
PERCEPTIONS AND PRACTICES OF SPUTUM POSITIVE PULMONARY TUBERCULOSIS PATIENTS REGARDING THEIR DISEASE AND ITS MANAGEMENT

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SUMMARY

Research Questions :

- What are the perceptions and practices of sputum positive Pulmonary Tuberculosis patients about their disease?

Objectives :

- To ascertain the awareness of Sputum Positive Pulmonary Tuberculosis patients attending the chest OPD of a Medical College regarding the cause of disease, duration of treatment and attitude towards place of stay during treatment.
- To determine their practice of sputum disposal and practices for prevention of spread within the family.

Study Design : Cross sectional, observational

Setting: Chest OPD of Calcutta National Medical College & Hospital, Kolkata

Participants : 120 Sputum Positive Pulmonary Tuberculosis patients.

Results :

Only 16.7% of the study subjects were aware of the cause of the disease 25.0% of them were not aware of the proper duration of treatment and 72.5% of patients' attitude towards domiciliary

treatment was observed unfavourable. Safe method of sputum disposal was practiced by only 20.0% of study subjects and 21.7% of respondents did not take any precaution to prevent spread of the disease, while 46.7% practiced covering of face while coughing.

INTRODUCTION

Tuberculosis causes enormous burden of disease and death around the world. Among adults it is the foremost cause of death from a single infectious agent, in the country, killing more people than AIDS, Malaria and other infectious diseases ^(1, 2). National Tuberculosis Programme envisages among other measures, complete cure of patients ⁽³⁾. The combination of a strong enemy and our weak armamentarium makes treatment arduous ⁽⁴⁾. Therefore patients must take multiple anti-tuberculosis medication for at least 6 months ⁽⁴⁾. It has been repeatedly demonstrated in India and elsewhere, that at least one third of patients do not take the full course of medicines, even if drugs are free and available treatment is convenient ^(5, 6).

Lack of awareness of risk posed to the community by a sputum positive case of pulmonary TB is an impediment in the control of TB. It is however, the attitude and behaviour of the infected individuals, which determines among other factors the quantum of incidence and level

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of the transmission ⁽⁷⁾. Moreover, the increased threat of concomitant HIV infection with TB problem necessitates fresh insight regarding knowledge, attitude and practices of TB patients, especially of those able to disseminate the infection i.e. Sputum Positive TB patients.

Considering all these factors, the present study was undertaken to ascertain the awareness of Sputum Positive Pulmonary TB patients regarding the cause of the disease, modes of transmission and duration of treatment along with their attitude towards place of staying during the course of treatment and their practices regarding sputum disposal and prevention of spread within the family

MATERIALS AND METHODS

The study was a clinic-based cross-sectional, observational study undertaken by interview method among Sputum Positive Pulmonary TB patients attending chest OPD of Calcutta National Medical College & Hospital for their treatment. In the year 2001, the third quarter i.e. July to September months was selected randomly and all Sputum Positive cases of Pulmonary TB attending chest OPD formed the 120 study sample.

Data were collected with the help of pre-tested, semi-structured schedule, having following components:

1. General profile of the patient - age, sex, religion, education, occupation and per-capita monthly income of the family
2. Questions ascertaining their knowledge regarding symptoms of TB, cause and duration of adequate treatment
3. Attitude towards place of staying during the treatment
4. Practices adopted by them for sputum disposal along with preventive practice against spread of the disease within own family members. Data thus collected were compiled and analysed by appropriate statistical technique

RESULTS

Socio-Demographic Profile

Out of 120 study sample between 15-74 years of age, majority belonged to 15-24 years (38.4%) followed by 25-34 years (28.3%). Male preponderance (55.0%) was observed in the present study. Among the male patients 35-44 years contributed largest share (31.8%) followed by 25-34 years (30.3%), whereas among the females majority were in 15-24 years age group (61.1%). Mean age of the male subjects was observed 35.6 ± 12.4 years and in the female 26.0 ± 10.8 years

Table 1: Socio-Demographic Profile of Study subjects

CHARACTERISTICS		No.	PERCENTAGE/MEAN \pm SD
Sex	Male	66	55
	Female	54	45
Religion	Hindu	34	28.3
	Muslim	86	71.7
Education	Illiterate	37	30.8
	Just literate	13	10.8
	Primary	38	31.7
	Secondary	30	25.0
	Higher Secondary & above	2	1.7

Socio-economic status	Class I	2	1.7
	Class II	13	10.8
	Class III	30	25.0
	Class IV	59	49.2
	Class V	16	13.3
Age in years	Male	-	35.6±12.4
	Female	-	26.0±10.8

Muslims out numbered (71.7%) Hindu (28.3%) and other religion was absent in the study sample. Illiterate patients constituted 30.8% of the sample and among male and female members; illiteracy was 25.8% and 37.0% respectively. Socio-economic status (SES) according to per-capita monthly income (8) shows preponderance in Class IV SES (49.2%) followed by Class -III SES (25.0%) (Table 1)

Awareness of the Patients

Poor awareness regarding symptom of TB such as prolonged fever, prolonged cough etc.

was evident (79.2%) from the present study. Statistically significant difference ($\chi^2 = 5.63$, d.f. =1, $P < 0.05$) between awareness among males (28.8%) and females (11.1%) was observed. Similarly awareness regarding cause of the disease was elicited poor among them, only 16.7% admitted that germ is responsible for causing the disease (Table 2). The observed difference regarding awareness of germ as the cause of TB among the males (22.7%) and the females (9.3%) was found to be significant ($X^2 = 3.88$, d.f.=1, $P < 0.05$) statistically. Inadequate food intake, smoking and alcohol intake as cause were reported by 45%, 25.8% and 10.8% of respondents respectively, among male and female respondents, no difference concerning these

Table 2: Knowledge of cause of Tuberculosis

Knowledge of cause	Male n=66	Female n=54	Total N=120
Inadequate Food intake	28 (42.4)	26 (48.1)	54 (45.0)
Smoking	18 (27.3)	13 (24.0)	31 (25.8)
Germ**	15 (22.7)	5 (9.3)	20 (16.7)
Alcohol	6 (9.1)	7 (12.9)	13 (10.8)
Gods curse	5 (7.5)	7 (12.9)	12 (10.0)
Do not know	11 (16.6)	12 (22.2)	23 (19.2)

Figures within parenthesis indicate percentage ** $X^2=3.88$ d.f=1, $p < 0.05$

perceptions was observed. 10% of the study sample attributed God's curse as the cause of the disease.

Twenty five per cent (25.0%) of the

respondents were not aware of proper duration of treatment (Table 3). Proper duration of treatment was observed to be known by 85.3% of Hindu and 70.9% of Muslim respondents but the observed difference was not found to be

Table 3: Awareness of duration of treatment according to religion

Duration of Treatment	Hindu	Muslim	Total
Less than 6 months	3 (8.8)	19 (22.1)	22 (18.3)
6-12 months	29 (85.3)	61 (70.9)	90 (75.0)
Do not know	2 (5.9)	6 (7.0)	8 (6.7)
Total	34 (100)	86 (100)	120 (100)

Figures in the parenthesis indicate percentage. $X^2=2.68$. d.f. =1. $P>0.05$

statistically significant ($X^2=2.68$, d.f. =1, $p>0.05$). Even though majority (75.0%) of study subjects knew proper duration of treatment, knowledge of harmful sequel of improper duration of treatment was known by 53.5% of patients.

Attitude of Patients

When attitude of patients regarding domiciliary treatment was assessed only 27.5% response was observed favourable. 72.5% of study sample opined hospitalised treatment is

Table 4: Attitude towards place of staying during treatment according to educational status

Educational Status	Favoured place of stay during treatment		Total
	Hospital	Home	
Illiterate	32 (86.5)	5 (13.5)	37
Just literate	11 (84.6)	2 (15.4)	13
Primary	29 (76.3)	9 (23.7)	38
Secondary	15 (50.0)	15 (50.0)	30
H.S.& above	0 (0.0)	2 (100.0)	2
Total	87 (72.5)	33 (27.5)	120 (100.0)

Figures in the parenthesis indicate percentage $X^2=5.24$ d. f. =1. $P<0.05$

better than domiciliary treatment (Table No.4). Among the illiterate and literate study subjects domiciliary treatment was favoured by 13.5% and 33.7% respectively and this difference of opinion is found to be significant ($X^2 = 5.24$, d. f=1, $P < 0.05$)

statistically.

PRACTICES :

Burning and or pouring boiled water in the sputum container were considered as safe

Table 5: Literacy Status and practice of sputum Disposal

Practice of sputum disposal	Literacy Status		
	Literate	Illiterate	Total
Indiscriminate spitting	37 (44.6)	24 (64.9)	61 (50.8)
Disposing in dustbin	27 (32.5)	8 (21.6)	35 (29.2)
Burning	14 (16.9)	5 (13.5)	19 (15.8)
Pouring boiled water in the container	5 (6.0)	0 (0.0)	5 (4.2)
Total	83 (100.0)	37 (100.0)	(100.0)

Figures in the parenthesis indicate percentage $X^2 = 4.3$, d. f. =2. $P > 0.05$

practice for sputum disposal but those were practiced by only 15.8% and 4.2 % of patients respectively. Unsafe methods like disposing in dustbin and indiscriminate spitting was found to be prevalent among majority of respondents (Table 5).

So far as practices adopted for prevention of spread of the disease within the family

members is connected only 46.7% of the patients (Table 6) reported covering of face while coughing and this practice significantly differs ($P < 0.01$) among the literate (57.8%) and the illiterate patients (21.6%). The majority of respondents used separate utensils as preventive measure to limit dissemination of infection in the family, whereas safe sputum disposal practice

Table 6: Literacy status and practice adopted for prevention of spread

Practice for prevention	Literacy Status			Z and P Value
	Illiterate	Literate	Total	
Use of separate utensils	32 (86.4)	62 (74.7)	94 (78.3)	Z=1.6 P>0.05
Self Isolation	29 (70.4)	32 (30.6)	61 (50.8)	Z=4.6 P<0.01
Covering face while coughing	8 (21.6)	48 (57.8)	56 (46.7)	Z=4.2 P<0.01
Safe sputum disposal	5 (13.5)	19 (22.9)	24 (20.0)	Z=1.3 P>0.05
Do not know/Do not practice	20 (54.1)	6 (7.2)	26 (21.7)	Z=5.4 P<0.01

was minimal (20.0%), practiced use of separate utensil (78.3%) and self-isolation (50.8%). No practice or not aware of any method was acknowledged by 21.7% of study subjects and this ignorance was observed significantly ($p < 0.01$) more among the illiterate (54.1%) than that of the literate (7.2%)

DISCUSSION

The present study among Sputum Positive pulmonary TB patients revealed large gap in the awareness of symptoms of TB among them. The finding was in agreement with those of Thomson, et al⁽⁹⁾, Wastaway⁽¹⁰⁾ and Bhat, et. al⁽³⁾. 16.7% of study subjects attributed germs as the cause of TB. Smoking and drinking was attributed as cause of the disease by 25.8% and 10.8% of respondents. Regarding duration of treatment, 18% reported it to be less than 6 months. This finding is in conformity with the findings of Bhat et. al⁽³⁾ who also reported that 19% of their study subjects responded less than six months as duration of treatment. However, 53.5% of patients were aware of harmful sequel could follow because of inadequate duration of treatment. Bhat et al⁽³⁾ in their study observed awareness regarding harmful effect of inadequate duration of treatment in order of 93.0%, which is much higher than the present finding.

In the present study, unfavourable attitude towards domiciliary treatment was observed among 72.5% of study subjects. They preferred hospital as the first choice for place of staying during treatment because of better supervision and protection of family members from transmission of infection. This finding is observed opposite to the finding of the study of Bhatt et al.⁽³⁾, who reported 88.0% of their patients preferring domiciliary treatment. Nevertheless,

the present study is substantiated by the study of Mathura et al⁽¹¹⁾ in which 85.0% of patients preferring hospitalisation during treatment.

Unsafe sputum disposal was the predominant practice among the study subjects, while only 20.0% of patients were following safe sputum disposal methods. This finding corroborates well with those of Bhat et al⁽³⁾, who reported practice of safe method of sputum disposal among 23.0% of their study subjects. Half of the subjects (50.8%) admitted to spitting indiscriminately which also correlates with the finding of Bhat et al. (46.0%)⁽³⁾. Seemingly a good number of patients (46.7%) were practicing covering face while coughing to prevent spread of the disease within the family. This finding is better than the observation of Bhat et. al⁽³⁾, where the practice was adopted by only 14.6% of their patients. Majority (78.3%) of the study subjects used separate utensils to prevent dissemination of infection among the family members, which is not at all required.

ACKNOWLEDGEMENT

The authors are deeply indebted to Prof. S. Mukherjee, H.O.D. Chest Medicine, Calcutta National Medical College & Hospital for encouraging and rendering moral support to conduct the study. They also express heartfelt gratitude to the Principal, Calcutta National Medical College for giving necessary permission to carry out the study.

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