

A Cross-Sectional Study to Evaluate Patients' Knowledge, Attitude, and Practice Regarding Pulmonary Tuberculosis in Ghaziabad district

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Abstract.

Introduction: tuberculosis (TB) is a significant public health issue. Planning, implementing, and evaluating advocacy, communication, and social mobilization activity requires an assessment of the region's knowledge, attitudes, and health-seeking practices. This could increase the rate of case discovery. This study's objective was to evaluate patients' TB knowledge, attitudes, and practices in Ghaziabad district.

An 18-year-old and older sample of suspected and confirmed TB patients was surveyed cross-sectionally. 412 people had signed up to participate for this reason. Data were gathered using a pre-validated, structured questionnaire. An association with various variables was also examined using chi-square and multivariate logistic regression analysis.

Regarding pulmonary TB, respondents' mean and median knowledge scores were 5.61 and 6, respectively. The majority of respondents had a number of misconceptions about the most contagious form of TB in all areas. The present free cost of TB diagnosis and treatment was unknown to about half of the respondents. The primary deterrent to seeking care, according to 67.5% of respondents, is cost. Many respondents' beliefs concerning TB were widespread. In order to close the gap in the study sites, the TB control program needs to take lobbying, communication, and social mobilization into account.

1. BACKGROUND

Despite being a treatable and preventable condition, infectious disease-related deaths from tuberculosis (TB) rank second most frequently. [1] In 2010, there were 9.4 million incidents and 14 million prevalent cases worldwide. [2] Smear positivity accounted for 30% of all new TB cases [3-5], and the directly observed treatment short course (DOTS) detection rate is still low at 34%.

The effectiveness of DOTS may be affected by the patients' health-seeking habits, which are influenced by their demographics, knowledge of TB, health literacy, and traditional beliefs. These are thought to have a significant influence on both treatment compliance and success rate. [6,7]

According to studies, people who are illiterate, female, from rural areas, have poor incomes, and are younger in age are more likely to have low knowledge scores than other groups. Additionally, they revealed that fewer than half of the respondents knew that tuberculosis (TB) may be diagnosed and treated for free, which could pose obstacles to TB diagnosis and have a substantial impact on the case notification rate. [8–13] It has also been established that the illness has a substantial impact on social interactions. This happens when there is stigma, discrimination, and a variety of beliefs that may be responsible for low treatment compliance and poor adherence. [14–16] Therefore, the objective of this study is to assess patients' knowledge, attitude, and health-seeking practice and associated factors toward pulmonary tuberculosis.

2. MATERIAL AND METHODS

A facility-based cross-sectional descriptive research involving probable pulmonary TB cases at the out-patient department and retreatment cases at DOTS (ages 3–18) was conducted. Based on the regular occurrence of DOTS, acid fast bacilli, and patient flow, 48 public facilities were listed. To divide the strata into different groups according to their capability, a stratified random sampling technique was applied (hospital, health center). Each strata had a distinct sample unit chosen. In the end, 43 sites were included in the study, and individual units were chosen using a straightforward random selection technique. The sample size was calculated using a single proportion formula.

We used a questionnaire that consisted of both closed- and open-ended questions. On-site training was given for interviewers and supervisors for 2 days. Cross-checking was conducted in sample facilities for consistency. Verbal consent was obtained from each respondent. The questions on the questionnaires included information on the socio-demographic characteristics of the respondent, knowledge, attitudes, and health-seeking practice toward TB. For each TB knowledge question, a score of one was given for a correct answer, whereas a zero score was given for incorrect and do not know responses. Questions on the knowledge part were rated and a total score was obtained. The median score was then computed. Therefore those with a total score equal to or below the median were classified as having poor knowledge, whereas those above the median were considered having good knowledge.

Statistical analysis. Data entry and cleaning was done by a trained encoder using SPSS (Statistical Package for Social Science version 16). The $P < 0.05$ was statistically significant. Multivariate analysis using the logistic regression model was computed.

2. RESULTS

Socio-demographic characteristics. In total, 412 participants—225 with positive smear results and 187 with negative results—were enrolled in the study. 211 of them (51.4%) were men. The responders were 34 years old on average. Approximately 60.8% of the study's participants (251)

lived in rural areas, and the majority of them—197 or 47.8%—made their living through farming (Table 1).

Clinical signs and previous interactions. Most individuals presented with a variety of symptoms. The most common signs and symptoms were chronic cough (189 cases; 84.1%), sputum production (170 cases; 75.9%), night sweats (138 cases; 61.9%), exhaustion/fatigue (136 cases; 60.9%), shortness of breath (130 cases; 56.5%), and unexplained weight loss (105 cases; 47.6%). 15 research participants (8.5%) and 11 (6.7%) had contact histories with known positive pulmonary tuberculosis (PTB) cases and suspected TB cases, respectively.

Tuberculosis awareness and sources of information: The majority of survey participants, 271 (64.2%), learned about PTB through health professionals, whereas 170 (35.5%), 191 (21.5%), and 65 (15.4%) learned about it through personal communication and public radio, respectively. Only 9.9% (42) of respondents attempted to look up information regarding TB, and 97.4% (411) felt underinformed about the disease. However, other significant mechanisms of transmission were drinking raw milk (42.4%), being exposed to cold (60.2%), and being exposed to dust (63.0%).

Table 1: Socio-demographic characteristics of smear positive and negative patients

Variables	Number	(%)
18–30	202	47.8
31–40	81	19.2
41–50	69	16.3
≥51	30	7.1
Sex		
Male	211	50
Female	191	45.2
Religion		
Muslim	196	46.4
Christian	206	48.8
Education		
Literate	167	39.5
Illiterate	235	55.7
Residence		
Urban	151	35.8
Rural	251	59.4

Table 2: Respondent's knowledge about general aspects of TB

Variable	Number	(%)
Cough	277	63.2
Cough > 2 weeks	138	30.3
Ongoing fatigue	112	24.1
Shortness of breath	124	27.0
Weight loss	140	30.8

Fever	70	14.2
Do not know	57	11.1
Mode of acquiring Tb		
Through air droplet	337	77.5
Through shaking hands	5	1.21
Through sharing dish	127	27.7
Do not know	61	12.1
Mode of prevention of Tb		
Covering mouth and nose	281	64.2
Avoiding sharing dish	122	26.5
Through good nutrition	225	50.9
Closing windows	194	43.6

Coughing (63.2%), weight loss (30.9%), a cough lasting two weeks or more (30.3%), and shortness of breath (27.0%) were the four symptoms of TB that respondents most frequently noted. The majority of respondents—271 (63.6%)—thought that covering one's mouth and nose was the most popular way to stop the transmission of TB. Additionally, according to 50.9% of respondents, TB transmission and spread can be stopped by closing windows (43.6%), abstaining from sex (43.9%), and separating dishes (26.5%).

The majority of respondents—74.4% (314)—thought that TB was a treatable illness and that everyone was at risk of getting it—58.0% (245). Similar to this, 268 (63.2%) respondents said the ailment is treatable with current treatments, although 20.1% (85) of respondents were unsure of the treatment. Only 43.1% of respondents were aware of the free TB diagnosis and treatment now offered, while 48.1% were unaware of the service charge (Table 2). Regarding pulmonary TB, respondents' mean and median knowledge scores were 5.61 and 6, respectively.

Attitudes and practices. 34.1% (143) of those who participated in the study who examined respondents' attitudes and behaviors believed PTB to be a very severe issue. 55.9% (236) of respondents thought they might have TB. Only 22.03% (193) of respondents freely disclosed the presence of TB to their close acquaintances, while 35.03% (168) of respondents believed they would contract the TB disease (Table 3).

The majority of answers to open-ended questions expressed concern that the sickness might be passed on to their family. Additionally, they were concerned about social stigma and the possibility that the illness could not be treatable. They also experienced sadness due to their inability to function correctly. Only 11.3% (68) of respondents visited a government clinic/hospital twice or more per year, whereas 42.9% (181) of respondents chose to self-treat for their primary healthcare. When asked why they had put off getting TB treatment, 67.5% (285) and 52.1% (220) of respondents cited expense and transportation issues, respectively. 18.02% (76) of the respondents were unsure about how to seek TB care (Table 3).

Table 4: Multivariate analysis of characteristics associated with a high knowledge score among smear positive and negative patients

Variables	Odds ratio	95% CI	p-value
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Residence			
Rural	0.430	0.252–0.652	0.000*
Urban	1		
Education			
Illiterate	0.654	0.445–0.929	0.021*
Literate	1		
Choice of care for Tb			
Governmental health facilities			
Pharmacy	1.111	0.559–2.198	0.731
Traditional healer	0.775	0.352–1.691	0.530
Pursue self treatment option	0.448	0.243–0.818	0.010*
Frequency of visit to clinic			
Twice or more/yr	1		
Once a year	0.600	0.282–1.268	0.180
< Once/yr, at least twice/5 yrs	0.504	0.243–1.034	0.650
Once in past 5 yrs	0.417	0.198–0.894	0.016*
Never in past 5 yrs	0.144	0.055–0.358	0.000*
* These variables have significant association.			

A poor knowledge score was independently linked with non-previous history of getting TB, familiarity with self-treatment options, delayed frequency of visits, and being a rural resident on the multivariate logistic regression analysis (Table 4).

3. DISCUSSION

The majority of respondents learned about TB for the first time from health professionals and personal experience, according to other research [8–10,13,16]; this study likewise revealed comparable results. This suggests that health professionals, radio, and personal experience were effective in communicating information about TB and were a promising method for improving case detection. However, this study revealed that there was very little information from the TV, which may be due to the fact that the bulk of the individuals were living in rural areas without TVs (Table 1).

According to the results of the current study, the majority of respondents stated that TB is spread by respiratory droplets and may be avoided by covering the mouth and nose (Table 2). This was in agreement with research conducted in Pakistan and Ethiopia [13,16], and this study noted that there were many false beliefs regarding the origins, transmission, and prevention of TB (Table 2). Additionally, the majority of participants in this survey either lacked knowledge about or were unaware of the many TB symptoms (Table 2). This result was in line with research by Hoa and others as well as Mushtaq and others. [10,19]

In this study, the majority of participants believed that tuberculosis (TB) was an illness that could be cured with modern medicine, however only 50% of participants knew that TB testing and treatment were free of charge (Table 2). This was in line with a study carried out in Pakistan by

Mushtaq and others. [9,10] This study found that the majority of respondents (55.9%) worried, scared, and felt ostracized if they had TB. This result was consistent with research from Norway, Tanzania, and Iraq. [11,14,15] Additionally, this finding demonstrated the necessity of enhancing health education initiatives like information, education, and communication about the gravity of TB and KAP, their causes, their modes of transmission, their side effects from treatment, their interruption, and their ability to be cured. Numerous research suggested that respondents' educational background [9,11-13,20] and place of residence [10,11,13] were significant factors of their knowledge of TB. This study also discovered that illiteracy and living in rural areas were substantially connected with having low knowledge scores. (Table 1). According to studies, men and older age groups had higher knowledge levels than women and younger age groups. [8,12,18,21] A difference in knowledge between sexes and age groups wasn't found in this study, though. This can be due to the study subjects' diversity and the smaller sample sizes compared to other studies. The majority of respondents to this study delayed seeking care due to cost and transportation issues, it was also discovered (Table 3). This study also found links between delayed seeking behavior and inadequate knowledge, experience with self-treatment, and delayed frequency of visits (Table 1). This is understandable given that the majority of research participants reside in rural areas where transportation is a significant challenge. Age, reading level, place of residence, and sex were not linked in this study with a delayed health-seeking practice. This could be the result of sociopsychological hurdles, cultural barriers, financial constraints, stigma, and perceptions of one's own health (beliefs). [11,12,14,15,22] As a result, for a patient to seek early medical attention, they must have accurate information of and a favorable perception of TB and its management.

4. CONCLUSIONS

The majority of respondents held a number of false beliefs about the most contagious TB type in all respects. About 44.3% (181) of respondents choose self-treatment as their major method of medical care. People who delayed getting TB treatment cited cost and transportation issues as their main deterrents.

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