

Original Article

Knowledge and misconceptions of Pulmonary Tuberculosis patients at DOTS centre, Urban Meerut.

Bansal R¹, Ahmad S², Goel K³, Kaur G⁴

¹Professor & Head, Department of Community Medicine, ²Assistant Professor, Medical Sociology, ³Assistant Professor, ⁴PG-3rd Year, Department of Community Medicine, Subharti Medical College, Meerut.

Abstract

Background: India is the second most populated country in the world; it has more new TB cases annually than any other country. In 2008, 1.98 million were estimated to have occurred in India, of whom 0.87 million were infectious cases, thus amounting to a fifth of the global burden of TB. With the entire country geographically covered under the DOTS program, research into socioeconomic impact of TB on patients and their households is crucial for providing comprehensive patient-friendly TB services and to document the benefits of DOTS.

Objective: The present study was undertaken with the following objectives: (1) To determine the socio-demographic variables of registered patients for DOTS Treatment at Urban Health Training center Meerut. (2) To assess knowledge, awareness and attitude regarding Pulmonary Tuberculosis and its treatment among the patients.

Materials and Methods: A cross-sectional study of 200 TB patients was done using a pre-tested semi-quantitative questionnaire in UHTC Meerut. **Period of Study:** During 2010-2012.

Results: Knowledge and awareness regarding Pulmonary Tuberculosis in patients at DOTS centre, Urban Meerut was very poor. There is a great need to educate the people about misconceptions like food and utensils as mode of transmission. BCC using the person to person contact in community, at health center and awareness campaigns are crucial in educating the ignorance seen in our field practice area.

Conclusion: Poor knowledge and misconceptions concerning tuberculosis was quite concern in the patients. TB control program will remain ineffective unless myths and fears of TB patients are addressed related to causation of tuberculosis, mode of spread, and methods of prevention.

Key words: Tuberculosis, DOTS, Knowledge, Misconception, Social stigma.

Introduction:

Tuberculosis is a chronic air borne disease caused by the bacillus *Mycobacterium tuberculosis*. Pulmonary sites for tuberculosis are lungs and intestine. Almost any part of the body can get secondarily infected. Symptoms of TB depend on where in the body the TB bacteria are growing. In the cases of pulmonary TB, it may cause symptoms, such as chronic cough, chest pain, hemoptysis, weakness or fatigue, weight loss, fever, and night-sweats. TB remains a leading cause of morbidity and mortality in developing countries¹.

There are several challenges which need to be addressed for effective control of Tuberculosis, particularly in developing countries. These include the development of an effective surveillance system, accelerated identification of cases, expansion of DOTS

to hard-to-reach areas, strengthening of DOTS in urban settings, ensuring adequate staff and laboratory facilities, involvement of private practitioners, treatment facilities for MDR (Multi Drug Resistance) cases, identification of TB among children and extra-pulmonary cases, and effective coordination among healthcare providers². Implementation of directly-observed therapy short course (DOTS) has been a 'breakthrough' in the control of tuberculosis.

Over the last 15 years, about 35 million people have been cured, and eight million deaths have been averted with the adoption of DOTS³. Deficiencies in Revised National TB Control Programme are compounded with widespread misconceptions and false beliefs among TB patients. These myths have turned TB into a social stigma. This stigmatization can play an important role in reluctance of patients in seeking treatment⁴. Very

Address for Correspondence:

Sartaj Ahmad, Assistant Professor, Medical Sociology, Department of Community Medicine, Subharti Medical College, Delhi-Haridwar Bypass Road, Meerut-250005.
Email: sartajsaleem@gmail.com

few studies have been conducted in India regarding awareness of TB among patients. No programme for TB control can be effective unless erroneous beliefs amongst the masses are identified and removed.

Aims and Objectives:

The present study was undertaken with the following objectives are -

1. To determine the socio-demographic variables of registered patients for DOTS Treatment
2. To assess knowledge, awareness and attitude regarding causation, treatment and prevention of pulmonary tuberculosis among the patients

Material and Methods:

This cross sectional observational study was undertaken at DOTS Clinic at Urban Health Training Centre, under the department Community Medicine, Subharti Medical College Meerut UP. This centre provides preventive, promotive and curative services to the population residing at Multan Nagar and the adjoining areas covering around 20,000 population. The study was conducted among all the 200 patients (respondents) having taken treatment for Pulmonary Tuberculosis between 2010-2012. Patients were interviewed at the centre. Each interview was conducted at a time when patient came to receive DOTS treatment from the centre. Verbal consent from the participants was taken. A schedule in Hindi containing socio-demographic variable such as age, sex, religion, literacy status, and knowledge about symptoms, mode of transmission, etiology, investigation, prevention and duration of treatment was pretested and used as research tool. The questionnaire was filled by the DOTS provider of the center and steps of confidentiality were taken. The collected data was entered in Microsoft Excel and appropriate statistical tests were applied.

Results:

All patients belonged to the 15-65 years age group and the study group included 115 (57.5%) males and 85 (42.5 %) females. As far as literacy status was concerned, 85 (42.5%) had not received any formal education.

It was also found that 80 (40.00 %) patients belonged to class III and 95 (47.5%) were belonged to class IV and 80 (40.00 %) .

As far as history of addiction is concerned smoking addiction was 55 (27.5%), Tobacco chewing 40

(20.00%) and consumption of alcohol was seen in 08 (04.00%).

Among patients, 180 (95.00%) were new cases, relapse cases 04(02.00%) , treatment after defaulter 10 (05.0%) and 05(02.5%) were those who were previously on NTCP and later put under DOTS .

Out of 200 patients (respondents) majority (74.5%) respondents had heard about the Pulmonary Tuberculosis before they were diagnosed.

The main source of information were Health care workers 65 (32.5%), IEC materials 50(25%) relatives or friends 28 (14.0%) and doctors 06(03.00%).

Majority of the patients were aware about symptoms of Pulmonary Tuberculosis. They suggested that cough and sputum 142 (71.00%) was the most common symptom of pulmonary TB disease followed by fever 112(56%), general weakness 85(42.5%), breathlessness 74(37.00%), anorexia 68 (34.00%), chest pain 44(22.00%) hemoptysis (bloody sputum) 23(11.5 %) and weight loss 36(18.00%).

41 (20.5%) patients were aware that tuberculosis could be transmitted from one person to another through close contact and coughing. Inhaled droplets were recognized as the common source of infection among 35 (17.5%). Eating contaminated food 30 (15.0%), use of shared utensils 28 (14.0%), contaminated air 18(09.00%) were considered important modes of transmission.

About Prevention, about 1/3rd (32.5%) patients considered separate utensils as the most commonly used method for preventing the spread of tuberculosis; 22.5% covering of mouth with cloth during coughing; Proper sputum disposal 20 (10.00%) , good diets 15 (07.5%) and clean environment 10 (05.00%) were other methods.

About half of the patients 49.00% were not aware of investigations carried out for diagnosis of the disease. Only 17.5% patients reported having sputum examination, about 1/4th got (23.5%) Chest X-ray done while 10.00% underwent other investigations like urine and stool examination. 81.00% patients had no proper knowledge about vaccine against tuberculosis. 1/5th knew the proper duration of treatment (06-09 months)

Interestingly 27.5% were of the view that treatment should be stopped following control of symptoms. Majority of the patients 95.5% believed that tuberculosis is curable disease. Diagnosis of TB was kept hidden from family and friends by little less than half 42.5% of patients.

Table 1: Social demographic characteristics of study subjects:

Sex wise distribution	No.	Percentage
Male	115	57.50
Female	85	42.50
Age wise distribution	No.	Percentage
15-25	16	08.00
26-35	43	21.50
36-45	60	30.00
46-55	62	31.00
65-65 & above	19	09.50
Religion	No.	Percentage
Hindu	195	97.50
Muslim	05	02.50
Education Status	No.	Percentage
Illiterate	85	42.50
Up to Primary	70	35.00
Up to High School	35	17.50
Inter & above	10	05.00
Socio-economic status	No.	Percentage
Class I	10	05.00
Class II	15	07.50
Class III	80	40.00
Class IV	95	47.50
Addiction	No.	Percentage
No addiction	97	48.50
Smoking	55	27.50
Tobacco chewing	40	20.00
Alcohol	08	04.00

Table 2: Knowledge about Tuberculosis in study subjects:

Source of Information	No.	Percentage
Heard about Pulmonary . Tuberculosis.	149	74.50
Health worker	65	32.50
IEC Material	50	27.00
Relatives and Friends	28	14.00
Doctors	06	03.00
Distribution of TB patients according to their type	No.	Percentage
New cases	180	95.00
Relapse cases	04	02.00
Treatment after defaulter	10	05.00
Failure cases	01	00.05
Others cases	05	2.5.00
Knowledge about Infection	No.	Percentage
TB is an infectious disease	17	08.50
TB affected the lung	36	18.00
Don't Know	147	73.50
Knowledge about symptoms	No.	Percentage
Cough and sputum	142	71.00
Fever	112	56.00
General weakness	85	42.50
Breathlessness	74	37.00
Anorexia	68	34.00
Chest Pain	44	22.00
Hemoptysis	23	11.50
Weight Loss	36	18.00
Knowledge of Mode of Transmission	No.	Percentage
Close contact and Cough	41	20.50
Inhaled droplets	35	17.50
Share eating with contaminated food	30	15.00
Use of shared Utensils	28	14.00
Via Contaminated air pollution	18	09.00
Knowledge of Prevention	No.	Percentage
Used separate Utensil	65	32.50
Covering mouth during cough	45	22.50
Proper sputum disposal	20	10.00
Good Diet	15	07.50
Clean environment	10	05.00
Don't Know	45	22.50
Knowledge of Investigation	No.	Percentage
Sputum Examination	35	17.50
Xray	47	23.50
Blood Test	20	10.00
Don't Know	98	49.00

Table 3: Knowledge about Vaccination:

Knowledge of Vaccination	No.	Percentage
BCG vaccine is available	38	19.00
No any vaccine available	52	26.00
Don't Know	110	55.00
Misconception about Treatment	No.	Percentage
06-09 Month regularly	40	20.00
Up to 06 Month	29	14.50
Stopped treatment if symptoms control	55	27.50
Knowledge about Tuberculosis as disease	No.	Percentage
It is curable disease	84	42.00
It should be hidden from family and relatives	85	42.50
No need of cloth during the cough	31	15.50

Discussion:

In this study a total of 200 patients between the age group of 15 – 65 years suffering from Pulmonary Tuberculosis were interviewed. Men 57.5% were more commonly affected than women 42.5%.

As far as literacy status was concerned, 42.5% of patients had not received any formal education. The KAP study among sandstone quarry workers in Rajasthan, conducted by Yadav et al, showed literate people having significantly higher level of awareness and knowledge regarding TB⁵.

Socio-economic status of respondents was poor. It was found that 40.00 % belonged to class III and 47.5% belonged to class IV according to Kuppuswamy classification. The association between poverty and TB is well-recognized, and the highest rates of TB were found in the poorest section of the community⁶. TB occurs more frequently among low-income people living in overcrowded areas and persons with little schooling.⁷ Poverty may result in poor nutrition which may be associated with alterations in immune function. Poverty resulting in overcrowded living conditions, poor ventilation, and poor hygiene-habits is likely to increase the risk of transmission of TB⁸.

Smoking 27.5%, Tobacco chewing 20.00% and consumption of alcohol 04.00% are group exclusive. All forms of tobacco intake can lead to tuberculosis, lung cancer and other pulmonary diseases⁹.

About 3/4th respondents had not heard about the Pulmonary Tuberculosis before they were diagnosed themselves.

One survey in India reported that 93% people had heard of TB but only 20.5% of the people demonstrated sufficient knowledge of TB¹⁰. Knowledge and awareness regarding various aspect of tuberculosis is very important among the masses to control it. The mass survey carried out by Central TB Division, Ministry of Health, Government of India, reported poor level of awareness among general population and very poor among disadvantaged section of the society¹¹.

Health care workers 32.5% and IEC materials 25% were the main source of information about tuberculosis, while relatives or friends 14.0% , surprisingly doctors 03.00% were the source of information among the rest. Among patients, majority 95.00% were new cases. Only 02.00% relapse, and 05.0% were treatment defaulter and rest 2.5% who were previously on NTCP regimen and after wards were put under DOTS. Clinical improvement, unavailability of drugs or cost of drugs were reported to be the main reasons for defaulting treatment in the earlier studies¹².

The most commonly recognized symptoms of tuberculosis were thought to be cough with sputum among 71.00% followed by fever 56%, general weakness 42.5%, breathlessness 37.00%, chest pain

22.00%, anorexia 34.00% and hemoptysis 11.5 % and weight loss 18.00%. Only 20.5% patients were aware that tuberculosis could be transmitted from one person to another through close contact and coughing. 17.5% recognized Inhaled droplets were the common source of infection. Eating contaminated food 15.0%, use of shared utensils 14.0% were also considered important modes of transmission.

According to another study regarding transmission of tuberculosis, 96.6% of the patients were aware that tuberculosis could be transmitted from one person to another. Educating about the misconception of food and utensils as route of transmission is an important IEC activity. This incorrect concept is also reflected in the fact that 22.7% of patients were being given food on separate utensil, this fact has been substantiated by others¹³.

Interestingly about 1/3rd (32.5%) patients considered separate utensils as the most commonly used methods for preventing the spread of tuberculosis. Only 22.5% stated that covering the mouth with cloth during coughing is important for prevention.

Proper sputum disposal 10.00%, good diet 07.5% and clean environment 05.00% were also mentioned as preventive measures. Half of the patients 49.00% were not aware of investigations carried out for the diagnosis of the disease.

In a study conducted at DOTS Centre, Safdarjung Hospital, New Delhi, 62.6% of the patients were of the opinion that for diagnosis of tuberculosis sputum examination was the most preferred test followed by X-ray¹⁴.

In a study from India Singh et al. reported that only 2.3% of their respondents knew that TB was caused by a germ¹⁵.

Diagnosis of tuberculosis is associated with social stigma in many countries. In Ethiopia evil spirit and sexual intercourse have been found to be incriminated as a cause for TB. Their community also exhibits a great deal of ostracism towards TB patients.¹⁶

Studies conducted in Bangladesh, which faces similar social and cultural background, have shown that well conducted community health education campaigns can affect level of knowledge and produce favorable attitudes towards tuberculosis¹⁷.

Conclusion:

In this study, Poor knowledge and misconceptions concerning tuberculosis are quite a concern in patients. There is a great need to educate the people about

misconceptions like food and utensils as mode of transmission.

BCC using the person to person contact in community, at health centre and awareness campaigns are crucial in educating the ignorance seen in our field practice area. TB control program will remain ineffective unless myths and fears of TB patients are addressed simultaneously.

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