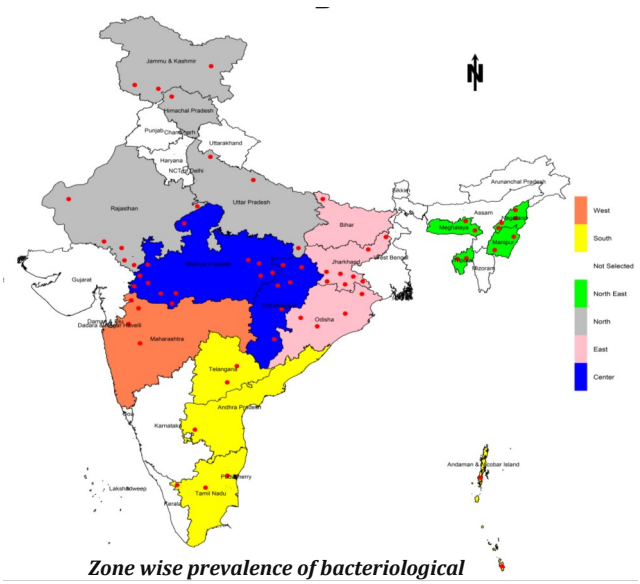
BURDEN OF TUBERCULOSIS AMONG THE TRIBAL POPULATION IN INDIA

PROBLEM STATEMENT

There is dearth of information on the prevalence of TB among the tribal population across India and associated factors that influence TB prevalence. Furthermore, little is known about their health care seeking behaviour patterns among the tribal population and factors that impede their utilization of health services .

EXECUTIVE SUMMARY

In India, tribal population constitutes 111million (8.6%) of the nation's total population. Information of TB among this group is limited particularly on the burden of TB among them, and the health seeking behavior of those individuals who have symptoms presumptive of TB. This observational study with the qualitative and quantitative design was carried out in 17 states covering with a population of 92038 individuals. 3.6% of this population had symptoms presumptive of TB. The prevalence of TB among the tribal population was 432 per lakh accounting for X-ray which is higher than the recently estimated pool prevalence of 296 per lakh among the general population. Qualitative findings report structural and health system barriers which could challenge the utilization of TB care services among this hard to reach population.



Zone wise prevalence of bacteriological positive PTB among tribal population

KEY FINDINGS

- 3.6% of the tribal population screened were TB symptomatic .
- The PTB prevalence was higher in the central zone 625 per lakh and lowest in the west zone 153 per lakh population.
- Among the 17 states covered in this study, Odisha had the highest prevalence and the lowest was Jammu and Kashmir . However, the zone wise / state wise prevalence has to be viewed with caution as the sample is not powered enough for zone wise / state wise prevalence estimation but provides insight to the burden of TB in these sites.
- The age and gender specific prevalence of PTB is significantly higher among males compared to females.
- Factors associated with PTB were age ≥35 years, BMI <18.5 Kgs /m2, history of TB , being a smoker and consuming alcohol
- TB prevalence was higher among the elderly population, males, and those with history of smoking.
- 75% of symptomatic did not seek care. The reasons were symptoms not severe (40%), lack of money (55%), and long distances (35%) and poor attitude of health care providers (30%).
- Structural, Health System barriers and social cultural determinants are an impediment for better utilization of TB services (Distances of health centres, accessibility, lack of tribal representation in health services, poor attitude of health care workers, lack of TB awareness, alcohol, and poor nutrition.

RECOMMENDATIONS

Findings calls for focused active case finding with holistic interventions which include nutritional support, alcohol and substance use intervention among this population. TB sensitization through community engagement using tribal community volunteers apart from ASHA's, representation of the tribal community in the health system, assessing barriers that prevent utilization of TB care services needs to be explored and addressed using an inter-sectoral approach. These strategies would help in early detection and initiation of TB treatment and prevent TB transmission among the tribal population

BACKGROUND

The tribal population is an integral part of our civilization representing 111million (8.6%) of the country's total population. According to a meta-analysis done with the limited studies available, the pooled estimated prevalence of TB among the tribal population is 703 per 100,000 population. However the heterogeneity of the population covered in these studies stresses the need to estimate the prevalence of TB among tribal population. It also points to the need to understand their health care seeking behavior and their utilization of TB care services as laid out by the TB control program for the Tribal population.

OBJECTIVES

- To estimate the burden of TB among tribal groups (TGs) in various states of the country.
- To identify socio cultural determinants for TB such as housing, sanitation, nutrition, alcohol, smoking and contact history.
- To gain insight into the health seeking behavior patterns of the tribal population having symptoms suggestive of TB.
- To understand the barriers for utilization of TB services

METHODOLOGY

This is an observational research study with a mixed method design- qualitative and quantitative following a sequential approach implemented in a phased manner. A multistage cluster sampling design was adopted. The entire country was divided into 6 zones with two or more states: East, West, North, South, Central and North East . In each zone, villages (clusters) with ≥70% tribal population were enlisted and that formed the sampling frame. In order, to achieve the sample size, a total of 88 villages having a tribal population of more than 70% were selected based on population proportional to estimated size (PPES) from all these six zones and a minimum of 800 individuals (tribal aged ≥15 years) were interviewed in each village. A total of 92038 individuals were eligible in these 88 villages from the 6 zones of which 74532 (81.4%) were screened/enrolled in this study.

FINDINGS

EPIDEMIOLOGICAL ANALYSIS

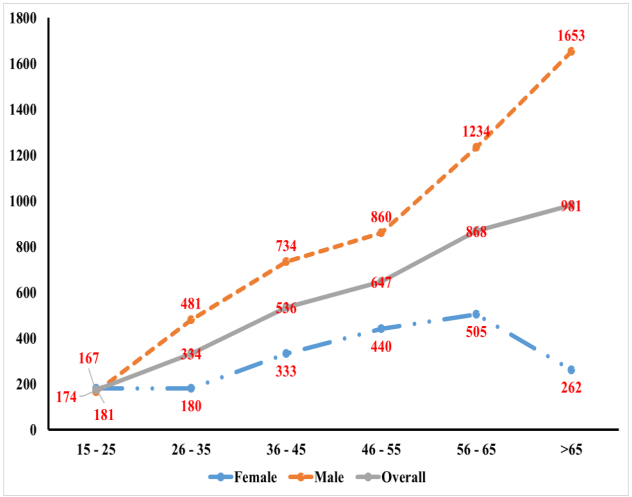
Of the 92038 eligible individuals, 74532 (81.4%) were screened/enrolled. 2675 (3.6%)were symptomatic and eligible for sputum and sputum was collected from 2401(89.8%), A total of 199 were bacteriologically positive (Smear and culture positive) for *Mycobacterium tuberculosis* giving a PTB prevalence of 330 per one lakh population. The number of positives based on the symptom screening was corrected for chest x-ray screening is 432 per one lakh population. The PTB prevalence based on bacteriologically positives at the central zone 625[95% CI: 496-754] had a highest prevalence and west zone 153 [95% CI: 24–281] had a low prevalence per 1 lakh population. There needs to be caution in interpreting the zone wise prevalence as the sample is not powered enough and was calculated for an overall prevalence across all sites enrolled.

TRENDS OF PTB PREVALENCE: AGE AND GENDER

In the age and gender specific prevalence of PTB prevalence corrected for chest X-ray screening was significantly increased with age (P value<0.001) and significantly higher among males (134(0.4%)) compared to females

FACTORS ASSOCIATED WITH PTB

Factors associated with PTB were age ≥35 years, BMI <18.5 Kgs /m2, a history of TB , and being a smoker and consuming alcohol were significantly associated with the occurrence of smear, culture and bacteriologically positive TB.



Age and gender wise prevalence of bacteriologically positive pulmonary TB based on MI corrected for X-ray screening

SOCIO-CULTURAL DETERMINANTS POSING RISK FOR TB

- Deep rooted belief in traditional healing practices (Faith healers), cultural beliefs.
- Poor awareness on TB and about government welfare schemes.
- Poor housing and indoor air pollution.
- Poor nutrition
- PDS supply erratic and delayed
- Alcohol use (Country Liquor), Tobacco (Gutka) & Smoking

Poor Housing conditions

Traditional healers

Smoking

Alcohol use

BARRIERS IN UTILIZATION OF HEALTH CARE

STRUCTURAL BARRIERS

- Difficult terrains distributed in forests and hilly regions .
- Distance to health centres
- Poor road conditions
- Lack of transportation facilities

Difficult Terrains

Lack of transportation

STATE	HSC		PHC		CHC		DH	
	Min	Max	Min	Max	Min	Max	Min	Max
Andaman	1	1	8	8	Nil		8	15
Chhattisgarh	1	3	5	13	5	45	25	80
Jharkhand	1	6	1	4	3	27	4	14
Madhya Pradesh	1	6	6	20	8	80	1	140
Maharashtra	0.5	13	1	40	19	32	53	70
Odisha	1	2	6	22	17	45	40	110
Tamilnadu	3	12	4	15	7	30	12	80
Andhra Pradesh	3	10	10	35	19	32	41	97
Himachal Pradesh	2	7	1	5	5	42	17	200
Jammu and Kashmir	1	2	2	22	22	25	8	90
Uttar Pradesh	1	3	15	25	35	40	85	110
Bihar	2	25	10	35	4	45	8	57
Tripura	24	35	5	9	18	30	4	49
Nagaland	1	1	1	43	3	43	7	57
Manipur	1	280	2	190	6	230	1	270
Meghalaya	0	8	10	12	3	33	22	50

* HSC– Health Sub-center, PHC - Primary Health center, CHC - Community health centre, DH - District Hospital

Distance of health facilities from village (in km)

HEALTHCARE - RELATED BARRIERS

- Public health services are often not client friendly because of variation in the timings, cultural beliefs, weak community participation, NGOs and CBOs
- Limitations of non-tribal health staff in working with the tribal population (dialect, migration, over dependence on ASHA)
- Poor incentives for ASHA leading to poor commitment due to lack of monetary rewards
- Non-Availability of Medicines in govt. health facilities
- Lack of doctors increases the dependency on Quacks doctors.
- Time delay in informing investigation results
- Inadequate contact screening and chemoprophylaxis
- Non-availability of service providers due to vacant posts & lack of residential facilities

SUGGESTIONS

- Inter-sectoral approach required for utilization of TB services among tribal population
- Health facilities allocation should be determined based on distance rather than population
- Active case findings with community engagement with local tribal volunteers for better reach of services
- Follow-up screening of those with history of TB to prevent recurrence of infection
- Holistic interventions that are tribal friendly to address alcohol and tobacco use along with nutritional support
- Representatives from the tribal community to be considered for vacant posts in health services for better communication

CONCLUSION

The prevalence of TB among the tribal population is higher than the general population and calls for focused active case finding with holistic interventions among this population. This would help in early detection and treatment of TB and prevent TB transmission. Findings point to the need for community engagement through tribal volunteers within the community and their representation in the health system to help towards better utilization of TB care services in tribal areas. There is need for health system strengthening with continued monitoring and evaluation to ensure barriers to services are addressed and there is provision of timely and quality health services among the tribal population.

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