

Awareness, Knowledge and Stigma of Tuberculosis in Tribal Populations of India: Gender Differences

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Abstract

Tuberculosis (TB) remains a major public health concern in tribal areas of India where poor health literacy and limited access to health care services make disease management a challenge. The present study examines the gender differences in awareness, knowledge and stigma related to TB among tribal populations using secondary data collected from the National Family Health Survey-5 (2019–21). The findings show that awareness about tuberculosis was high among the tribal men and women at national level. However, tribal men showed slightly better knowledge about the correct mode of transmission, while misconceptions about TB were more prevalent among women. Most of the respondents thought tuberculosis can be cured, although the proportion was more among men than women. The prevalence of TB-related stigma, measured by the preference to conceal a family member's TB status, was higher among tribal men. There were significant interstate variations across all the indicators. The study highlights the persistence of gender disparities and regional differences in tuberculosis knowledge and stigma among tribal populations and underscores the need for gender-sensitive and culturally appropriate awareness programmes to strengthen India's efforts towards tuberculosis elimination.

Keywords: Tuberculosis, Tribal Population, Gender Differences, Knowledge, Stigma, Awareness, NFHS-5, India.

Introduction

Tuberculosis (TB) remains one of the major public health challenges of India and is still affecting the socially and economically disadvantaged populations. While the National Tuberculosis Elimination Programme (NTEP) has made considerable progress, there are inequalities in awareness, knowledge and attitudes to TB amongst different groups of people. Tribal communities are a large segment of India's population and are often disadvantaged in terms of poor access to healthcare services, lower levels of education, poverty and geographical isolation, these factors make them more vulnerable to infectious diseases such as tuberculosis.

Adequate knowledge regarding TB transmission, treatment and prevention is needed for early diagnosis and timely treatment seeking. But misconceptions and stigma around the disease still impede effective TB control efforts. The gender differences within tribal communities may also influence the level of awareness and perceptions of TB. Understanding of these differences is important to develop gender-sensitive and culturally appropriate interventions for the prevention and control of TB among the tribal populations.

In this backdrop, the present study explores the gender differences in tuberculosis knowledge and stigma among tribal women and tribal men in India using data from the National Family Health Survey (NFHS-5). **The objectives of the study are as follows.**

1. To compare awareness level of TB among tribal women and tribal men in India.
2. To investigate gender differences in knowledge and misconceptions about TB transmission among tribal populations.
3. To examine gender differences in TB-related stigma among tribal populations in India.

Data and Methodology:

For the study, Secondary sources of data have been used. Data for the analysis have been taken from the National Family Health Survey-5 (NFHS-5, 2019–21) conducted under the supervision of the Ministry of Health and Family Welfare, Government of India. The NFHS-5 has detailed information on the health status of the population, health care utilization and awareness of various diseases, including tuberculosis. The data on Scheduled Tribe (ST) women and men have been extracted from the state reports of NFHS 5 for the purpose of the study. The indicators of knowledge and attitudes towards TB used in the analysis include level of knowledge about TB, knowledge of the mode of transmission, misconceptions and stigma associated with tuberculosis.

A descriptive comparative study was used to assess gender differences in knowledge and stigma related to TB among tribal populations in India. Tribal women and tribal men have been compared in terms of percentages and proportions for their awareness and perception about tuberculosis. The study findings are expected to provide valuable insights to strengthen gender sensitive tuberculosis control strategies and to improve health interventions among tribal communities in India.

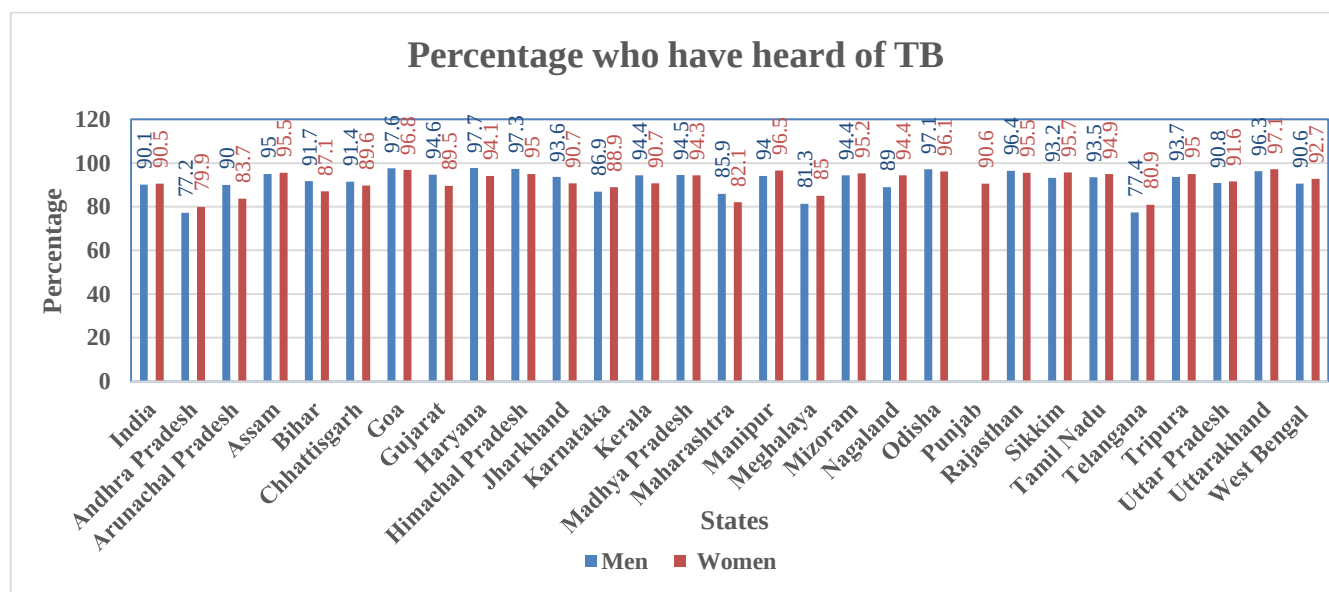
Discussion and Analysis

1. Awareness of Tuberculosis among Tribal Men and Women

Figure 1 shows the percentage of tribal men and women who heard of tuberculosis (TB) by state in India based on NFHS-5. At the national level, the awareness regarding TB was found to be high in tribal men (90.1%) and tribal women (90.5%). Overall, the difference in awareness between men and women was marginal, indicating similar levels of exposure to information regarding tuberculosis among tribal populations.

But there was a lot of variation from state to state. Among tribal men, the highest level of awareness was found in Haryana (97.7%), followed by Goa (97.6%), Himachal Pradesh (97.3%), Odisha (97.1%) and Rajasthan (96.4%). On the other hand, Andhra Pradesh (77.2%), Telangana (77.4%), Meghalaya (81.3%) and Maharashtra (85.9%) had lower levels of awareness.

Women in the tribal belt showed the same pattern. Uttarakhand had the highest percentage of women who had heard of TB (97.1 per cent), followed by Goa (96.8 per cent), Manipur (96.5 per cent), Odisha (96.1 per cent) and Sikkim (95.7 per cent). Tribal women in Andhra Pradesh (79.9%), Telangana (80.9%), Maharashtra (82.1%) and Arunachal Pradesh (83.7%) on the other hand, showed comparatively less awareness.



Source: National Family Health Survey (NFHS-5) Report.

Note: Panjab male data not available

Interestingly, tribal women were found to be more aware than tribal men in some states. For example, tribal women (96.5%) were more aware than the tribal men (94.0%) in Manipur. Similar trends were seen in Nagaland (94.4% versus 89.0%), Sikkim (95.7% versus 93.2%), West Bengal (92.7% versus 90.6%) and Uttar Pradesh (91.6% versus 90.8%). This finding means that some tribal women may have benefited from increased exposure to health information from maternal and child health programmes and from community-based health services.

Conversely, tribal men demonstrated higher levels of awareness than women in states such as Gujarat (94.6% versus 89.5%), Kerala (94.4% versus 90.7%), Maharashtra (85.9% versus 82.1%) and Arunachal Pradesh (90.0% versus 83.7%). These differences may reflect variations in educational attainment, access to health information and socio-cultural factors influencing health-seeking behaviour.

The findings indicate that although awareness regarding tuberculosis among tribal populations in India is generally high, significant inter-state disparities persist. States such as Andhra Pradesh, Telangana, Meghalaya and Maharashtra require greater attention to strengthen information, education and communication activities among tribal communities. Furthermore, the observed gender differences highlight the need for gender-sensitive and culturally appropriate awareness programmes to ensure equitable dissemination of TB-related information among tribal men and women.

Overall, the results suggest that while substantial progress has been achieved in improving awareness of tuberculosis among tribal populations, persistent regional and gender disparities warrant targeted interventions to support India's goal of tuberculosis elimination.

2. Knowledge of Tuberculosis among Tribal Men and Women Populations in India

Table 1. Gender wise differences in tuberculosis knowledge among tribal population of India. The knowledge of mode of transmission was assessed by three indicators: correct understanding of mode of transmission, misconceptions of transmission of tuberculosis and the belief that tuberculosis can be cured

Table 1: Knowledge of Tuberculosis among Tribal Men and Women Populations in India

States	Correct mode of transmission		Misconceptions about the transmission of TB		Believe that TB can be cured	
	Men	Women	Men	Women	Men	Women
India	67.6	65.8	57.2	59.7	90.7	88.5
Andhra Pradesh	77.3	71.7	75.1	58.7	75.8	79.1
Arunachal Pradesh	79	72.8	55.7	62	93.2	88.9
Assam	61.7	64.5	73.9	59.8	94.7	89.8
Bihar	54.9	45.4	78	66.2	95.6	94
Chhattisgarh	78.1	71.6	64.9	61.6	93.9	92
Goa	88.5	95.6	33.8	30	92.7	97.1
Gujarat	69.3	69.2	62.1	62	94.7	90
Haryana	60	51.5	72.3	81.9	100	96.3
Himachal Pradesh	56.8	64.4	71	56.8	94.8	93.1
Jharkhand	60.5	46.1	73.5	71.8	96.7	93.5
Karnataka	65.8	81.1	58.3	65.5	88.4	90.8
Kerala	83.4	71.5	13.2	18.1	83.5	71.5
Madhya Pradesh	71.1	63.8	69.6	65.1	92.8	89.5
Maharashtra	73.8	68.2	39.3	38.3	87.2	81.3
Manipur	85.3	81.6	20.4	34.9	85	91
Meghalaya	67.8	67.7	63.4	57.5	87.2	86
Mizoram	85.3	78.9	11.9	15	98.1	95.3
Nagaland	82.1	72.9	27.7	47.7	83.8	83.7
Odisha	72.5	67.9	50.6	48.1	95.2	90.7
Punjab	-	60.6	-	58	-	91.4
Rajasthan	80.1	75.2	85.5	77.6	96.7	91.8
Sikkim	70.8	67.2	74.7	64.6	91.1	97.4
Tamil Nadu	86.9	87.8	40.6	48.7	82.2	63.3
Telangana	66.3	76.9	48.7	63.5	81.3	82.6
Tripura	58.3	55.3	55.1	63.4	84.6	77.2
Uttar Pradesh	55.2	53.7	72.1	77.1	89.7	89.8
Uttarakhand	70	69.2	58.3	82.9	96	95.2
West Bengal	36.7	40.7	45.3	53.6	88.2	83.5

Source: National Family Health Survey (NFHS-5) Report.

Note: Panjab male data not available

Nationally, (67.6%) of tribal men correctly answered that tuberculosis is transmitted through the air by coughing or sneezing compared to (65.8%) of tribal women. This difference is marginal with a little more awareness of mode of transmission among tribal men. There were considerable variations between states. Among tribal men, the highest proportions of correct knowledge were found in Goa (88.5%), Tamil Nadu (86.9%), Manipur and Mizoram (85.3% each) and Kerala (83.4%). For tribal women, the highest rates

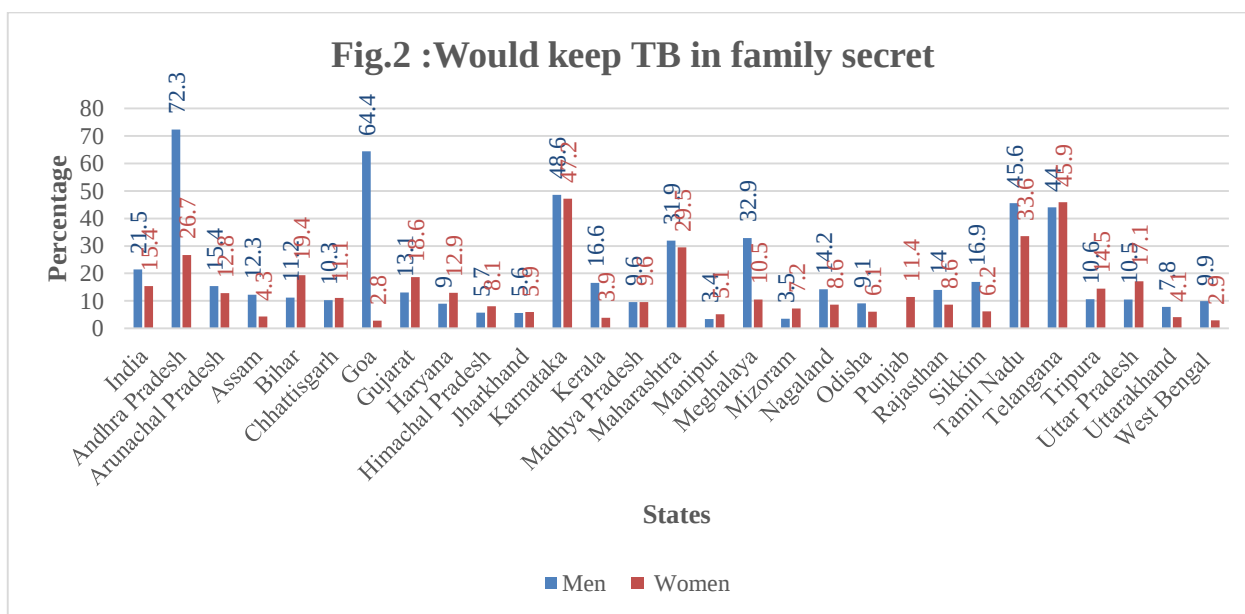
were observed in Goa (95.6%), Tamil Nadu (87.8%), Karnataka (81.1%), Manipur (81.6%) and Mizoram (78.9%). Conversely, the lowest levels of correct knowledge were recorded in West Bengal, where only (36.7%) of tribal men and (40.7%) of tribal women were aware of the correct mode of tuberculosis transmission.

Misconceptions about tuberculosis transmission remain prevalent among both tribal men and women. Nationally, (57.2%) of tribal men and (59.7%) of tribal women reported at least one misconception regarding TB transmission, with women demonstrating a slightly higher prevalence of incorrect beliefs. The incidence of misconceptions was especially high in Rajasthan, Bihar, Haryana, Assam and Uttar Pradesh. Rajasthan reported the highest proportion of misconceptions among tribal men (85.5%), while Uttarakhand had the highest proportion among tribal women (82.9%). In contrast, Mizoram, Kerala, Manipur and Nagaland exhibited comparatively lower levels of misconceptions, indicating a better understanding of TB transmission in these states.

The majority of tribal respondents indicated a belief in the curability of tuberculosis. Nationally, (90.7 %) of tribal men and (88.5%) of tribal women reported that tuberculosis is curable. Complete awareness among tribal men was observed in Haryana (100%), while the highest proportion among tribal women was recorded in Sikkim (97.4%). In contrast, lower levels of awareness regarding tuberculosis cure were identified among tribal women in Tamil Nadu (63.3%), Kerala (71.5%) and Tripura (77.2%), as well as among tribal men in Andhra Pradesh (75.8%) and Tamil Nadu (82.2%).

In conclusion, the findings show wide inter-state variations and significant gender gaps in tuberculosis related knowledge among the tribal populations of India. Although awareness of the curability of TB was generally high, knowledge of the correct mode of transmission was inadequate and misconceptions were common. In several states, tribal women had lower levels of correct knowledge and higher levels of misconceptions compared to tribal men. These findings underscore the need for gender-sensitive and culturally appropriate health education interventions to improve the TB literacy and tackle the misconceptions among the tribal communities. For India to achieve its goal of eliminating tuberculosis, it needs to strengthen community-based awareness programmes and improve access to reliable health information.

2. Gender Differences in Tuberculosis-related Stigma among Tribal Populations in India



Source: National Family Health Survey (NFHS-5) Report.

Note: Panjab male data not available

Figure 2 presents gender differences in tuberculosis-related stigma among tribal populations in India, measured by the proportion of respondents who preferred to keep a family member's tuberculosis status secret from neighbours. This indicator reflects the presence of stigma and negative attitudes associated with the disease.

Nationally, (21.5%) of tribal men and (15.4%) of tribal women said they would not want to disclose a family members TB status, indicating that stigma was more common among men than women. However, a wide variation was seen across states, indicating differences in social attitudes and perceptions towards tuberculosis among tribal communities.

Tribal men reported highest levels of stigma in Andhra Pradesh (72.3%), Goa (64.4%), Karnataka (48.6%), Tamil Nadu (45.6%) and Telangana (44.0%). Manipur (3.4%), Mizoram (3.5%), Jharkhand (5.6%), Himachal Pradesh (5.7%) and Uttarakhand (7.8%) reported lower levels of stigma. These findings indicate that tribal men in some states continue to consider tuberculosis as a socially sensitive disease and may be hesitant to disclose the disease for fear of social discrimination and marginalization.

Tribal women in Telangana had the highest stigma with 45.9 per cent saying they would prefer to keep TB a secret in the family, followed by Karnataka (47.2%), Tamil Nadu (33.6%), Maharashtra (29.5%) and Andhra Pradesh (26.7%). On the other hand, lowest levels of stigma were noted among tribal women in Goa (2.8%), West Bengal (2.9%), Kerala (3.9%), Uttarakhand (4.1%) and Assam (4.3%). Stigma was lower among tribal women than tribal men in several states indicating relatively more openness to discuss tuberculosis and seek support from the community.

However, in a few states, the stigma was found to be higher among tribal women than tribal men, which include Bihar, Gujarat, Haryana, Telangana, Tripura and Uttar Pradesh. For example, in Telangana, (45.9%) of tribal women hid a family member's TB status, compared with (44.0%) of tribal men. The corresponding proportions in Uttar Pradesh were (17.1%) and (10.5%), respectively. The results underscore the importance of socio-cultural norms and gender roles in shaping tuberculosis attitudes.

Overall, the findings suggest that TB-related stigma is still prevailing among the tribal populations in India with significant inter-state and gender differences. At the national level, tribal men generally had higher

levels of stigma, although women in some states also had significant levels of stigma. Fear of social isolation, discrimination, and negative perception of the community towards tuberculosis may consistently prevent timely diagnosis and treatment seeking behaviour among tuberculosis-affected individuals. There is therefore a need for culturally sensitive and gender-responsive awareness programmes to reduce stigma and promote positive attitudes towards tuberculosis in tribal communities. Addressing TB-related stigma is essential to enhancing treatment uptake and achieving India's goal of eliminating tuberculosis.

Conclusion

This study finds that while there is high awareness of tuberculosis among tribal men and women in India, there are significant interstate and gender differences in TB knowledge and stigma. Tribal men had a slightly better knowledge of correct mode of transmission of TB while misconceptions were more common in tribal women. The majority of respondents felt that TB is curable, but TB-related stigma still persists, especially in some states. These findings highlight the importance of gender sensitive and culturally appropriate awareness programmes to improve TB knowledge, address misconceptions and reduce stigma among tribal communities. Strengthening community based health education and state specific interventions will be key to support India's goal of tuberculosis elimination.

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