

# Knowledge and Awareness of Tuberculosis among Patients Attending Out-Patient Department in a Tertiary Care Hospital.

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## ABSTRACT

**Background:** Tuberculosis, though being an age old infectious disease, India still finds it difficult to combat this infection due to lack of knowledge and awareness among general population. This disease still remains a social stigma and many patients try to conceal their illness from family, friends and relatives. **Objectives:** To assess the knowledge and awareness of tuberculosis among general patients attending outpatient department in a tertiary care hospital. **Methods:** A cross sectional study was conducted in a tertiary care hospital in patients >18yrs of age attending general outpatient department, after obtaining informed consent using a structured pretested standardized questionnaire. Sample size was 420 patients. Data entered in excel sheet and results given in percentage. **Results:** About 86.19% knew that India had high TB burden, 72.86% were aware of the infective etiology. 51.19% thought it affected all ages with a male preponderance (63.09%). 80.48% considered cough as most common symptom. Only 48.10% knew about DOTS centers, 40.95% of the free treatment available, 53.10% of the curability of the disease and 55.48% about the fact that TB can lead to death. **Conclusion:** Though the awareness of symptoms, causative agent, mode of spread were reasonably good, knowledge on availability of DOTS centers, free treatment, curability and TB possibility leading to death is still poor among rural population.

**Keywords:** Tuberculosis, Knowledge, Awareness.

## INTRODUCTION

TB is an age old infectious disease caused by Mycobacterium tuberculosis discovered in ancient centuries even in Egyptian mummies. It still remains a major public health problem in India despite the fact of the causative organism being diagnosed some 100 years back. The bacilli spreads through droplet infection by air and a single patient can infect 10 or more people per year.

### Global/ burden in India

India ranks 17<sup>th</sup> among 22 high burden countries in terms of TB incidence rate.<sup>[1]</sup>

The global annual incidence estimated is 9.4 million cases of which 1.98 million of them are from India contributing to about 1/5<sup>th</sup> of the global burden. 1.8 million new TB cases are diagnosed every year and about 0.8 million of them are smear positive cases. 4lakh death occurs from TB every year which corresponds to 2 deaths every 3 minutes. TB kills more adults in India than any other disease.<sup>[2]</sup>

This infectious disease particularly affects people of economically productive age group between 15-60yrs.<sup>[3]</sup> Predisposing factors include low socioeconomic status, overcrowding, homeless person, alcohol, immigrants from low risk to high risk areas, HIV, immune compromised patients, malignancy, on immuno suppressants, gastrectomy, silicosis, diabetes etc.

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The national annual risk of TB(ARTI) was estimated as 1.5% i.e., 75 new smear positive PT cases are expected per 1lakh population annually. RNTCP needs to be revised with extra efforts being put on the development of effective strategies to target the socio-economic barriers in the care of TB patients.<sup>[4]</sup> The 12<sup>th</sup> five year plan of government of India in the national strategic plan (2012-2017) had revised the objective of RNTCP in case detection to 90%

and cure rate to 90% in new cases and 85% in retreatment cases.<sup>[5]</sup> Lack of awareness among particularly in people living in rural areas is been a challenge impeding the progress towards TB control.

ACSM- Advocacy, communication and social mobilization is needed to remove the social stigma among general public which had been recently stressed by WHO.<sup>[6]</sup> The main reason for social stigma in India is lack of knowledge and awareness about the disease per se.<sup>[7]</sup> Therefore to achieve the goal/ objective of RNTCP the need for creating awareness about etiology, symptoms, mode of spread and source of infection etc. is needed. With this background a study was conducted to assess the knowledge and awareness of TB among general patients attending Outpatient department in a tertiary care hospital.

## MATERIALS AND METHODS

### Study Centre

Tagore medical college and hospital.

### Study design

Cross sectional study

### Study period

1 month (1<sup>st</sup> January 2017- 31<sup>st</sup> January 2017)

### Study population

General patients attending Outpatient department of a tertiary care hospital.

All patients of age >18yrs attending general Outpatient department were interviewed with a predesigned standardized structured questionnaire after obtaining informed consent which was read out to patients in their local language. This questionnaire had two parts. Part 1 contained information about socio-demographic factors like age, sex, religion, residence, education, type of family and income whereas part 2 contained questions on awareness of TB like burden, cause, causative agent, vulnerable group, mode of spread, symptoms, diagnosis, curability, prevention, treatment etc.,

### Data analysis

Data entered in MS excel sheet and analysed by IBM SPSS version 21.0. The results are given percentage.

## RESULTS

Data collected from 420 patients were analysed. Majority of patients interviewed were between 16-30 years (33.57%) followed by 31-45 Years (32.86%). Male participants were more compared to that of females (45.71%). Regarding religion Hindus were more (62.38%) compared to Muslims (16.90%) and Christians (9.52%). As per residence, majority belonged to rural community (87.62%) with an educational

qualification of less than 12<sup>th</sup> standard (75.71%). 70.48% belonged to nuclear families. [Table 1] illustrates the socio-demographic profile of study patients. About (86.19%) of patients knew that India had a high burden of TB and 72.86% cited infection as the cause. 10.24% attributed stress and 7.62% thought food as the cause of TB. [Table 2] Analyses the knowledge of study patients on TB.

Role of bacteria in TB were answered by (49.52%) whereas (14.76%) thought of virus and 11.43% as fungi. Inquiring about the vulnerable age group majority thought it affects all ages (51.19%) and 29.05% said that >60 year age group were involved. About 63.09% subjects were in view that TB predominantly affects males while 28.57% said that both gender were equally affected. Nearly 79.28% knew that TB is contagious and 70.95% were aware of the aerosol/ droplet transmission. The sources of knowledge were from family (28.09%), friends (24.05%), neighbours (22.86%) respectively. Awareness through health personal (16.66%) and mass media (8.33%) contributed only a minority. Assessing the knowledge on symptoms, diagnosis and outcome of TB [Table 3], 80.48% answered cough as the most common symptom followed by fever (10.71%) and hemoptysis (5.24%). Around 44.52% patients still believe that diagnosing TB is difficult and only 48.10% of participants were aware of DOTS centers. 59.05% were not aware of the free treatment provided by government for TB and an alarming aspect was 46.66% thought they could stop treatment on symptomatic improvement. Considering the curability of the disease 53.10% thought that TB can be cured. Awareness on TB related mortality were seen only in 55.48% whereas 35.71% did not know that untreated TB can lead to death.

**Table 1: Socio-demographic profile of patients (N=420).**

Characters		N (%)
a) Age	16-30	141(33.57%)
	31-45	138(32.86%)
	46-60	96(22.86%)
	>60	45(10.71%)
b) Sex	Male	228(54.29%)
	Female	192(45.71%)
c) Religion	Hindu	262 (62.38%)
	Muslim	71 (16.90%)
	Christian	47 (11.91%)
	Others	40 (9.72%)
d) Resident	Rural	368(87.62%)
	Urban	52(12.38%)
e) Education	<12 <sup>th</sup>	318(75.71%)
	>12 <sup>th</sup>	102(24.29%)
f) Type of family	Nuclear	296(76.48%)
	Joint	124(29.52%)
g) Income	<5000	188(44.76%)
	5000-10000	122(29.06%)
	>10000	110(26.19%)

**Table 2: Knowledge on TB (N=420).**

Characters		N (%)
1) Burden of TB in India	High	362(86.19%)
	Low	58(13.81%)
2) Cause of TB	Infection	306(72.86%)
	Food	32(7.62%)
	Stress	43(10.24%)
	Don't know	39(9.28%)
3) Causative agent	Bacteria	208(49.52%)
	Virus	62(14.76%)
	Fungi	48(11.43%)
	Don't know	102(24.28%)
4) Vulnerable age group	All ages	215(51.19%)
	Children<10yrs	40(9.52%)
	11-40yrs	43(10.24%)
	>60yrs	122(29.05%)
5) Gender most commonly affected	Male	265(63.09%)
	Female	35(8.33%)
	Equally affected	120(28.57%)
6) Contagious	Yes	333(79.28%)
	No	60(14.28%)
	Don't know	27(6.43%)
7) Mode of spread	Aerosol	298(70.95%)
	Sharing of food	55(13.09%)
	Fomites	52(12.38%)
	Others	15(3.57%)
8) Source of knowledge	Family	118(28.09%)
	Friends	101(24.05%)
	Neighbor	96(22.86%)
	Health personal	70(16.66%)
	Mass media	35(8.33%)

**Table 3: Knowledge on TB (N = 420).**

9)Symptoms	Cough	338(80.48%)
	Fever	45(10.71%)
	Hemoptysis	22(5.24%)
	Chest pain	8(1.9%)
	Others	7(1.66%)
10)Diagnosis	Easy	233(55.48%)
	Difficult	187(44.52%)
11)DOTS centers	Aware	202(48.10%)
	Unaware	218(51.90%)
12)Free of cost treatment	Aware	172(40.95%)
	Unaware	248(59.05%)
13)Stop treatment on symptomatic improvement	Yes	196(46.66%)
	No	202(48.10%)
	Don't know	22(5.24%)
14)Curability	Yes	223(53.10%)
	No	197(46.90%)
15)Can TB lead to death	Yes	233(55.48%)
	No	150(35.71%)
	Don't know	37(8.81%)

## DISCUSSION

TB still remains a major public issue in India inspite of the effective implementation of RNTCP (Revised national tuberculosis control program) in 1998. Inadequate awareness and social stigma pertaining to this particular disease

is a major hinderance factor in effectively controlling this infection.

A mass survey carried out by central TB division in 2007 reported poor level of awareness among general population<sup>[8]</sup>. Through this study we had analysed the knowledge and awareness of general patients attending Outpatient department about TB in a tertiary care centre.

A few population based studies conducted in various parts of India has also been highlighted for reference.

In our study 86.19% of the participants knew about the high burden of TB in India and 72.86% attributed infection as the cause of disease. One such study from Jaipur, Rajasthan showed that 90% of illiterates were unaware about etiology of TB.<sup>[9]</sup>

A similar study done by Sharma et al in Delhi showed 89% of study subjects also perceived it to be an infectious disease. However, Devey in Bihar showed that only 14% knew about TB as an infectious disease.<sup>[10]</sup> A study conducted in rural Delhi in 2006 showed very promising results where >95% of participants were aware of cause of TB.<sup>[11]</sup>

Regarding the vulnerable age group 51.19% believed that all age groups were affected, a finding similar to a study done by Sherkhane et al.<sup>[12]</sup> About 2/3<sup>rd</sup> of participants exhibited their source of knowledge of TB from family, friends and neighbours and only a minority 1/3<sup>rd</sup> from health personal/ mass media. This finding was quite similar in studies done in Ethiopia, Bihar and slums of Delhi.<sup>[10,13,14]</sup>

In our study, regarding the knowledge on common symptoms 80.48% answered cough as the most common symptom followed by fever and hemoptysis. A similar study done in Split, Croatia reported that 92% of participants were able to identify cough as principal symptom.<sup>[15]</sup> This great awareness on symptomatology could serve to help us in improving passive case finding. About 44.52% patients still believed that diagnosing TB was really difficult. In a large survey done in Orissa among patients of various clinics showed that they were aware of various aspects of diagnosis, prevention and control of TB. Majority of them also knew about DOTS centres,<sup>[16]</sup> contrary to our study where only 48.10% had heard about DOTS. A study done in Bengal revealed only 2% of general population in hospital knew about DOTS.<sup>[17]</sup>

Considering the curability of the disease only 53.10% thought that TB is curable. A similar study done in Serbia reported that 86% thought TB is curable and another study at Rajasthan said 90% were in view of TB being a curable disease.<sup>[18,19]</sup>

## CONCLUSION

Though the awareness of symptoms, causative agent, mode of spread were reasonably good, knowledge on availability of DOTS centers, free treatment, curability and TB possibility leading to death is still poor among rural population. The need for imparting health education and awareness especially in rural communities through mass media/ health care personal is needed to progress towards TB free India.

### **Recommendations**

Regular health educational activities through mass media/campaigning should be organized particularly in rural areas. Television shows and awareness programmes can be run at various places in hospitals so that basic information of TB could reach general patients. ACSM should be strengthened and given an equal role in RNTCP programme along with other objectives.

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