

A Study On Awareness On Pulmonary Tuberculosis Among Population Covered Under Rural Health Training Centre At Mamandur in Tamilnadu

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ABSTRACT

India has the highest number of Tuberculosis (TB) cases in the world. Community awareness on Tuberculosis in the general population is of foremost importance in combating tuberculosis in india. To assess the level of knowledge about symptoms, mode of transmission, causation, prevention and treatment relating to tuberculosis in a rural population of mamandur. To study the socio demographic factors associated with awareness about pulmonary tuberculosis Community based cross sectional study was conducted at Rural Field Practice Area of SRM at Mamandur in Tamilnadu. A total of 350 persons participated in the study. House to house interview was conducted using a predesigned, standardized semi structured questionnaire. Overall TB knowledge revealed adequate knowledge in 75.7%. There was significant association between the knowledge on TB among study population and the demographic variables of educational status AOR 2.48 (95% CI 1.46 -4.22), marital Status AOR 2.23 (95% CI 1.21-4.10) and Caste AOR 2.22 (95%CI 1.14-4.34) respectively. Nearly 2/3 of the population have adequate knowledge on tuberculosis. Factors like educational status, marital status and caste were significant association with inadequate knowledge on TB.

Key words: Awareness, Knowledge, Pulmonary Tuberculosis, Rural India.

INTRODUCTION

India has the highest number of TB cases in the world¹. Tuberculosis still remains a major public health problem despite the fact that the causative organism was discovered some 100 years back and highly effective drugs are available for its treatment. Worldwide 9.4 million cases are detected annually out of which half are sputum positive. India is 17th among 22 high burden countries in terms of TB incidence rate¹.

The global annual incidence estimate is 9.4 million cases out of which it is estimated that 1.98 million cases are from India. In India, every day more than 5000 people develop tuberculosis disease and nearly 1000 die due to tuberculosis

i.e. 2 deaths every 3 minutes².Deaths due to Tuberculosis exceed the combined deaths due to all other communicable disease and account for 26% of all avoidable deaths in adults.

Tuberculosis affects the most productive age group. Of all tuberculosis cases in India 2/3rd are male and 70% of all patients are aged between 15 and 54 years³.It has been acknowledged though that TB control efforts worldwide, although impressive are not sufficient. The global TB targets – detecting 70% of TB cases and successfully treating 85% of them and halving the prevalence and mortality of the disease by 2015 as part of the Millennium Development Goals (MDGs) – are likely to be met only if current efforts are intensified.

The National Annual Risk of Tuberculosis Infection (ARTI) was estimated at 1.5% i.e. 75 new smear positive pulmonary TB cases are expected per 1, 00,000 population annually. TB primarily affects people in their most productive years with important Socio-economic consequences for the household when an individual falls sick with TB. Poor living conditions, debility and malnutrition predisposes population to disease. The disease is even more common among the poorest and marginalized section of the community²

The present study is undertaken with the objectives of assessing the knowledge and Practice regarding Tuberculosis in a Rural Population of Mamandur Village. Tuberculosis has the dubious distinction of being the most persistent scourge of humankind .Worldwide statistics are staggering in 2001,the WHO estimated that 1.86 billion persons were infected with TB. Each year 8.74 million develop tuberculosis and nearly 2 million die. This means that someone somewhere contracts TB every four seconds and one of them die every 10 seconds.

MATERIALS & METHODS

Community based cross sectional study was conducted at Rural Field Practice Area of SRM at Mamandur in Tamilnadu. A total of 350 persons participated in the study. House to house interview was conducted using a predesigned, standardized semi structured questionnaire. The sample of 327 individuals were selected on the assumption of prevalence of adequate knowledge of 55% from sampling on the study on rate of knowledge of pulmonary tuberculosis symptom among the rural population in Tamil Nadu as per the study by Malini Kar *et al* ⁴.

After obtaining ethical committee approval, a house to house interview was conducted using a predesigned, pretested questionnaire Systematic random sampling was used to select the households from each village. First households selected by lot method. The next household was identified by adding the sampling interval with the first household. Head of family was selected for the study in his absence wife was selected for the study. The subsequent households were selected by same method till sample size is reached.

Data analysis

Data entry was made in excel spread sheets. The entered data was cleaned and validated for consistency. Analysis was done using SPSS21.0 package and Epi info7.0. Prevalence was expressed in percentage and association with factors was tested for significance using Chi square test. P- value < 0.05 was considered significant. In the study relating to factors contributing to awareness the variable were dichotomized and two by two table were made. Test of ssoication chisquare test was done. Deriving the strength of association prevalence odds ratio was done. Subsequently logistic regression was performed choosing the factors which are significant.

RESULTS

Sociodemographic variables

A total of 350 participants over the age of 30 years formed the study population and comprised of 269 (76.9%) males and 81 (23.1%) females. About 91 (26%) were in the age group of 30-39, of which 71 (26.4%) were males and 20 (24.7%) were females. About 137 (39.1%) participants were in the age group of 40-49, of which 111 (41.3%) were males and 26 (32.1%) were females. About 100 (28.6%) participants were in the age group of 50-59, of which 73 (27.1%) were males and 27 (33.3%) were females. About 22

Table 1: Socio-demographic variables of the study participants

Socio-demographic variables	N	%	
Age	30-39	91	26.0
	40-49	137	39.1
	50-59	100	28.6
	60 and Above	22	6.3
Sex	Male	269	76.9
	Female	81	23.1
Education	Illiterate	195	55.7
	literate	155	44.3
Occupation	Skilled worker	56	60
	Unskilled worker	294	84
MaritalStatus	Married	295	84.3
	Widow	55	15.7
	Nuclear	274	78.3
	Joint	76	21.7

Table 2 :Sex wise frequency and percentage distribution of the correct answers

Questions	Male (n=269) (N%)	Female (n=81) (N%)	Total (n=350) (N%)
1. About the disease TB			
What was TB?	182(67.7)	57(70.4)	239(68.3)
Which organ was mainly affected by TB?	250(92.3)	76(93.8)	326(93.1)
2. Causes			
What causes TB?	236(87.7)	70(86.4)	306(87.4)
3. Mode of Transmission			
How does TB spread?	230(85.5)	71(87.7)	301(86)
What was the mode of transmission for bovine TB?	61(75.3)	61(75.3)	276(78.9)
What type of TB will spread most?	247(91.8)	76(93.8)	323(92.3)
4. Signs and Symptoms			
What was the test commonly seen in patients?	56(20.8)	25(30.9)	81(23.2)
5. Diagnosis			
What are the Tests for the examination?	4(1.5)	2(2.5)	6(1.7)
6. Nutrition			
What type of diet should be taken by TB patient?	16(5.9)	11(13.6)	27(7.7)
7. Prevention			
What was the influencing factor for TB?	193(71.7)	60(74.1)	253(72.3)
What were the factors which would improve the resistance of the host?	14(5.2)	5(6.2)	19(5.4)
Why should a TB patient cover the nose and mouth while coughing and sneezing?	17(6.3)	7(8.6)	24(6.9)
How should a TB patient clean the hand kerchief which was used for the covering of nose and mouth?	29(10.8)	12(14.8)	41(11.7)
Which antiseptic solution can be used in disinfect the sputum?	77(28.6)	20(24.7)	97(27.7)
How should be a TB patient discard the sputum?	181(67.3)	52(64.2)	233(66.8)
8. Treatment (DOTS)			
Why did Govt. of India introduce DOTS?	2(0.7)	1(1.2)	3(0.9)
Who were the DOTS providers?	11(4.1)	4(4.9)	15(4.3)
When should a TB patient take medication?	198(73.6)	60(74.1)	258(73.9)
Why should you continue the drug for the prescribed period?	112(41.6)	22(27.2)	134(38.5)
When should you go for sputum examination after starting the treatment?	36(13.4)	17(21.0)	53(15.1)
What was the main purpose of your visit to the centre?	226(84.0)	69(85.2)	295(84.3)
What was the effect of TB drugs?	227(84.4)	62(76.5)	289(82.6)
When can you stop the TB drug?	5(1.9)	0(0)	5(1.4)
What were the side effects you can get during TB treatment?	53(19.7)	14(17.3)	67(19.1)
What should you do when you get the side effects?	118(43.9)	36(44.4)	154(44)
What was the main side effect of the tablet Rifampicin?	12(4.5)	5(6.2)	17(4.9)
9. Complication			
What was the main complication of TB?	20(7.4)	3(3.7)	23(6.6)

Table 3: Shows association between Overall knowledge on tuberculosis Among study population and study variables

		Overall knowledge level		Chi square*	p Value
		Inadequate	adequate		
Age	>50	36	86	2.779	0.095
	<50	49	149		
Sex	Male	59	210	3.499	0.061
	Female	26	55		
Education	Illiterate	61	134	11.721	0.0006**
	Literate	24	131		
Occupation	Unskilled	75	219	1.498	0.221
	Skilled	10	46		
Marital Status	Widow	21	34	6.852	0.008**
	Married	64	231		
Income	Low	63	177	1.602	0.206
	High	22	88		
Type of Family	Joint	19	57	0.027	0.870
	Nuclear	66	208		
Community	Sc	73	194	5.715	0.016**
	Obc	12	71		
Religion	Hindu	80	250	0.005	0.939
	Others	5	15		
House type	Kacha	18	54	0.025	0.874
	Pucca	67	211		
	Yes	49	1		

* Pearson chi square, ** statistically significant

Table 4: Over all knowledge on TB among study Population

Knowledge Levels	Frequency	Percentage
In Adequate	85	24.3
Moderately Adequate	263	75.1
Adequate	2	0.6
Total	350	100.0

(6.3%) participants were in the age group of 60 and above, of which 14 (5.2%) were males and 8 (9.9%) were females.

Considering the income of the individuals about 240 (68.6%), were earning income in between 1000-5000, of which 167 (62.1%) were males and 73 (90.2%) were females. Considering the income group (5001-10000), 98 (36.4%) were males and 7 (8.6%) were females. The rest were

Table 5: Multiple Logistic Regression For Knowledge Analysis

Variables	Parameter Estimates						
	B	SE	Wald	df	Sig.	Exp(B)	95% CI for Exp(B) Lower Upper
1.2.3. Education	-1.84	0.49	13.73	1	0.000	2.48	1.46 4.22
Marital Status	0.31	0.53	6.62	1	0.010	2.23	1.21 4.10
Caste	1.04	0.52	3.96	1	0.046	2.22	1.14 4.34

getting more than 10000 rupees of which 4 (1.5%) were males and 1 (1.2%) was female.(table 1).

Factors association between overall knowledge on tuberculosis

There was significant association between the knowledge on TB among study population and the demographic variables of educational status, marital status, and Caste. These three factors were part of the considered for the multiple logistic regressions. The regression model given in 4.3.12 and the adjusted odds ratio are given in illiterate people, widows and the SC caste were associated with the adjusted odds ratio of 2.48(CI 1.46-4.22), 2.23(CI 1.21-4.10) and 2.22(CI 1.14-4.34) respectively. So these are the population groups who need to be given priority to disseminate more knowledge about Tuberculosis

Logistic regression model (Table 4), after controlling the effect of other variables showed that not having an education, a longer duration of the disease and having experienced surgery had an effect on disability and this was associated with statistical significance.

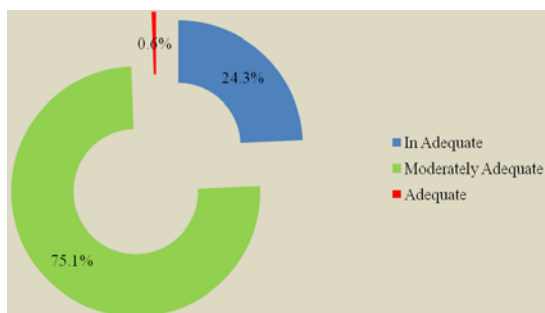


Fig. 1: Shows the Overall knowledge Distribution

DISCUSSION

The present cross-sectional study was carried out in a population covered under Rural Health Training Centre at Mamandur in Tamil Nadu.

Knowledge about Tuberculosis

The Present study showed that literates were more aware about the various aspects of Tuberculosis as compared to illiterates. Persons with literacy of higher secondary schooling and above had good TB knowledge compared to illiterates. A

few population based studies have highlighted the public awareness on Tuberculosis from different parts of India. One such study from Jaipur Rajasthan showed that 90% of illiterates were unaware about different aspects of Tuberculosis

The present study clearly indicated that males have better knowledge when compared to females. A study from rural community of Delhi highlighted the age, sex and economic status did not have significant influence on TB knowledge

A Cross-sectional observational study done by Krishnadas Bhattacharyya et al Among 120 people Chest OPD of Calcutta National Medical College & Hospital, Kolkata during July – September 2001. Only 16.7% of the study subjects were aware of the cause of the disease 25.0% of them were not aware of the proper duration of treatment and 72.5% of patients' attitude towards domiciliary treatment was observed unfavourable. Safe method of sputum disposal was practiced by only 20.0% of study subjects and 21.7% of respondents did not take any precaution to prevent spread of the disease, while 46.7% practiced covering of face while coughing.

A descriptive cross-sectional study done by Philip Ifesinachi Anochie et al knowledge, attitude, behavioral and practice (KABP) survey on tuberculosis was carried out in a rural Nigerian community in Jun 2013. We applied the questionnaire to 1186 people in designated rural households. Most of the participants, (1154, 97.3%) had prior knowledge and awareness about tuberculosis as a disease, 612 (51.6%) considered tuberculosis a result of HIV/AIDS epidemics or malnutrition, and 451 (38%) believed that it can be cured by Western medicine. The unwillingness of respondents to relate with TB patients was generally high (97%, 1150), even where levels of awareness and knowledge were high. Cough, the most common presentation of pulmonary TB was mentioned first in 68% (806) of the respondents' answers. Loss of weight was mentioned by 51.9% (615) of the respondents while hemoptysis was mentioned by 55.6% (660) of them. Only about 55% (652) of the respondents could list 3 or more symptoms or signs of the disease. Other responses regarding TB symptoms included: headache, body

ache, joint-muscle pains and loss of appetite. The same questionnaire was used.

Present study revealed some lacunae in the knowledge about Tuberculosis. 6% knew the tests for the diagnosis of Tuberculosis. (68.3%) were well aware that TB is a communicable disease, (93.1%) were aware lung was mainly affected by TB, (87.4%) knew the causes of TB, (78.9%) were well aware the mode of transmission and (81%) knew the common signs and symptoms of TB.

These findings were comparable to similar studies conducted in a rural area in Delhi. 27% were aware of the diet should be taken by TB patient. (66.8%) were aware of the preventive measure of TB. 3% had heard about DOTS centre. In general females, older population and individuals without schooling or with primary schooling were observed to be the groups with the significantly lower level of knowledge about the Symptoms, Transmission, Diagnosis, Treatment and prevention of TB. Overall TB knowledge was higher among males and respondents with higher schooling. In this study the adequate knowledge is only 2 so it was combined with moderate knowledge and bivariate analysis done.

CONCLUSION

A cross sectional study was carried out in rural population covered under Rural Health Training Centre at Mamandur to find out the knowledge towards Pulmonary Tuberculosis. Among 350 individuals, (93.1%) had heard about TB. (68.3%), were well aware that TB is a communicable disease. (92.3%) were well aware

about the mode of transmission. 81% knew cough as a symptom. (72.3%) respondents perceived Tuberculosis to be a preventable disease, citing the treatment of patients as the mainstay of preventing spread of the disease. Only 6% knew the test for the diagnosis of TB. Overall TB knowledge revealed inadequate knowledge in 23.3%, and adequate knowledge in 75.7%. The study concludes that females, older population and individuals without schooling or with primary schooling were observed to be the groups with a significantly lower level of knowledge about symptoms, transmission, diagnosis, treatment and prevention of TB.

Overall TB knowledge towards pulmonary TB was higher among males, younger age and higher schooling respondents. Concerted efforts should be taken to create awareness. There was significant association between the knowledge on TB among study population and the demographic variables of educational status, marital status, and Caste. These three factors were part of the considered for the multiple logistic regressions. The adjusted odds ratio are given in illiterate people, widows and the SC caste. So these are the population groups who need to be given priority to disseminate more knowledge about Tuberculosis.

Nearly 2/3 of the population have adequate knowledge on tuberculosis. Factors like educational status, marital status and caste were significant association with inadequate knowledge on TB. So these are the population groups who need to be given priority to disseminate more knowledge about tuberculosis.

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