Original Article

A STUDY OF KNOWLEDGE AND AWARENESS REGARDING PULMONARY TUBERCULOSIS IN PATIENTS UNDER TREATMENT FOR TUBERCULOSIS IN A RURAL AREA OF ALIGARH – UP

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Abstract:

Background: Pulmonary tuberculosis continues to be a major public health problem and account for over 80% of all cases. It is considered to a major source of spread. Revised National Tuberculosis Control Programme depends on passive reporting of the chest symptomatic to the health institution. Therefore, it is important that the basic knowledge about the disease and the availability of free treatment is clear among the individual in the community.

Methodology and Results: A cross sectional study was carried out among 88 patient suffering from Pulmonary Tuberculosis and receiving treatment from Rural Health Training Centre, Jawan, J N Medical College. Majority of the patient 80.7% were aware of symptoms of tuberculosis. As many as 96.6% of patient were aware that tuberculosis could be transmitted from one person to another. As regard the etiology of disease, 47.7% were aware of correct etiology i.e. infective organism, 37% of patients were aware of investigations carried out for tuberculosis and 9.1% of patients were aware about BCG vaccination as mode of prevention for tuberculosis. Majority of the patient 95.5% believed that tuberculosis is curable and (6 – 9 month) duration was correctly known to only 32.9% of patient.

Conclusion: The cross sectional study revealed that although knowledge regarding symptoms, mode of transmission, etiology was satisfactory; however there is still a great need to educate females and illiterate individuals on priority basis. Misconceptions like food and utensils as mode of transmission need to be removed. The mass media and IEC should actively continue giving message about importance of BCG vaccination and other vaccine preventable diseases.

Key words: Pulmonary tuberculosis, knowledge and awareness survey.

Introduction:

Tuberculosis continues to be a major public health problem in our country and is the largest cause of healthy life years in the productive age group.[1] Though tuberculosis control program has been in vogue for more than 30 years, it has not made a measurable impact on the disease situation.[1] In spite of nearly half of bacillary cases of tuberculosis approaching general health institution, for relief of their symptoms,[2] the case finding and case holding efficiency of these agencies is generally poor. It has been reported that a majority of chest symptomatics in cities, first approach the private sector for relief, and even in rural areas 1/3rd of the diagnosed cases have approached the private treating agencies.[3,4] Patients' adherence to the treatment depends on many psychological and sociological factors including age, education level and patient's own idea about the disease.[5]

Over the last three decades, there has been an accelerated growth of private practitioner and non governmental organization catering to health needs[1]. However, the diagnostic and curative abilities of these agencies were not standardized and only a fraction of the diagnosed cases completed treatment resulting in unsatisfactory cure rates.

Thus it is important that the basic and correct knowledge of the disease and the availability of free treatment is clear among the individuals in the community. Equally importance is to assess incorrect practices of people, if any. Such studies are more relevant in remote and backward areas inhabited mostly by poor people with limited access to health care.

Aims and Objectives:

The present study was undertaken with the following objectives -

1. To assess correct knowledge regarding symptoms, mode of transmission and etiology of Pulmonary tuberculosis
2. To assess knowledge regarding investigation, prevention and treatment of tuberculosis

Material and Methods:

This cross sectional study was conducted at Rural Health Training Center, Jawan Block, Department of Community Medicine, Jawaharlal Nehru Medical College, AMU Aligarh (U.P). This center provides preventive, promotive and curative services to the population residing at Jawan and the adjoining areas. The study was conducted among all the 88 patients (study subjects) aged 15 – 55 years currently under treatment for Pulmonary Tuberculosis at RHTC, Jawan Block, District Aligarh (U.P). Patients were interviewed at the center. Each interview was conducted at a time when patient came to receive ATT from the center. A questionnaire containing socio-demographic variable such as age, sex, religion, literacy status, and knowledge about symptoms, mode of transmission, etiology, investigation, prevention and treatment of tuberculosis was prepared as study tool and tested. Each interview lasted for about 30 minutes. The collected data was entered in Microsoft Excel and transformed to SPSS statistical package for suitable statistical analysis and inferences were drawn. Z-test for difference between two proportions was applied for statistical significance.

Results:

A total of 88 patients (study subjects) between the age group of 15 – 55 years suffering from Pulmonary Tuberculosis were interviewed. Out of these 88 patients, 54 (61.4%) were male and 34 (38.6%) were female. Majority of the patients 69 (78.4%) were Hindu while rest 19 (21.6%) were Muslims. As far as literacy status was concerned, 28 (31.8%) were illiterate. Majority of the females 30 (88.2%) were housewives while 38 (70.4%) male were farmers.

Majority of the patients were aware regarding symptoms of tuberculosis. Cough with sputum 66 (75%) was the commonest symptom known, followed by weight loss 48 (54.5%), fever 42 (47.8%), weakness and breathlessness 34 (38.6%), anorexia 32 (36.4%), hemoptysis 28 (31.8%) and chest pain 5 (5.7%). About 17 (19.3%) patients were not aware about any symptom of tuberculosis. Males 46 (85.2%) were more aware about symptoms than females 25 (73.6%). As far as literacy status was concerned, literate 57 (95%) were more aware about symptoms than illiterate 14 (50%). (Table 1 & 2)

As many as 41 (46.6%) patients were aware that tuberculosis could be transmitted from one person to another through close contact and coughing. About 24 (27.3%) patients cited TB transmission via air

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and 20 (22.7%) of patients cited food and utensils as the route of spread. In this regard female constituted a significantly higher percentage 14 (41.2%) as compare to male 6 (11.1%). As far as literary status was concerned, literate 59 (98.8%) and illiterate 27 (96.4%) both are almost having same knowledge regarding mode of transmission. (Table 3 & 4)

Majority of the patients 46 (52.3%) have no idea about correct etiology of the disease. About 42 (47.7%) patients attributed the correct etiology of disease i.e. infective organism. In this regard males outnumbered females, among those with literacy status, literate 40 (66.7%) were more aware of correct etiology than illiterate 2 (7.1%). Other causes cited by the patients includes smoking and alcohol consumption along with poor diet 15 (17.0%), heredity 5 (5.7%), curse 5 (5.7%) while 21 (23.9%) were not aware of any etiology regarding the disease. (Table 5 & 6)

Majority of patients 51 (57.9%) were not aware of investigations carried out to diagnose the disease. About 28 (31.8%) stated sputum examination, 24 (27.3%) stated X-ray while 7 (8.0%) stated other investigation like urine of stool examination as to be done in a suspected case of tuberculosis.

Majority of the patients 85 (96.6%) stated that some precaution must be taken if they are diagnosed to be having tuberculosis. A total of 20 (22.7%) of patients stated separate utensils and food as the commonest precaution. Other stated covering of mouth during coughing 22 (25.0%), proper sputum disposal 26 (29.5%), good diet and clean environment 15 (17.0%) and only 2 (2.3%) patients were of the opinion that they should stay separately. BCG vaccine was known to only 8 (9.1%) in spite of coverage of 94% of infant in the area.

Majority of the patients 84 (95.5%) believed that tuberculosis is curable. Awareness about anti-tubercular drug being given free of cost at government health centers was known to 65 (73.9%), whereas 2 (2.3%) stated that treatment was not free and 21 (23.8%) were not aware of the status. The duration (6 – 9 months) was correctly known to only 29 (32.9%) patients. Almost all the patients were aware that if anti tubercular drug is not taken than it could adversely affect their health.

Discussion:

India has the highest number of TB cases in the world and it has to be addressed at any cost. [6] Knowledge and awareness regarding various aspect of tuberculosis is very important among the masses to curb 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 society. [7] Literacy has been identified as the key deciding factor for level of awareness. 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 TB. [8] Devey J reported that only 21% of people from Northern part of Bihar knew how TB is spread and the level of knowledge was determined by educational and economic status of the person. [9] All these findings are almost consistent with our findings. However, the study conducted in rural Delhi in 2001 showed encouraging results with more than 95% participants being aware of cause of TB. [10] In a study conducted by Kar M and Logaraj M regarding knowledge about mode of spread of the disease, only 20% replied cough or sputum as the mode of spread and the rest 80% didn't have any knowledge or wrong knowledge about the mode of spread of TB. Literacy status was the key factor in determining level of awareness about TB. [11] These findings are also found to be consistent with our observation.

In the present study, cough with sputum (75.0%), weight loss (54.5%), fever (47.8%), weakness and breathlessness (38.6%), anorexia (36.4%), hemoptysis (31.8%) and chest pain (5.7%) have been observed to be the symptoms of tuberculosis. In another study conducted on patient attending the DOTS Center at Safdarjung Hospital, New Delhi, fever (50.6%), cough (59.3%), weight loss (20.6%), expectoration (11.3%), hemoptysis (11.3%) were reported to be the main symptoms of tuberculosis, known to the people. [12]

In a study conducted in south Indian rural population, cough, fever and hemoptysis were known to 66%, 13% and 15% of the individual respectively. [13] In another study conducted in rural population of Delhi, it was found that cough and sputum (73.7%), weakness and breathlessness (40.4%), fever (34.3%) and hemoptysis were known to be the symptom of tuberculosis among the people. [14] Hence it is encouraging to note the greater awareness of these symptoms among individuals in the present study to improve passive case finding. As far as awareness regarding transmission of tuberculosis is concerned, 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 so as to remove the stigma attached to the disease. This incorrect concept is also reflected as 22.7% of patients stated provision of separate utensil and food when a member of the family had tuberculosis and this fact has been substantiated by the worker of others. [14]

In our study, as regard the knowledge of etiology of tuberculosis is concerned, 47.7% of patients were aware about the correct etiology i.e. infective organism. Some patients have got incorrect knowledge about the cause such as curse, heredity, smoking, alcoholism and poor diet. These wrong misconceptions about etiology of the disease may affect the timely reporting of patients to the health institution. As regard the investigation to be carried out for tuberculosis, 31.8% stated sputum examination and 27.3% stated X-ray while 8% stated urine and stool. However in contrast to our findings, 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-ray. [12]

A prominent finding in our study was that only 9.1% of patient knew that tuberculosis can be prevented by BCG vaccine in spite of coverage of 94% of infant in the area. In a study done in rural south Indian community, BCG as a vaccine for tuberculosis was known to only 15.6% individuals[7] and in another study at Delhi, it was reported as 9.8%. [14] Thus the mass media and IEC activities should continued giving messages about importance of BCG and other vaccine preventable diseases.

Majority of the patient (95.5%) believed that tuberculosis is curable. The duration (6 – 9 month) was correctly known to only 32.9% of the patients. In a study done at DOTS Centre Safdarjung Hospital, New Delhi, 53.3% of the patient knew that the treatment for tuberculosis was to be taken for a span of 6 – 9 month. [12] Here again comes the vital role of health education/IEC messages. More stress should be put upon the completion and the duration of tuberculosis treatment through IEC messages.

In our study, lower level of knowledge about symptoms, transmission and etiology of the disease were observed in females and in illiterate patient. From the forgoing awareness study of patients, we would infer that although knowledge regarding symptoms, mode of transmission, etiology was satisfactory, however there is still a great need to educate female and illiterate individual, on a priority basis. Misconceptions like food and utensils as mode of transmission need to be removed. World Health Organization also recognizes the importance of tuberculosis-related knowledge, attitude and practice surveys in advocacy, communication and social mobilization strategy planning. [15]

Table 1: Relationship of knowledge of symptoms with sex.

Symptom	Male (N=54)		Female (N=34)		Z- test
Cough with sputum	44	(81.5)	22	(64.7)	Significant
Fever	24	(44.4)	18	(52.9)	Non significant
Anorexia	24	(44.4)	08	(23.5)	Significant
Weight loss	32	(59.2)	16	(47.0)	Non significant
Weakness / Breathlessness	22	(40.7)	12	(35.3)	Non significant
Chest pain	04	(07.4)	01	(02.9)	Non significant
Hemoptysis	22	(40.7)	06	(17.6)	Significant
Not aware	08	(14.8)	09	(26.4)	Non significant

(Figures in parentheses are percentages)

Table 2: Relationship of knowledge of symptoms with literacy status.

Symptom	Illiterate (N=28)		literate (N=60)		Z- test
Cough with sputum	14	(50.0)	52	(86.7)	Significant
Fever	10	(35.7)	32	(53.3)	Non significant
Anorexia	08	(28.5)	24	(40.0)	Non Significant
Weight loss	06	(21.4)	42	(70.0)	Significant
Weakness / Breathlessness	04	(14.3)	30	(50.0)	Significant
Chest pain	01	(03.5)	04	(06.7)	Non significant
Hemoptysis	08	(28.6)	20	(33.3)	Non Significant
Not aware	14	(50.0)	03	(05.0)	Significant

(Figures in parentheses are percentages)

Table 3: Relationship of knowledge of mode of transmission with sex.

Mode of transmission	Male (N=54)		Female (N=34)		Z- test
Close contact and coughing	27	(50.0)	14	(41.2)	Non Significant
Air	20	(37.0)	04	(11.8)	Significant
Food and Utensils	06	(11.1)	14	(41.2)	Significant
Not aware	01	(01.9)	02	(05.8)	Non Significant

(Figures in parentheses are percentages)

Table 4: Relationship of knowledge of mode of transmission with literacy status.

Mode of transmission	Illiterate (N=28)		Literate (N = 60)		Z- test
Close contact and coughing	11	(39.3)	30	(50.0)	Non Significant
Air	05	(17.9)	19	(31.7)	Non Significant
Food and Utensils	10	(35.7)	10	(16.7)	Significant
Not aware	02	(07.1)	01	(01.6)	Non Significant

(Figures in parentheses are percentages)

Table 5: Relationship of knowledge of etiology with sex.

Etiology	Male (N=54)		Female (N=34)		Z- test
Infective organism	34	(63.0)	08	(23.6)	Significant
Heredity	02	(03.7)	03	(08.8)	Non Significant
Smoking / alcohol / poor diet	12	(22.2)	03	(08.8)	Non Significant
Curse	02	(03.7)	03	(08.8)	Non Significant
Not aware	04	(07.4)	17	(50.0)	Significant

(Figures in parentheses are percentages)

Table 6: Relationship of knowledge of etiology with literacy status.

Etiology	Illiterate (N=28)		Literate (N=60)		Z- test
Infective organism	02	(07.1)	40	(66.7)	Significant
Heredity	02	(07.1)	03	(05.0)	Non Significant
Smoking / alcohol / poor diet	04	(14.3)	11	(18.3)	Non Significant
Curse	03	(10.7)	02	(03.3)	Non Significant
Not aware	17	(60.8)	04	(06.7)	Significant

(Figures in parentheses are percentages)

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