



## Research Article

# Awareness and Perception of Tuberculosis in a Northern State of India: A Cross-Sectional Survey

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**Abstract:** **Background:** One of the most significant global public health issues is Tuberculosis (TB). The community still has to be made aware of the problem if TB is to be prevented and controlled. The objective of this study was to evaluate this awareness among the general population of Punjab. **Material & Methods:** This cross-sectional survey of residents of Punjab was carried out between April 2022 and May 2022 using Google forms. Until 400 replies were gathered, the questionnaire was distributed among state citizens in rural and urban areas via email and social media sites such as Whatsapp groups, Facebook, Instagram, and LinkedIn. We collected data on their socio-demographic traits and awareness about Tuberculosis. Epi info v7 software was used to evaluate the data using the necessary statistical tests. **Results:** A total of 400 respondents took part in the study, of whom 165 (41.25%) were from urban areas and 235 (58.75%) were from rural areas. 262 (65.5%) of the participants in the majority were male, 174 (43.5%) were between the ages of 18 and 30, 159 (39.75%) had a graduate degree, 259 (64.75%) were in the workforce, 248 (62%) were married, and 384 (96.0%) were Hindu. In the present study, 36 (9.0%) participants had very good (32-40 marks) awareness and Perception about Tuberculosis, 122 (30.5%) had good (24-31 marks), 147 (36.75%) had fair (16-23 marks) and 95 (23.75%) had poor (<16 marks) awareness and Perception about Tuberculosis. **Conclusion:** According to survey findings, the community's knowledge and perception of Tuberculosis (TB) and efforts to control it are often either insufficient or unsatisfactory.

**Keywords:** Awareness, Perception, Tuberculosis, general population, Punjab, Cross-sectional survey.

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## INTRODUCTION:

An estimated 10.0 million (range: 8.9-11.0 million) individuals worldwide contracted Tuberculosis (TB) in 2019, a figure that has been slowly dropping in previous years. HIV-negative individuals died from TB at a rate of 1.2 million (1.1-1.3 million) in 2019. (a reduction from 1.7 million in 2000). However, India still contributes to being the highest TB burden country in the world, with an estimated incidence of 26.9 lakh cases in 2019 (WHO), and also has one of the most significant shares (27%) of drug-resistant TB in the world.<sup>1-3</sup>

TB also has a substantial socioeconomic impact as it commonly affects the most productive age group and rural high-risk populations. An estimated 100 million people fall below the poverty line each year because of the financial burden related to TB disease.<sup>4,5</sup>

Although India accounts for a large portion of the global TB burden, the illness has declined for the past few years. The therapy is accessible under the National

Tuberculosis Elimination Program, and the patient will receive financial aid to maintain optimal nutrition. Along with treating those who are afflicted, the program also emphasizes early case detection through active case discovery and awareness-raising, as delaying access to medical care might delay diagnosis and treatment, which will hinder our efforts to realize the goal of a TB-free India by 2025.<sup>6,7</sup>

Early detection and treatment of TB can significantly reduce the spread of the disease from an infected person to others in the family and community. To stop continuous transmission, it is crucial to check the level of awareness in the community regularly. Raising awareness encourages behavioral change and better health-seeking habits.<sup>8-9</sup>

The community may help our nation achieve its aim of eradicating TB from India by 2025 by raising awareness about the disease. As a result, the current study was conducted to gauge community awareness of and attitudes regarding TB in Punjab.

### Objectives of the Study

To evaluate the Awareness and Perception of Tuberculosis among the general population of Punjab.

## RESEARCH METHODOLOGY

- Research Approach -Descriptive
- Research Design- Cross-sectional survey design
- Study area: whole state of Punjab
- Study duration- between April 2022 and May 2022
- Study population: All adults above 18 years old who stayed in Punjab for 12 months or more.
- Sample size- 400 Adults assuming 50% have adequate knowledge regarding Tuberculosis, 5% absolute error, 95% confidence level, and 5% non-response rate.
- Sampling Technique- convenience & snowball Sampling technique
- Study tool: A google form questionnaire consisting of questions regarding socio-demography, Awareness, and Perception of Tuberculosis was created. The questionnaire was initially pre-tested on a small number of people to identify any difficulty in understanding by the respondents.
- Description of Tool-
  - a) Demographic data survey instrument: The demographic form elicited information on participants' backgrounds: age, gender, marital status, religion, employment, education, and many more.
  - b) Questionnaire: The questionnaire contains 40 structured questions regarding Awareness and Perception of Tuberculosis, having three options, i.e., Yes, No & Don't Know. The participants have to choose the right one. One mark was given for each correct answer and zero for the incorrect answer. The maximum score was 40 and minimum score was zero.

Scoring was done on the basis of marks as >80%(32-40)=very good,60-79%(24-31)=Good,41-59% ( 16-23)=Fair,<40% (<16)=poor

- Validity of tool - by the experts in this field
- Inclusive Criteria- who were willing to participate in the study.
- Exclusion Criteria: who were not willing to participate in the study
- Data collection- Data was collected under the guidance of supervisors. The google form questionnaire was circulated via online modes like email and social media platforms like WhatsApp groups, Facebook, Instagram, and LinkedIn in both rural and urban areas of Punjab till the 400 responses were collected. Responses were then recorded in a Google Excel spreadsheet.
- Data analysis- Data was collected and entered in a Microsoft Excel spreadsheet, cleaned for errors, and analyzed with Epi Info V7 Software with the appropriate statistical test for frequencies and percentages.
- Ethical Considerations- Participants' confidentiality and anonymity were maintained.

## RESULTS

The The present study was a cross-sectional descriptive study to evaluate awareness and Perception of Tuberculosis among the general population of Punjab.

A total of 400 respondents, including 165(41.25%) from an urban area and 235(58.75%) from rural areas, participated in the study. Among the participants, the majority, 262(65.5%), were males, 174(43.5%) were between 18-30 years, 159(39.75%) were graduates, 259 (64.75%) were employees, 248(62.0%) were married, and 384 (96.0%) were Hindu.

**Table-1:** Socio-demographic characteristics of study participants

Socio-demographic Variables		Frequency	Percent
Area	Urban	165	41.25
	Rural	235	58.75
Gender	Males	262	65.5
	Females	138	34.5
Age	18-30	174	43.5
	31-40	122	30.5
	41-50	52	13
	51-60	38	9.5
	61-70	14	3.5
Education	Graduate	159	39.75
	Intermediate	111	27.75
	Matriculate	58	14.5
	Middle	32	8
Occupation	Post Graduate	40	10
	Employed	259	64.75
	Unemployed	141	35.25
Marital status	Married	248	62

	Unmarried/ Divorce	152	38
Religion	Hindu	384	96
	Muslim	5	1.25
	Sikh	4	1
	Others	7	1.75
<b>Total</b>		400	100

**Table-2:** Awareness about TB disease characteristics among participants

S.No.	Awareness about TB disease characteristics	Correct Response	Percent
<b>Causes &amp; Epidemiology of TB</b>			
1.	Tuberculosis is a major health problem.	307	76.75
2.	TB is caused by germs/bacteria	293	73.25
3.	TB Is a hereditary disease	43	10.75
4.	TB is a communicable disease	325	81.25
5.	Poverty is one of the major factors responsible for TB	270	67.5
6.	TB affects mostly males	81	20.25
7.	TB can affect all age groups	190	47.5
8.	Smoking can cause TB	206	51.5
9.	TB can always lead to death.	66	16.5
<b>Symptoms of TB</b>			
10.	Cough of >2 weeks could be TB	321	80.25
11.	TB cause unexplained weight loss.	239	59.75
12.	low grade fever specially in night may occurred in TB	202	50.5
13.	Sputum may contain blood in TB	213	53.25
<b>Mode of Spread of TB</b>			
14.	TB spread through air when a person with TB sneezes or coughs	295	73.75
15.	TB spread through sharing items/eating from same plate	159	39.75
16.	TB spread through touching items in public Places/handshakes	113	28.25
17.	Patients with HIV/AIDS are more prone to get TB	194	48.5
<b>Prevention of TB</b>			
18.	Tuberculosis is preventable	293	73.25
19.	Covering mouth and nose while coughing and sneezing helps in preventing TB	323	80.75
20.	Isolation of the TB patient is mandatory to prevent the spread of TB	212	53
21.	Keeping your immune system healthy helps in prevention of TB	282	70.5
<b>Treatment of TB</b>			
22.	TB Is a curable disease	303	75.75
23.	Heard about DOTS	259	64.75
24.	Heard about Nikshay Poshan Yojna	91	22.75
25.	TB treatment is totally free	307	76.75
26.	Duration of treatment of TB is very long for about 6 to 12 months	293	73.25
27.	Treatment of TB can be discontinued when symptoms resolve	220	55
28.	Skipping of a dose during the treatment of TB can produce drug resistance	200	50
29.	Vaccine for TB is available	105	26.25
30.	Bland diet is recommended during the treatment of TB	109	27.25
31.	TB patient must take complete bed rest	241	60.25
<b>Stigma about TB</b>			
32.	We should Avoid sharing of food and utensils of TB Patients	213	53.25
33.	TB patients should be separated from family members	202	50.5
34.	A family with TB patient should not be allowed to participate in any social function	205	51.25
35.	Married female TB patient should be sent off to her	263	65.75

parent's house		
36. Children with TB should not be allowed to go to school	182	45.5
37. Children of parents suffering from TB should not be allowed to go to school	244	61
38. Daily wage Laborer, suffering from TB should not be allowed to work	259	64.75
39. TB patient are threat to community	302	75.5
40. TB patients should be left isolated in the community	272	68

**Table 3:** Awareness regarding Tuberculosis among study participants

Category (Marks)	Awareness regarding Tuberculosis ( n=400)	Percent
V. Good (32-40)	36	9
Good (24-31)	122	30.5
Fair (16-23)	147	36.75
Poor (<16)	95	23.75
<b>Total</b>	<b>400</b>	<b>100</b>

In the present study, 36 (9.0%) participants had very good (32-40 marks) awareness and Perception about Tuberculosis, 122 (30.5%) had good (24-31 marks), 147 (36.75%) had fair (16-23 marks) and 95 (23.75%) had poor (<16 marks) awareness and Perception about Tuberculosis.

## DISCUSSION

Our study's findings show that the general Punjabi population lacks appropriate information and awareness about TB. Similarly, in the study done by Shashikantha SK *et al.*, 1, more than three-fourth of the subjects (76.1%) had heard about TB disease. More than 50% of the subjects mentioned "coughing" by a diseased person as the main reason for spread, forty percent of the subjects opined as recovery would be complete after treatment, and more than 60% of the subjects knew that TB diagnosis and treatment is accessible in any government health center.

In the study done by Sreeharshika Dumpeti *et al.*, 4, although the awareness of symptoms, causative agents, and mode of spread was reasonably good, knowledge of the availability of DOTS centers and services offered through RNTCP is still poor among the population. The study by P. Kulkarni *et al.*, 10 showed poor knowledge about TB symptoms, causes, and modes of transmission and moderate awareness of government TB services.

The results mentioned above in our study underline that the population lacks or is dissatisfied with knowledge about TB and its control in many areas. The general public's access to health education has to be increased. Additionally, this study reaffirms the necessity of extensive community-based TB awareness studies in all of Punjab's districts to support our efforts to eradicate TB from India by 2025. The need for a coordinated effort by the community with the accurate and required information and the health care professionals is necessary for strengthening our efforts toward TB-free India by 2025. Multi-sectoral approach

by various stakeholders involved in TB care, with people having the correct information related to TB, is the need of the hour.

## Limitations

The sample size and duration of the study are restricted to 400 respondents and two months in time; thus, the scope and extent of the conducted research might be minimized. This survey was conducted only in one state of India; hence, these findings cannot be generalized all over India.

## Conclusion

It is determined that participants' knowledge and views of TB were not sufficiently based on the assessment of awareness and perception surrounding the disease. The study's conclusions can be used to develop a thorough health education program for raising awareness of TB throughout Punjab. It can support early tuberculosis detection and treatment. Health initiatives based on these findings may potentially assist in lessening TB stigma in the local community.

## REFERENCES

1. Shashikantha SK, Sheethal MP. Awareness about tuberculosis in a rural area of Mandya district: A cross-sectional study in southern Karnataka. *J Family Med Prim Care* 2022;11:587-92.
2. Central TB Division. India TB Report 2020. New Delhi: Ministry of Health and Family Welfare; 2020.
3. World Health Organization. Global Tuberculosis Report 2020. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO.
4. Dumpeti S, Jothula KY, Naidu NK. Awareness about tuberculosis and RNTCP services among rural people in Nalgonda district, Telangana. *J Family Med Prim Care* 2020;9:3281-7.

5. Tanimura T, Jaramillo E, Weil D, Raviglione M, Lönnroth K. Financial burden for tuberculosis patients in low- and middle-income countries: A systematic review. *Eur Respir J* 2014;43:1763-75.
6. Central TB Division. India TB Report 2021. New Delhi: Ministry of Health and Family Welfare; 2021.
7. PottyRS, Kumarasamy K, AdepyR, ReddyRC, Singarajipura A, Siddappa PB, *et al.*, Community health workers augment the cascade of TB detection to care in urban slums of two metro cities in India. *J Glob Health* 2021;11:04042.
8. Rami K, Thakor N, Patel A. Awareness and knowledge about tuberculosis in patient of tuberculosis at GMERS Medical College and Hospital Dharpur, Patan, Gujarat. *Int J Med Sci Public Health* 2015;4:906-9.
9. Koneru KS, Gangadharan V, Ramya VH, Joy P. Awareness of tuberculosis among patients attending Saveetha Medical College. *Int J Sci Res* 2018;7:44-7
10. Kulkarni P, Kudale A, Arasu K, Lab M, Darby W, Rangan S. Tuberculosis knowledge and awareness in tribal-dominant districts of Jharkhand, India: implications for ACSM. *Public Health Action*. 2014 Sep 21;4(3):189-94.