

Assessment About Awareness On Tuberculosis Among Young Adults: An Original Research

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Abstract

Aim: The purpose of the present research was to evaluate the awareness and knowledge on tuberculosis amongst young adults.

Methodology: A cross-sectional survey using a validated, self-administered questionnaire was designed for 1500 participants between the age of 18- 40 years. The questionnaire consisted of 32 items which asked the participants regarding their socio-economic status, their knowledge regarding TB, its etiology, prevention, treatment etc. descriptive statistical analysis was carried out using SPSS 25.0.

Results: 1000 responded to the study with an overall response rate of 66.6%. The respondents get their TB related information from different sources, such as television (n=447, 44.7%), health workers (n=242, 24.2%) and family members (n=189, 18.9%). Majority (n=888) 88.8% of the respondents agreed that medical treatment is best method to treat TB.

Conclusion: A significant variation in awareness, knowledge, and attitude toward tuberculosis was attributed due to differences across districts and communities.

Keywords: Tuberculosis, prevention, knowledge, multivariate analysis.

INTRODUCTION

Tuberculosis (TB), a communicable disease caused by the bacillus *Mycobacterium tuberculosis*, which spreads when people with TB expel bacteria into the air; for example, by coughing, is a major cause of illness and one of the top ten causes of death worldwide, and the leading cause of death from a single infectious agent (ranking above HIV/AIDS). Despite various TB elimination programs at global and national levels, TB still claims over a million lives each year and affecting millions more, with devastating consequences for families and communities. To minimize the burden of ill-health and death caused by TB, and to meet 'The End TB Strategy' targets established for 2030 and 2035 by WHO, new infections of *Mycobacterium tuberculosis* must be prevented, and action be taken to reduce progression to TB disease. ¹ Tuberculosis cannot be eradicated without people's active participation. Improved TB health outcomes require advocacy initiatives targeted at promoting public knowledge of TB as a curable disease and maintaining a stigma-free environment in the battle against TB. ^{2,3} Although TB is curable and preventable, and the majority of people (around 85 percent) who develop the disease can be successfully treated with a 6-month drug regimen¹, the lack of correct knowledge about the disease's spread among public and negative attitude towards it make TB prevention, diagnosis, and treatment more difficult and possess a challenge for National TB Control Programs (NTPs) in various parts of the world. ⁴ Despite the fact that TB is a major public health issue in both developing and developed countries ⁵, the differences in demographic,

socioeconomic, and cultural factors raise the likelihood of infection considerably in the developing countries such as India.⁶ Since the establishment of the National Tuberculosis Control Program in 1962 to National Strategic Plan (2017) for ending TB by 2025, India has been involved in various TB control efforts in the past. Despite these efforts, TB remains India's one of the most serious health problems, accounting for an estimated 480,000 deaths each year and more than 1400 deaths per day.⁷ Every year, India has over a million missing TB cases that are not reported due to a number of social and infrastructural reasons, a lack of knowledge and awareness about tuberculosis, and a negative attitude toward the disease.⁸ Inadequate TB knowledge and stigmatizing attitudes toward TB may cause delays in TB diagnosis and treatment. TB knowledge and medical treatment awareness are critical for the success of TB prevention and control programs like Revised National Tuberculosis Control Program (RNTCP) in India which aim to make India TB free by 2025.⁹ Despite the fact that men are more likely to be affected by tuberculosis across world and in India, young adults experience the disease differently. Gender has a significant impact on epidemiology, risk factors, likelihood of diagnosis, access to healthcare, treatment adherence, and the overall impact of TB on families and communities.¹⁰ It has been noted previously that the young adults of reproductive age¹¹ bear a disproportionately high burden of tuberculosis, particularly in India.¹²

AIM OF THE PRESENT STUDY

The purpose of the present research was to evaluate the awareness and knowledge on tuberculosis amongst young adults.

METHODOLOGY

A cross-sectional survey using a validated, self-administered questionnaire was designed for this study. In order to minimize erroneous results and increase the study reliability, triple value of the estimated sample was intended to be collected in addition to a 30% expected dropout from the study. The study was conducted over a period of six months, from November 2022 to March 2023 after taking ethical approval from the university and informed consent from 1500 participants in a small village. People willing to participate in the survey and aging 18 years and above were included in the study. Respondents aging below 18 and over 40 years, having severe health problems, with cognitive impairments and having history of TB were excluded from the study. The Tuberculosis Knowledge Assessment Questionnaire (TKAQ) was developed from extensive literature review. The questionnaire consisted of 32 items which covered the following areas. First part of the questionnaire consisted of nine items focusing socio-demographic and general information about the participants. Second part consisted of five items addressing knowledge towards causes and symptoms of TB. Third part contained four questions exploring knowledge about TB transmission. Forth part focused on the risk factors for TB and had two questions. Fifth part comprised of five items that covered knowledge towards TB diagnosis. Sixth section with two items covered knowledge concerning TB treatment. Final part consisted of five items highlighting knowledge about TB prevention. All

items in the questionnaire were framed using three possible answers ('Yes', 'No', 'I don't know'). A score of 1 was given for each correct answer and a score of zero was given for an incorrect answer. 'I don't know' was scored as an incorrect answer. The maximum obtainable score was 23 (excluding 9 items being demographic). Descriptive statistics were applied to compute the demographic characteristics of the respondents. Difference between the categorical variables was examined with Chi-square or Fischer Exact Test where appropriate. Student's t-test was used to compare among knowledge scores between two groups using SPSS 25.0.

RESULTS

A total of 1500 participants were approached and 1000 responded to the study with an overall response rate of 66.6%. Mean knowledge score for respondents was 11.4 ± 3.9 and the median score was 12. The respondents were asked whether they have heard of the disease called TB. Majority of the respondents (n=965, 96.5%) responded positively, whereas only few of the respondents (n=35, 3.5%) answered as 'no'. The respondents get their TB related information from different sources, such as television (n=447, 44.7%), health workers (n=242, 24.2%) and family members (n=189, 18.9%). Respondents were asked about the causes of TB. Half of the respondents (n=500, 50%) were able to answer this question correctly. When asked that is TB a communicable disease, 787(78.7%) agreed to the statement. Seven hundred and twenty-three (72.3%) respondents reported cough as one of the most common symptoms of TB whereas, 604 (60.4%) agreed that a person can suffer from TB at any stage of life. Five

hundred and ninety-four (59.4%) of the respondents were agreed that HIV infected patients are at greater risk of getting TB. The respondents were asked that weather blood test is the most useful diagnostic method in diagnosing TB. The analysis revealed that 344 (34.4%) of the respondents answered this question correctly. Four hundred and twenty (42.0%) respondents were of the opinion that chest X-ray is best diagnostic tool to diagnose TB. Majority (n=888) 88.8% of the respondents agreed that medical treatment is best method to treat TB. The current study showed that 774 (77.4%) of respondents agreed the avoiding contact with TB patient can halt transmission of TB. (Table 1)

Table 1- General Information on Awareness, Knowledge and Attitude towards Tuberculosis across Background characteristic amongst young adults (18-40 years)

Background characteristic	Awareness of TB	Knowledge of TB		Attitude towards TB
	People who have heard about TB (%)	Report that TB is spread through the air by coughing Or sneezing (%)	Believe that TB can be cured (%)	Would want a family member's TB kept secret (%)
Age				
18-25	88.10	69.89	87.57	15.34
26-35	87.69	70.26	89.37	15.66
36-40	86.05	67.22	88.22	16.40
Highest Educational Level				
No Education	79.49	55.26	84.64	15.26
Primary	85.42	60.84	86.36	14.96
Secondary	90.08	73.24	89.63	16.02
Higher	94.77	87.13	94.54	17.14
Mass Media Exposure				
Full	89.58	75.1	89.80	17.54
Partial	87.19	62.72	88.10	13.11
Nil	79.14	53.11	84.90	12.28
Interaction with Community Health Workers				
No	86.44	68.53	88.37	16.16
Yes	89.57	71.07	89.58	14.93

DISCUSSION

One of the primary challenges in preventing, controlling, and eliminating tuberculosis in India is a lack of awareness, knowledge among young adults about its spread and a negative attitude about the disease.¹⁷ In the study, we found that while the prevalence of awareness of tuberculosis is high among Indian young adults aged 15 to 49 which is consistent to previous studies done different parts of the Africa and Asia, correct knowledge of how TB spreads, i.e., TB is spread through the air by coughing or sneezing is low, which is also consistent with other studies, is a key challenge for the TB control programs like RNTCP in India. Many studies have found that a lack of correct knowledge are to be blamed for TB patients' delays in obtaining health care in a health facility, and stigmatization and also, poor knowledge about spread of TB may contribute to the high burden of TB disease in the country.^{7,11} Surprisingly we found more young adults believe that TB can be cured, and only a small percentage of young adults want to keep a family member's TB a secret, in line with studies in Africa. Multilevel analysis reveals that individual, community, and district-level factors all play a role in TB awareness and knowledge. However, community-level factors are not found to have much influence on attitudes toward TB. The multilevel framework revealed significant community and district differences in awareness, knowledge, and attitude towards TB. The most problematic finding was the lack of knowledge about TB transmission. Analogous to our findings, level of education as a significant factor in knowledge about transmission of TB has been reported in other studies. Other studies from Zambia, Pakistan and Malaysia also reported poor knowledge of study respondents about transmission of TB.¹⁴⁻¹⁶ It is evident from our study findings that general population has severe

misconceptions about transmission TB. It is time for health care policy managers to strengthen health education efforts especially in young generation and those with lower education and monthly income.

CONCLUSION

This study reveals that in general, knowledge about TB within the population was decent. However, it also identified number of gaps in the area of transmission, risk factors, diagnosis and prevention of tuberculosis.

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