

EDUCATIONAL DIAGNOSIS IN RURAL POOR COMMUNITY ON TUBERCULOSIS

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Received : 10/09/2023
Received in revised form : 05/10/2023
Accepted : 19/10/2023

Keywords:
Tuberculosis, TB, communicable disease.

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DOI: 10.47009/jamp.2023.5.5.238

Source of Support: Nil
Conflict of Interest: None declared

Int J Acad Med Pharm
2023; 5 (5); 1208-1211



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Abstract

Background: Tuberculosis is a major communicable disease in India and leads the number one among high TB burdened countries. The aim is to arriving at an educational diagnosis about TB in a rural poor community on TB affected individual or his/her relative. **Materials and Methods:** It is community-based cross sectional study undertaken from rural area and we have selected 108 cases under NTEP-108 patients were selected for analysis. The study area is a part of Primary Health Centre for the diagnosis of TB under NTEP. Under NTEP, sputum examination is the mainstay of diagnosis of TB and anti-TB drugs are provided free of cost for entire duration of treatment which is usually 6–8 months. **Result:** A total of 108 were interviewed. Out of them, 66.7% (72) considered TB as a serious disease. Regarding the symptoms of TB, 81% were aware that cough is a symptom of TB. Weight loss (30%), blood in sputum (70%), and fever (39%). Also, 1% reported that vomiting as a symptom of TB and diarrhea by 2% of respondents. However, 10% of respondents were not aware of any symptom. Of the alternatives given, 80% answered “direct contact with TB patient” to be the most important reason for the spread of TB. General precautionary measures to be used to avoid getting TB infection as most frequently selected answer (90%) was “keeping distance with TB patient”. Vaccination was not recognized as a measure to prevent TB by most of the participants. **Conclusion:** There is good TB awareness among rural poor in slum areas. During health education efforts, it is important to emphasise the knowledge of “free treatment” and “duration of treatment.”

INTRODUCTION

The disease is airborne spread and caused by mycobacterium tuberculosis bacteria. The common risk factor has been attributed are Poor socioeconomic status, malnutrition, social habits like smoking, alcoholism, drug addiction, immunosuppressive disease like DM/HIV/cancer on chemotherapy/ prolonged steroid usage. The World Health Organization's (WHO) End TB Strategy and the Sustainable Development Goal (target 3.3) are operational to limit the incidences of tuberculosis (TB) by 2030.^[1,2] Even though the infection rates are slowly decreasing worldwide, TB is still accounted for more annual deaths than any other single infectious disease, except for Coronavirus disease (COVID-19) recently. Low- and middle-income countries are most affected by TB and India is the most affected country in the world.^[3,4]

National tuberculosis elimination programme (NTEP), and National Strategic Plan for Tuberculosis Elimination (NSP for TB elimination 2017–2025) were launched by the Indian government with a vision to end TB in the country by 2025.^[4] The programs focus on awareness, early detection, and treatment compliance to achieve the goals.^[5] Studies from various settings show that lack of knowledge, insufficient awareness, and widespread stigma surrounding TB are the main causes for misinterpretation of the severity of the situation.^[6-10] Thereby, delay in diagnosis and poor adherence to treatment regimens leads to increased risk for the spread of infection, poorer outcomes, and a high burden of the disease. Family history of TB either genetically based or close contact with sputum positive TB patients and so many. Since we are fighting with TB disease for so many decades. We want to assess the current scenario of risk factors for

TB disease in the community and the impact of HIV and DM in TB incidence and prevalence.

MATERIALS AND METHODS

It is community-based cross sectional study undertaken from rural medical college, Telangana and we have selected 108 registered cases under NTEP-108 patients were selected for analysis The study area is a part of Primary Health Centre for the diagnosis of TB under NTEP. Under NTEP, sputum examination is the mainstay of diagnosis of TB and anti-TB drugs are provided free of cost for entire duration of treatment which is usually 6–8 months.

A pretested, structured interview schedule was used to assess the Periodic knowledge, attitude, and practice (KAP) related to symptoms, causes, spread, and treatment of TB. Domains identified were knowledge about TB, symptoms, spread, diagnosis, treatment, and prevention of TB.

Data were entered into a Microsoft Excel spreadsheet and analyzed with Microsoft excel and SPSS version 13.0. Descriptive statistics were calculated.

RESULTS

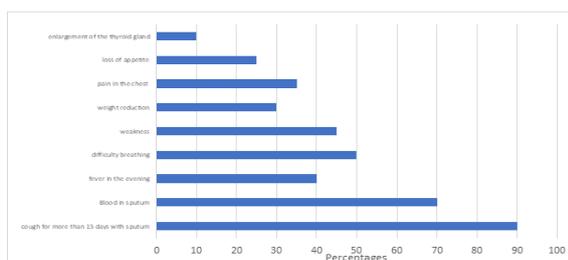


Figure 1: Knowledge on symptoms associated with TB

Weight loss (30%), blood in sputum (70%), and fever (39%). Also, 1% reported that vomiting as a symptom of TB and diarrhea by 2% of respondents. However, 10% of respondents were not aware of any symptom. Although majority of participants were aware of “cough” as a symptom, participants who

were educated secondary school and above had better knowledge.

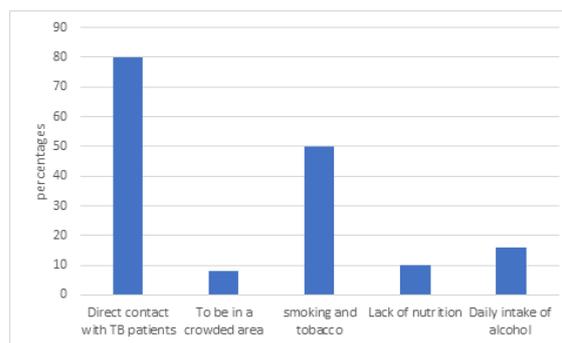


Figure 2: Knowledge on risk factors of tuberculosis.

Of the alternatives given, 80% answered “direct contact with TB patient” to be the most important reason for the spread of TB. Half of the respondents answered that “smoking and tobacco” was a key reason for TB infection.

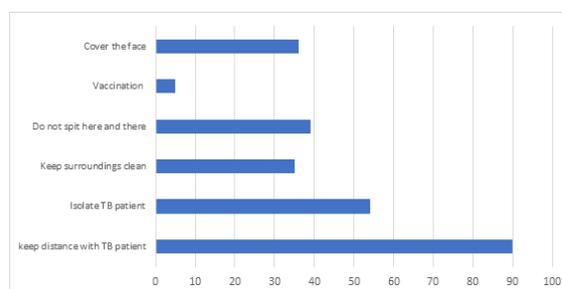


Figure 3: Knowledge on general measures useful to avoid the spread of tuberculosis.

General precautionary measures to be used to avoid getting TB infection. The most frequently selected answer (90%) was “keeping distance with TB patient”. More indicated that “clean surroundings” and “not spitting here and there” are important measures to avoid spreading TB. Once again, vaccination was not recognized as a measure to prevent TB by most of the participants.

Table 1: Demographic details of patients

Variable	Description of variable	Number of patients	percentages
Sex	Male	40	37.04
	Female	68	62.96
Age	Mean	35.6 years	-
	Standard deviation (SD)	12.1 years	-
	Median	32 years	-
Education (N = 1539)	Illiterate*	12	11.11
	Primary (1st -5th grade)	14	12.96
	Secondary (6th – 9th grade)	25	23.15
	Upper secondary and above	57	52.78
Housing owner ship	Own house	76	70.37
	Rented	32	29.63
Housing type	kutchra	26	24.07
	Pucca	82	75.93
Overcrowding	Yes	57	52.78
	No	51	47.22
Cross ventilation			

	Yes	36	33.33
	No	72	66.67

A total of 109 people were interviewed, of whom 68 (62%) were females and 40 (37%) were males. Mean age is 35.6+/-12.1 years. Most of them are educated Upper secondary and above. About one-fourth of the study subjects were living in kutcha houses, and more than half of them were living in overcrowded houses.

Table 2: Knowledge, attitude, and practice regarding tuberculosis in the study population

Questions related to-	Number of number	Percentages
Knowledge		
Have you heard about TB	92	85.19
Is TB a serious disease	72	66.67
“Cough” as symptom of TB	81	75.00
TB can spread from one person to other	81	75.00
Any test to diagnose TB	82	75.93
TB is curable	85	78.70
Availability of free treatment	90	83.33
TB can be prevented	76	70.37
Using a hand kerchief or a towel while coughing will prevent the spread	50	46.30
Aware of vaccine (BCG) that can prevent TB	62	57.41
Attitude		
Status of tuberculosis can be shared	55	50.93
Practice		
Safe method of disposal of sputum	30	27.78

DISCUSSION

In our study awareness about TB is good except for some components of diagnosis and treatment of TB. A high level of literacy in this slum area and geographical proximity to the government hospital might be reasons for the good level of awareness. To the best of our knowledge, this is the first study that provides an insight into the knowledge, risk awareness and attitudes regarding TB among the participants attending one of the world's largest MG. Though there are some widely shared understandings about TB in this population, important knowledge gaps still exist and need to be addressed in future policy to enable safe MG, prevent the spread of infection and achieve the goal of ending the TB epidemic in India.

In present study total of 109 people were interviewed, of whom 68 (62%) were females and 40 (37%) were males. Mean age is 35.6+/-12.1 years. All countries and age groups are affected by TB but most cases (90%) in 2016 were in adults. Almost two-third was accounted for by eight developing countries with India contributing 27% of 10.4 million cases.^[11] In 2017, only 64% of the global estimated incident cases of TB were reported, the remaining 36% of ‘missing’ cases was undiagnosed, untreated or unreported.^[12]

Most of them are educated in present study Upper secondary and above. 97.8% had heard about TB in rural population of central India. A high level of literacy in study area and geographical proximity to the government hospital and educational institute in rural might be reasons for the good level of awareness. The corresponding findings were reported by Angeline et al,^[13] in rural Tamil Nadu (92%), Fochsen et al,^[14] in Delhi (95%), Chinnakali et al,^[15] (94%) in Tamil Nadu. Similar findings in general population were also reported by Wang et al,^[16] in China (99.2%) and Sharma et al,^[17] in Delhi

(99.10%). However, a study in Tamil Nadu by Kar et al,^[18] only 56% of respondents had heard about TB and another study in Punjab by Singh et al, revealed that this rate was 75.5%.

In present study 81% were aware that cough is a symptom of TB. In a study by Angeline GG et al,^[13] it was reported that 35.3% rural population were aware that TB transmission is preventable. Knowledge that TB is preventable was found to be very high (98.2%) in a study by Sharma et al,^[17] among the general population of Delhi. In this study, 81% participants knew that TB is curable and also reported that it can be cure by modern medicine only (77%). Other studies also have similar results.^[18,19] As far as rural setting concern, it was great to find that major population (63%) was in favor of government facility for seeking treatment of TB. The studies by Malhotra et al,^[20] and Kar et al,^[18] Ganapathy et al,^[21] also reported that major population was in favor of government facility for treatment of TB.

In present study weight loss (30%), blood in sputum (70%), and fever (39%). Also, 1% reported that vomiting as a symptom of TB and diarrhea by 2% of respondents. However, 10% of respondents were not aware of any symptom. Although majority of participants were aware of “cough” as a symptom, participants who were educated secondary school and above had better knowledge. This greater awareness about symptoms was encouraging and may improve passive case finding. Study done in rural Tamil Nadu reported 62% awareness about cough as common symptoms. Other studies also reported similar findings.^[22] While 33% subjects were mentioned blood test as a method of diagnosis, only 27% were aware about sputum examination as a method of diagnosis. This indicates more efforts have to be made to create awareness about sputum examination in rural population who already aware that cough is a principle symptom of TB. Regarding transmission of

TB, 85.5% were aware that TB could be transmitted from one individual to another.

In present study most frequently selected answer (90%) was “keeping distance with TB patient”. More indicated that “clean surroundings” and “not spitting here and there” are important measures to avoid spreading TB. Studies from various settings show that lack of knowledge, insufficient awareness, and widespread stigma surrounding TB are the main causes for misinterpretation of the severity of the situation.^[7-9] Thereby, delay in diagnosis and poor adherence to treatment regimens leads to increased risk for the spread of infection, poorer outcomes, and a high burden of the disease.

The findings of this research revealed adequate knowledge about TB in every aspect among rural population. However, there are few myths and misconceptions about causes, symptoms, transmission, and TB prevention. It was found that education level was one important factor that determines people’s awareness and attitude. Knowledge about “importance of preventive measures like sanitation, covering of mouth while cough” and “duration of treatment” has to be stressed during health education activities. Importance of BCG vaccination in the community needs to be recognized by continuity.

CONCLUSION

Eventhough HIV epidemic increase the incidence and prevalence of TB around the world, but in our country the socioeconomic risk factor bypasses HIV. Even after the independence for 65 years our main risk factor is poor socioeconomic status and malnutrition which should be addressed in all forums fighting for TB diseases. The twin factors alcoholism and smoking should also be addressed in community awareness meeting in young minds of Indian population in schools and colleges. All diabetic clinics in our country should focus for early detection TB cases among their clinics especially in rural and rural areas. HIV -TB co-ordination should be implemented at all levels.

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