IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 19, Issue 9, Ver. V (Sep. 2014), PP 81-84
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Gender differences in knowledge and attitude about tuberculosis among rural population in Nanded district Maharashtra State India.

Bala Ganesh Pichamuthu,[1] Prashant Putthawar,[2] Ajoke Basirat Akinola[3]
[231](*School of Public Health, SRM University, TN India*)

Abstract: *Objective:-The aim of this study was to assess the gender difference in knowledge and attitude of rural community towards patient with tuberculosis. Method:-A cross sectional study was conducted among 300 persons selected by multistage random sampling from Nanded district of Maharashtra to capture the knowledge and attitude towards patients with tuberculosis. Result: - Men have higher knowledge (33.6%) and more positive attitude (53%) about tuberculosis compared to women. Conclusions: -This study emphasizes the need for gender specific information, education and communication campaigns throughout India to improve knowledge and attitudes. Interventions through women's self-help groups would help in this purpose.*
Keywords: *gender, tuberculosis, knowledge, attitudes*

I. Introduction

It is estimated that globally there are nearly 9.4 million sputum positive cases of tuberculosis. India contributes about one fifth global burden and is in the top list of twenty two high burden countries. About 40% of Indian population is infected with tuberculosis every year, 1.8 million of them develop tuberculosis disease and 0.87 million of them become sputum smear positive cases of tuberculosis.(1)

Apart from being health burden tuberculosis can also lead to serious economic and social problems. The most economically productive age group of 15-55 years is affected and this leads to economic compromise (2). Stigmatization is a serious social consequence. Nearly 1 lakh women per year are rejected by their families as a result of being affected by tuberculosis, is it because they are women? School dropout rates are also high because of tuberculosis (3)

The goal of Revised National Tuberculosis Control Program (RNTCP) is to achieve a case finding rate of 70% and a cure rate of 85% by passive reporting. For passive reporting, good knowledge and positive attitudes is important among the community.

Gender differences in reporting, treatment and adherence to treatment of tuberculosis were studied in a larger scale South Indian study. This study showed that despite inconveniences and higher stigma women reported and took treatment more than men. It also showed that their adherence to treatment and completion of the treatment regimen was higher than men. (4) But a different study from Bangalore also showed that though women accessed health care services more than men, larger numbers of males were likely to be diagnosed correctly and started on treatment. (5) Therefore there is a need to include gender into research on tuberculosis and understand gender differences in various aspects of tuberculosis. This study was done to understand the gender differences in knowledge and attitudes about tuberculosis among the rural community in Nanded district in Maharashtra.

II. Method

Study design sampling method

A cross sectional study was conducted in at Nanded district of Maharashtra State. Sample size was calculated as 300 for a 95% confidence level, 30% prevalence of knowledge [6] and 10% precision of estimate. Nanded district has 16 Taluks. One of them was selected by simple random sampling. Out of the 43 villages in that Taluk five were selected by probability proportionate to size sampling method. One household was selected randomly at the centre of the village and other houses were selected by systematic random sampling method. A pre tested semi structured questionnaire containing socio-demographic features, knowledge of cause, mode of spread, symptoms, diagnosis, treatment modalities and attitudes towards patients with tuberculosis was administered by face to face interviews after obtaining verbal informed consent. The study underwent an expedited review and approval by the School of Public Health SRM University Ethics Committee. Statistical Package for Social Sciences (SPSS) version 17 was used for data management. Simple chi square statistics and odds ratios were calculated to study associations.

III. Result

Of the 300 respondents interviewed 149 (49.7%) were men and 151 (50.3%) were women. About 64% were between the age group of 31-50 years. One fourth of the respondents did not have a formal education. About 54.3% of the respondents were farmers by occupation and 22.3% of women were housewives. The characteristics of the study participants are shown in table 1.

Table 1 Characteristics of participant

Category	Division	Male	Female	Total
Sex	Sex	49.7	50.3	100
Age	20-30	17.4	19.2	18.3
	31-40	40.9	39.1	40
	41-50	24.8	23.8	24.3
	51-60	13.4	11.3	12.3
	>61	3.4	6.6	5
Education	Illiterate	14.8	36.4	25.7
	Primary	18.8	23.8	21.3
	Middle	21.5	22.5	22
	Secondary School	25.5	12.6	19
	Higher Secondary School	18.8	4.6	9.7
	More than graduation	4.7	0	2.7
Income	2000-4000	30.2	35.1	32.7
	5000-7000	49.7	48.3	49
	>8000	20.1	16.6	18.3
Occupation	Farmer	68.5	40.4	54.3
	Govt job	2	0	1
	Private	29.5	15.2	22.3
	Housewife	0	44.4	22.3

Knowledge

1) **General knowledge of tuberculosis**

The general knowledge about tuberculosis was sought by asking three questions, whether it is a communicable disease, which age group is affected the most and which part of the body is affected the most. For these three questions the scores were computed. Those who know all the answers were classified as high knowledge and those who did not know the answer for even one question were classified as low knowledge. The gender differences in low and high general knowledge about tuberculosis are shown in Table 2.

Table 2: Gender differences in general knowledge about tuberculosis

character	Category	Low knowledge (any one wrong answer)	High knowledge (all correct answer)	Chi-square	P-value
Sex	Male(149)	117(78.5%)	32(21.5%)		
	FFFemale(151)	127(84.1%)	24(15.9%)	1.539	0.238

2) Knowledge about signs and symptoms of tuberculosis

To understand the level of knowledge about symptoms of tuberculosis, four questions were asked namely, whether fever, weight loss, chest pain and cough with sputum are symptoms. Again those who got all the responses correct were classified as high knowledge and the others low knowledge. The gender differences are shown in Table 3.

Table 3: Gender differences in knowledge about symptoms of tuberculosis

Character	Category	Low knowledge	High knowledge	Chi squire	P-value
Sex	Male(149)	110(73.8%)	39(26.2%)		
				1.73	0.20.207
	Female(151)	101(66.9%)	50(33.1%)		

3) Knowledge about health facility, treatment and diagnosis

Table 4: Gender differences in the knowledge about health facility, diagnosis and treatment of tuberculosis

Character	Category	Low knowledge	High knowledge	Chi-squire	P-value
Sex	Male(149)	81(54.4%)	68(45.6%)	3.920	0.059
	Female(151)	99(65.5%)	52(34.4%)		

To understand the level of knowledge about health facility, diagnosis and treatment of tuberculosis, the questions on best method of diagnosis, frequency of tablet intake, duration of treatment in months, description of what a DOTS centre is and whether any payment needs to be done to obtain treatment were asked. Those who knew all the responses were classified as high knowledge. The findings are presented in Table 4.

4) Knowledge about spread of tuberculosis

Table 5: Gender differences in knowledge about spread of tuberculosis

Character	Category	Low knowledge	High knowledge	Chi-squire	P-value
Sex	Male(149)	124(83.2%)	25(16.8%)	0.734	0.422
	Female(151)	131(86.8%)	20(13.2%)		

Seven questions were asked to assess the level of knowledge about spread of tuberculosis. These were spread by overcrowding, continuous cough without covering the mouth, spitting, sharing utensils, sharing of food and water, mosquito bite and hereditary spread. The gender differences in this knowledge were also assessed and it is shown in Table 5.

5) Attitude toward person with tuberculosis

Table 6: Gender differences in the attitudes towards persons with tuberculosis

Character	Category	Positive attitude	Negative attitude	Chi-squire	P-value
	Male(149)	79(53%)	70(47%)		
Sex	Female(151)	56(37.1%)	95(62.9%)	7.693	0.007

To assess the attitudes of the community towards patients with tuberculosis the following questions were asked: should the patient stay away from the community to protect the other members, should the community actively help and support patients with tuberculosis, should baby born to mother with tuberculosis be separated from the mother to protect the baby, can a person marry one with tuberculosis and whether one should fear a patient with tuberculosis. This is shown in table 6. It is evident that there is a statistically significant better attitude among men regarding patients with tuberculosis compared to women.

6) Total knowledge of tuberculosis

Table 7: Gender differences in overall knowledge about tuberculosis

Category	Low knowledge	High knowledge
Male	66.4%	33.6%
Female	77.5%	22.5%
Total	72%	28%
Chi-square	4.534	P-value=0.040

The table 7 depicts the gender differences in overall knowledge about tuberculosis. It is seen that there is a statistically significant difference with men have a higher knowledge about tuberculosis than women.

IV. Discussion

In this study it was found that men had greater knowledge (33.6%) and better attitudes (53%) about tuberculosis. A previous study from Gujarat showed similar findings of higher proportion of men with better knowledge. It was seen that men were more aware about the mode of transmission and symptoms of tuberculosis.(7) [Gender is an important social construct which influences the level of awareness of people about health and illness. As per social norms men have a greater public involvement and hence greater exposure to information. This leads to greater awareness about tuberculosis]. (8)

It was found that women have poorer knowledge and attitudes towards tuberculosis. Only 22.5% had good knowledge and 37.1% had positive attitudes. Another study also showed that women had lower levels of knowledge and attitudes about tuberculosis. (9) In the community social beliefs, cultural construction and traditions strongly influence the development of healthy attitudes and behaviors. This is because the beliefs and behaviors come from interpersonal relations, religion, social involvement and interactions. (10) It is the traditional social norm that women are home bound and men interact more with the outside world. This is still largely true in traditional rural communities in Maharashtra. This is probably one of the reasons for the gender differences in the knowledge and attitudes found in our study. A study from Bangladesh found that traditionally women need to seek permission for going for treatment for any illness. This leads to delay in reporting, diagnosis and initiation of treatment, especially in cases like tuberculosis where the case reporting is passive. Other studies have revealed that men are viewed as the pillars of the family since they are the predominant bread winners and this leaves the health of women unattended and perceived as less important. (11)

As per study concluded role of RNTCP in case finding by passive survey is possible only when person know or its seriousness of tuberculosis that the poor knowledge and negative attitude more common in female and this may obstacle to achievement of healthy rural community development and male have good knowledge with more positive attitude also need to improvement. Female and illiterate individuals need health education on priority basis. Misconception like hereditary disease spread by mosquito bite need to be explored by researchers as strategies to reduce the disease in the population .

This study clearly points out that there is a stark gender difference in knowledge and attitudes about tuberculosis. The Revised National Tuberculosis Control Program (RNTCP) largely focuses on passive case reporting for diagnosis and initiation of treatment for tuberculosis. Therefore knowledge and attitudes about tuberculosis has to be high in order to improve case reporting. It is not enough if only men have adequate

knowledge and attitudes. Women have to be actively engaged in the RNTCP process. Information education communication campaigns need to target women in gender specific health education process. This will raise the overall awareness and will help achieve the RNTCP goals and the Millennium Development Goals in the coming years.

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