	Graduation	20	6.7
	Intermediate, diploma, Higher secondary	27	9.0
	High school	58	19.3
	Middle school	59	19.7
	Primary school	90	30.0
	Illiterate	42	14.0
Occupational status	Professional	1	0.3
	Semi professional	3	1.0
	Clerical, shop owner, farmer	40	13.3
	Skilled worker	109	36.4
	Semi - skilled worker(housewives)	43	14.3
	Unskilled	33	11.0
	Unemployed/retired/ students	71	23.7
Family Size	≤4	196	65.4
	>4	104	34.6
Type of family	Nuclear	214	71.3
	Joint	63	21.0
	Others	23	7.7
Monthly per capita	<Rs.1100	74	24.7
	Rs.1100 to Rs.2250	158	52.7
	>Rs.2250	68	22.6

[Table/Fig-1]: A Profile Of TB Patients

Reaction of the patients to the diagnosis of TB

When the patients were first told that they had TB, a majority 88 (29.3%) were not perturbed, while 77 (25.7%) felt sad. Other reactions of the patients are listed in [Table/Fig-5].

DISCUSSION

The present study which covered all the ten zones of Chennai Corporation, is representative of the group of the TB patients in an urban DOTS program.

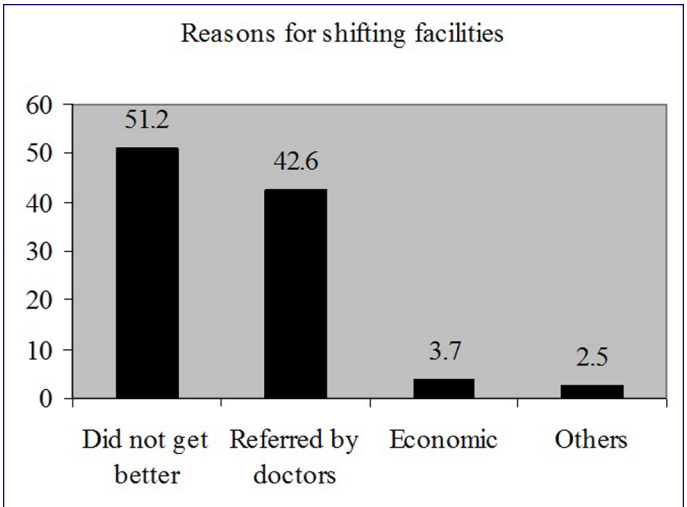
Of the 300 patients, 30.6% patients were diagnosed at their first point of contact with the health facility. This was higher than the finding in the study which was done by Rajeshwari et al., in 1998 [5], where only 22% were diagnosed and than the finding in the study which was done by M J Van Der Werf [4], where 4% of the TB patients were started on the TB treatment in the first health care facility that they visited. Only 24.4% of the patients had to visit three facilities or more, which was less as compared to the finding in the study which was done by Rajeshwari et al., where nearly 50% had to visit three facilities or more before getting a diagnosis [5]. About 75.6% of the patients had been diagnosed by the second visit. The probable reasons could be (a). diagnostic facilities are now more readily available, especially in this urban area

Visit	Government hospital		Private health center		Total		Remaining no. of patients
	No. of patients		No. of patients		No. of patients		
	Visited	Diagnosed	Visited	Diagnosed	Visited	Diagnosed	
I	108	87	192	5	300	92 (30.6%)	208
II	140	131	68	4	208	135 (45.0%)	73
III	45	40	28	1	73	41 (13.7%)	32
IV	20	19	12	2	32	21 (7.0%)	11
V	8	8	3	1	11	9 (3.0%)	2
VI	2	2	0	0	2	2 (0.7%)	0
All	---	287 (95.7%)	---	13 (4.3%)	---	300 (100%)	---

[Table/Fig-2]: Source of health care accessed by the patients before start of treatment at TU

Patient Characteristics		N	Mean	Std. Deviation	t/F test value	p value
Educational status	Literate	242	18.6	34.8	0.363	0.717
	Illiterate	58	17.1	27.7		
Employment status	Employed	186	17.6	27.7	0.423	0.673
	Unemployed	114	19.5	41.3		
Gender	Male	186	18.7	35.5	0.223	0.824
	female	114	17.8	30.1		
Per capita	< Rs.1100	74	21.7	41.2	1.127	0.311
	Rs.1100 to Rs.2250	158	16.9	28.6		
	> Rs.2250	68	18.0	35.0		
Type of TB	Pulmonary	219	11.4	14.8	4.121	0.000
	Extra-pulmonary	81	37.2	55.7		

[Table/Fig-3]: Comparison of mean patient delay with certain patient characteristics



[Table/Fig-4]: Reason for shifting facility among those not diagnosed

Reaction	Frequency	Percent
Were not perturbed	88	29.3
Sad	77	25.7
Fear	63	21
Shock	45	15
Surprised	14	4.7
Deserved it	8	2.7
Denial	5	1.7

[Table/Fig-5]: Reaction to diagnosis of TB

(b). public private partnership in the TB control, (c). improved networking of the private health providers for referral into the system of RNTCP and (d). increased awareness of the DOTS facilities by the patients. The first point of contact was a governmental health centre for 36% patients in this study, as compared to 47% in the study which was done by Selvam in Tamilnadu [6] and 50% in a study which was done by Yamasaki-Nakagawa et al., (1999) [7] in Nepal. In a hospital based study which was done by Salanipou at Malawi [8], 24% patients were found to have three or more visits before a diagnosis was made. About 42.6 % attributed the shifting of the facility to a referral by the consulting doctor, probably due to the appropriate referral of the patients by the doctors and 51.3 % of the shifts were attributed to the lack of recovery of the patients. The mean patient delay in this study was 18.3 days . This was less than that which was reported from other countries [4], which ranged from 22 days (Spain) to 120 days (Tanzania). This could be due to the increased awareness of the public about tuberculosis, the availability of medical services and the fact that the PPs referred the TB suspects to the RNTCP program, resulting in an early diagnosis of these TB suspects. It is to be noted that Chennai has been an area of intense advocacy activities for both the general public and for private practitioners [2]. But the above fact stresses the need for an active and ongoing IEC (information, education and communication) campaign, with special focus on an early diagnosis. Building partnerships with the private sector for reducing the delays in diagnosis is also crucial.

The patients with extra-pulmonary TB had more mean patient delay (55.7 days) as compared to the patients with pulmonary TB. This points to the need of Continuing Medical Education Programs for the specialty practitioners also and to the need of suspecting and investigating for extra-pulmonary TB earlier. There is still a lot of dread and stigma which are associated with the disease. When the patients were first told that they had TB, 29.3% were not perturbed, which was less as compared to the finding in the study which was done by Liam CK in Kuala Lumpur [9]. In the Liam study—'not too worried'—was expressed by 36.3% of the patients. But the proportion of patients who expressed fear in this study was 21%, which was comparable to the findings of Liam CK [9] where it was 22.2%. In another study which was done by Rajeshwari et al., [10] the reaction of the patients to the disclosure of the diagnosis, was suicidal thoughts among 9% patients, which was not felt by any of the patients in this study.

The study includes some limitations such as the possibility of a recall bias of the respondents. The study also included those patients who were registered in the government health system and so, they would not reflect the picture in the context of the patients who underwent care in the private health sector.

CONCLUSION

The study has highlighted that about 75.6% of the patients had been diagnosed by the second visit to health facility. The patient delay in seeking care in this study was less as compared to that in other studies. This could probably reflect an increased awareness about the disease among the community and the awareness of the PPs about the presence of a high quality diagnosis and about free drugs being offered to the TB patients under the RNTCP and therefore, the appropriate referral of the TB patients to the Government health centres for the diagnosis and treatment of TB. The reaction of the TB patients which was elicited in this study has highlighted the need for an intense counseling of the patients even at the time of the diagnosis.

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