

Original Research Article

Knowledge, attitude and practice regarding tuberculosis among the patients attending a tertiary care hospital in Maharashtra, India: a cross sectional study

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ABSTRACT

Background: Tuberculosis is major public health problem especially in the low and middle income countries like India. We conducted a study to assess the knowledge, attitude and practice related to tuberculosis among the patients attending our tertiary care institute.

Methods: A cross sectional study was conducted in a tertiary care hospital on the patients attending OPD of tertiary care hospital in Maharashtra. The patients with debilitating illness or bed bound patients and those diagnosed and cured of tuberculosis or were on treatment of tuberculosis were excluded from the study. A pretested and designed questionnaire was used to assess the knowledge, attitude and practice about the cause, clinical features and treatment of tuberculosis.

Results: The mean age of the study subjects was 43.34 ± 11.23 years with male: female ratio of 1.45. About 16.67% of the subjects stated that cause of TB is bacteria, 51.33% reported that cough was the most common symptom, 58.67% believed that it spreads from person to person and among the people who said it spreads 58.67% said that it can be preventable.

Conclusions: About 1/5th of the study subjects expressed the cause of TB is bacteria or germs, and more than 1/2 believed that TB spreads from person to person. About 2/3rd of the patients felt that TB was a very serious disease; more than 1/2 of them expressed fear if they were diagnosed with TB but more than 1/2 of them also expressed rejection if they have a TB patient as a closed one.

Keywords: Attitude, Knowledge, Practice, Tuberculosis

INTRODUCTION

Tuberculosis is major public health problem especially in the low and middle income countries like India.^{1,2} According the estimates, tuberculosis is leading infectious disease across the world. About 10 million cases were diagnosed to have TB and about 1.7 million deaths were attributed to this disease in the estimated given by World Health organisation for the year 2016.³

Malnutrition, co morbidities like diabetes, HIV and other immunosuppressive diseases, older age, smoking, overcrowding and poverty are the major predisposing risk factors. In addition the poor access the health facilities, lack of financial resources, lack of knowledge about the cause, mode of transmission and symptoms as well as appropriate treatment affects the health seeking behaviour and poor adherence to the overall treatment in patients suffering from TB. Further, the disease has its own social

effects influencing the social relations and moral identity which will affect the control of TB in the community.⁴ For the above reasons, creating awareness is an important aspect of the control of this disease which is even a part of 6 basic components of STOP TB strategy of WHO. Based on this background, we conducted a study to assess the knowledge, attitude and practice related to tuberculosis among the patients attending the outpatient department of pulmonary medicine department of a tertiary care institute of Maharashtra, India.

METHODS

We conducted a cross sectional study among the patients attending in our patient department of a department of pulmonary medicine at a tertiary care institute. The study was conducted for 2 months from May 2018 to June 2018. All patients more than 18 years attending our OPD were included in the study. The patients with debilitating illness or bed bound patients were excluded from the study. The patient who were diagnosed and cured of tuberculosis or were on treatment of tuberculosis were excluded from the study.

A study conducted by Angeline GG et al reported that 45.2% of their study subjects had adequate knowledge about tuberculosis in their study sample.⁵ Using this prevalence, with 95% confidence interval and 8% absolute error we found the minimum sample size to be 149. We included 150 study subjects for our convenience. We included the study subjects on a convenience consecutive basis till the sample size of 150 was achieved.

The questionnaire was prepared by a team of experts from the department of pulmonary medicine and community medicine of the tertiary care institute. The questions were selected on the basis of the review of literature. This was further translated in local language and tested over 10 study subjects for the feasibility and back translated to English for the final data collection.

The questionnaire had the basic demographic data like age, gender, educational status, socioeconomic status etc and the questions related to knowledge, attitude, and practice regarding pulmonary tuberculosis. The educational status was categorised into the classification based the standard guidelines. The socio-economic status was classified based on the modified Prasad BG classification based on the consumer price index of the study period.

Statistical analysis

The data was collected, compiled and analysed using EPI info (version 7.2). The qualitative variables were expressed in terms of percentages. The quantitative variables were both categorised and expressed in terms of percentages or in terms of mean and standard deviations.

All analysis was 2 tailed and the significance level was set at 0.05.

RESULTS

We included 150 study subjects in our study. The mean age of the study subjects was 43.34 ± 11.23 years with male: female ratio of 1.45. Majority of the study subjects were Hindu followed by Muslim and Buddha community. About 60% of the study subjects had educational status of at least primary school and 50% of the subjects had socio economic status of Class 3 according to BG Prasad classification (Table 1).

Table 1: Distribution of the study subjects based on the demographic features.

Demographic characters	Frequency	Percentage
Age group		
18 to 30	29	19.33
31 to 40	36	24.00
41 to 50	53	35.33
51 to 60	21	14.00
>60	3	7.34
Gender		
Female	61	40.67
Male	89	59.33
Religion		
Hindu	112	74.67
Muslim	19	12.67
Buddha	13	8.66
Others	6	4.00
Educational status		
Illiterate	12	8.00
Primary school	89	59.33
Secondary school	29	19.33
Post matriculation	13	8.67
Graduate and above	7	4.67
Socio economic status		
Class 1	11	7.33
Class 2	21	14.00
Class 3	75	50.00
Class 4	33	22.00
Class 5	10	6.67

Based on the knowledge variables, 31.33% felt that pollution is the cause followed by 22.67% ascertained the cause to habits like smoking and tobacco use. About 16.67% said bacteria can cause PTB and 11.33% did not have any knowledge about the cause of PTB. About 51.33% said that symptoms of PTB was cough, 43.34% said it was weight loss, 30% said it was loss of appetite, 37.33% said that it was fever and about 8% did not have any idea of the symptoms of PTB. About 58.67% believed that it spreads from person to person and among the people who said it spreads 58.67% said that it can be preventable. About the treatment of PTB, 75.33% said

medicines given by health institutions will work better followed by 6.67% said herbal medicines will help in treatment of PTB. About 3.33% said religious methods and 5.33% said self treatment will help. About 9.33% said they had no knowledge of the treatment of PTB (Table 2).

Table 2: Knowledge about the cause, symptoms, spread and treatment of tuberculosis.

Knowledge variables	Frequency	Percentage
Cause of PTB		
Bacteria	25	16.67
Habits like smoking/tobacco use	34	22.67
Pollution	47	31.33
Shortage of food	27	18.00
Don't know	17	11.33
Symptoms of PTB*		
Cough	77	51.33
Weight loss	65	43.34
Loss of appetite	45	30.00
Fever	56	37.33
Don't know	12	8.00
Spread from human to human		
Yes	88	58.67
No	62	41.33
If yes, if the transmission preventable (n=88)		
Yes	32	36.36
No	56	63.64
Treatment of PTB		
Medicines given by health institutions	113	75.33
Herbal medicines	10	6.67
Religious methods	5	3.33
Self treatment	8	5.33
Don't know	14	9.33

*Multiple answers

About 60.67% of the patients said that PTB is a very serious disease and 3.3% said that they did not know about the seriousness of the disease. About 44.66% said they will help the patient of PTB is taking care, 9.34% expressed abandonment, 12.67% had fear of infection and 18% had compassion towards the patients with PTB (Table 3).

About 55.33% said they would go to doctor to seek advice if had tuberculosis, 11.33% said they will ask a family member, 14.67% will ask friends and 8% shall ask others. About 46% expressed that if they get diagnosed with PTB they will go to health facility and get treated. About 29.33% said they will go to pharmacy, 14% said will go to traditional healers and 6% said they did not know where they should be going if diagnosed with this disease. About 54% said the community will treat the patient with rejection, 22.67% will react with compassion

and 13.33% said they shall support them throughout the course to make him feel better (Table 4).

Table 3: Attitude of the subjects towards tuberculosis.

Attitude variables	Frequency	Percentage
How serious is the disease?		
Very serious	91	60.67
Somewhat serious	33	22.00
Not very serious	21	14.00
Don't know	5	3.33
Feeling towards the patient with PTB		
Helping him or her out	67	44.66
Abandonment	14	9.34
Avoid meeting them	23	15.33
Fear of infection	19	12.67
Compassion	27	18.00
Reaction if diagnosed with PTB		
Fear	85	56.67
Hopelessness	45	30.00
Don't know	20	13.33

Table 4: Practice of the subjects towards tuberculosis.

Practice	Frequency	Percentage
From whom you would take advice if had tuberculosis		
Doctor	83	55.33
Family member	17	11.33
Friends	22	14.67
Others	12	8.00
Don't know	16	10.67
If diagnosed with TB, where will you seek medical help?		
Self treatment	7	4.67
Go to health facility	69	46.00
Go to pharmacy	44	29.33
Traditional healers	21	14.00
Don't know	9	6.00
Behaviour to the community towards the people with PTB		
Rejection	81	54.00
Compassion and pity	34	22.67
Support	20	13.33
Don't know	15	10.00

DISCUSSION

The World health organisation end TB strategy aims to reduce the new case load of tuberculosis by 90% in the year range of 2016 to 2035. To achieve this, we need to educate the general population about the cause, spread and clinical presentations of the disease with community based programs. With this background we conducted a cross sectional study on the patients attending the outpatient department of pulmonary medicine of a

tertiary care hospital to assess the knowledge, attitude and practice associated with the disease.

The mean age of the study subjects was 43.34 ± 11.23 years with male: female ratio of 1.45 with majority belonging Hindu religion. Upon assessing the knowledge of the general population about 16.67% told that the cause was bacteria and 11.33% did not have had knowledge about the cause. Haasnoot PJ et al, reported that 56% of their study subjects correctly answered the cause of TB.⁶ Tolossa D et al, inferred that only 22.9% knew the cause of tuberculosis to be of bacterial origin.⁷ Kigozi et al, reported that about 60.2% of the subjects stated that cause of TB is by germs or bacteria.⁸ Easwaran et al reported that only about 10.6% responded correctly to the cause of TB in their study.⁹ Konda SG et al, inferred that only 35.2% of the subjects included in their study knew that the cause of TB was from bacteria.¹⁰ A study conducted by Pengpid S et al reported that 57.7% of the Thai general population said the cause was bacteria, 25.6% of the ethnic and migrant groups in Thailand expressed so.¹¹ Hibstu DT et al, reported that the 81.7% of the school students had stated the TB is caused by bacteria.¹² Based on the studies conducted across the world the knowledge regarding the cause, spread and clinical features should be inculcated among the general population to attain better outcome.

The most common symptom stated was cough with expectoration (51.33%) in our study. Studies conducted by Tolossa D et al, Easwaran et al, Konda SG et al, Pengpid S et al, Hibstu DT et al, Jangid VK et al, Angeline GG et al, Aseeri AA et al, Solliman MA et al, Moreda TB et al, Tasnim S et al and Rana MM et al.^{7,9-13,14-18} Haasnoot PJ et al, inferred that about 94% of the study subjects correctly answered the clinical presentations of TB.⁶ More than half of the subjects felt that the tuberculosis spreads from person to person in our study. Similar findings were reported by Tolossa D et al, Konda SG et al, Pengpid S et al, Angeline GG et al, Aseeri AA et al, Tasnim S et al and Rana MM et al.^{7,10,11,5,14,17,18}

Hibstu DT et al, conducted a study to assess knowledge among school students in their area about TB and found that 59.8% had good knowledge about the cause and transmission of the disease.¹² Another study conducted by Howley MM et al, among the whites and blacks in the US reported that the white participants had higher knowledge score about the cause, transmission and clinical presentation of TB when compared to black participants.¹⁹ Feris AM et al, reported that about 33.10% of the study subjects in their study had a favourable knowledge about the cause and transmission of TB.²⁰ Hussein I et al reported that about 47% of the study subjects had good knowledge about TB according to their study.

About 71% of the subjects in a study conducted by Tolossa D et al stated they will go to health facility for

treatment.⁷ Similar findings were reported by our study, Easwaran et al, Konda SG et al, Angeline GG et al, Aseeri AA et al, Solliman MA et al and Rana MM et al.^{9,10,5,14,15,18} Haasnoot PJ et al, reported that 72% of the subjects in their study correctly stated that tuberculosis can be treatable and 6% stated correctly that TB can be cured.⁶ Kigozi et al, reported that about 96.3% of their study subjects believed that TB can be cured.⁸ Easwaran et al, reported that the 80.1% of the subjects stated treatment to be continued as advised by the doctor and 77.9% stated that start treatment as early as possible to cure it early in their study.⁹ About 84.3% of the subjects studied by Jangid VK et al reported that TB is curable.¹³ Aseeri AA and workers inferred that 52% of their subjects stated TB can be prevented and 44.6% stated that it can be treated.¹⁴ Hussein I et al, reported that about 63% had poor attitude based on the survey they did on their study subjects regarding TB. Howley MM and colleagues reported that the attitude scores towards TB were better in whites when compared with blacks in their study but there was no significant difference between the two groups.¹⁹

About 60.67% of the study subjects in our study felt that TB was a very serious disease. Similar findings were reported by Tolossa D et al, Kigozi et al, Jangid VK et al, Aseeri AA et al, Solliman MA et al, Moreda TB et al, Tasnim S et al and Rana MM et al.^{7,8,13-18} In our study, about 54% said the community will treat the patient with rejection, 22.67% will react with compassion and 13.33% said they shall support them throughout the course to make him feel better. Kigozi et al, inferred that about 49.3% strongly disagreed that they will be embarrassed if their TB status is revealed in the clinic to others.⁸ Aseeri AA et al, reported that 62% of the subjects would have fear if they were diagnosed with TB and rest said they will be sad.¹⁴ In spite of so many educational programmes being conducted across the world on TB the attitude of the general population is almost same throughout.

The study had some limitations. One of them was a restricted population to one geographical area which will affect the generalisability of the study. It was hospital based study; a community based study with a larger population involvement would yield better results. Nonetheless, this study is needed for the hour since the MDR TB cases are on rise.

CONCLUSION

About 1/5th of the study subjects expressed the cause of TB is bacteria or germs, more than 1/2 of them said that cough was the most common symptom, and more than 1/2 believed that TB spreads from person to person. About 3/4 of the subjects said treatment of TB is medicines as advised by doctor. Overall the knowledge of our cohort was good about the spread and the treatment but they still lacked in the cause of the disease. About 2/3rd of the patients felt that TB was a very serious disease; more

than ½ of them expressed fear if they were diagnosed with TB but more than ½ of them also expressed rejection if they have a TB patient as a closed one.

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