

Research Article

Knowledge and awareness of tuberculosis in caregivers of paediatric tuberculosis patients of north Gujarat region, India: a cross sectional study

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ABSTRACT

Background: Tuberculosis (TB) continues to be one of the most important public health problems worldwide. Children are especially vulnerable to the effects of tuberculosis, which is often difficult to diagnose and therefore difficult to treat effectively. The compliance for treatment can be increased if caregivers of paediatric TB patients are well aware about the disease, treatment and preventive measures.

Methods: This cross sectional observational, descriptive epidemiological study was conducted at GMERS medical college and hospital Dharpur-Patan located in north Gujarat during January 2015 to June 2015. The study was conducted among all the 151 pediatric TB patients who were currently under treatment at selected hospital. Caregivers of the patients were informed about the purpose of the study and their informed written consent was taken. By interviewing them on the basis of pre-designed and pre tested preform, information regarding socio demographic profile, knowledge and awareness regarding TB was collected. The collected data was analyzed using statistical package for social science (SPSS 17 Trial version).

Results: Only 68 (45.0 %) caregivers of patients had knowledge regarding mode of spread of TB infection to others. 89 (58.9%) caregivers of patients knew about curability of the disease. 104 (68.9%) caregivers of patients had knowledge regarding DOTS (Directly Observed Treatment Short course chemotherapy) centre for TB treatment under RNTCP (Revised National Tuberculosis Control Programme). 32.3% caregivers of the patients knew that TB can be prevented by BCG vaccine. The literacy status had a significant influence on awareness about TB.

Conclusions: Apart from pharmacological treatment poor knowledge of tuberculosis in caregivers of the paediatric TB patients also needs great attention for better control and prevention of TB in paediatric age group.

Key words: Tuberculosis, Paediatric TB, Socio demographic profile, Knowledge, Awareness

INTRODUCTION

Tuberculosis is a worldwide, chronic communicable bacterial disease. It is a very strange disease because of its varied clinical presentation, host response, chemotherapeutic response, etiology and social implications. It continues to be one of the most important public health problems worldwide. It infects one third of

the world's population at any point of time. There are approximately 9 million new cases of all forms of TB occurring annually and 3 million people dying from it each year. 95% of cases and 98% of the TB deaths are contributed by developing countries.¹ India is the highest TB burden country accounting for one fifth of the global incidence and it is 17th among 22 high TB burden countries in terms of TB incidence rate.¹ Every year,

approximately 1.8 million persons develop tuberculosis, of which about 0.8 million are new smear positive highly infectious cases. Tuberculosis kills about 0.32 million people every year. Two out of every five Indians are infected with TB bacillus. Every day about 5000 people develop the disease.^{2,3} Most of new cases of TB and deaths due to TB occur in developing countries where infection is often acquired in childhood. No other chronic infection of childhood comes anywhere close to TB. It is one of the giant killers of children. Childhood deaths from TB are usually caused by disseminated disease.⁴ Tuberculosis causes poverty but also found more amongst poor. The majority of its victims are migrant, laborers, slum dwellers, residents of backward areas and rural and tribal pockets. Poor living conditions, malnutrition, shanty housing and overcrowding are the main reasons for the spread of the disease. Children are especially vulnerable to the effects of tuberculosis, which is often difficult to diagnose and therefore difficult to treat effectively. Pediatric TB results from failure of TB control in adults.⁵ Tuberculosis can be treated successfully by taking medication as suggested by health authorities but as medicines needs to be taken for months hence compliance is important factor. The compliance for treatment can be increased if caregivers of pediatric TB patients are well aware about the disease, treatment and preventive measures. This study has been planned to assess knowledge and awareness regarding TB in caregivers of paediatric tuberculosis patients.

METHODS

This cross sectional observational, descriptive epidemiological study was conducted at GMERS medical college and hospital Dharpur-Patan located in north Gujarat, India. The study was conducted among all the 151 paediatric TB patients who were currently under treatment at selected hospital. The study period was 6 months from January to June 2015. All patients and their caregivers were interviewed at center. Each interview was conducted at a time when patient come into OPD and ward of TB. Parents of the patient were informed about the purpose of the study and their informed written consent was taken. By interviewing them on the basis of pre-designed and pretested preform, information regarding socio demographic profile, knowledge and awareness regarding TB in caregivers of patients was collected. The collected data was analyzed using statistical package for social science (SPSS 17 Trial version).

RESULTS

Out of 151 pediatric patients 87 (57.6%) were male. Age range of the children was 1 to 14 years. In our study

mean age of children was 8.41± 2.86 years. Mean age of male patient was 9.12±4.26 years. Mean age of female patient was 7.12 ±3.86 years. 68 (45.0%) patients were adolescents. 127 (84.1%) patients were from rural area. 116 (76.8%) of the patients lived in joint family. 89 (58.9%) patients had kuccha house. Overcrowding was present in 86.7% of the patients. Family history of TB was present in only 23.2 % of the patients. 76.8% of the patients belonged to social IV and V according to modified Prasad’s classification. 105 (69.5%) patients had extra pulmonary TB. These paediatric TB cases were divided into two categories as per Revised National Tuberculosis Control Programme (RNTCP). Category-1 constituted 125 (82.7%) cases. 26 (17.3%) cases were in Category-2. 3 % patients had HIV infection. 56 % of patients preferred syrup formulation, if available. 63 (41.7%) heads of the family of patients were illiterate (Table 1). Only 68 (45.0%) caregivers of patients had knowledge regarding mode of spread of TB infection to others. 89 (58.9%) caregivers of patients knew about curability of the disease. 104 (68.9%) caregivers of patients had knowledge regarding DOTS (Directly Observed Treatment Short course chemotherapy) center for TB Treatment under RNTCP (revised national tuberculosis control programme) (Table 2). 32.3% caregivers of the patients knew that TB can be prevented by BCG vaccine. The literacy status had a significant influence on awareness about TB. It was evident that literates were significantly more aware than illiterates regarding communicability, cause, mode of transmission, symptoms curability of TB and place of treatment.

Table 1: Education status of caregivers of paediatric TB patients.

Educational Status of the caregivers of the patients	Number of the patients	Percentage
Illiterate	63	41.7
Primary	40	26.5
Secondary	18	11.9
Middle school	15	9.9
Higher secondary	11	7.3
Above Higher secondary	4	2.6
Total	151	100

Table 2: Knowledge and awareness regarding TB in caregivers of pediatric tuberculosis patients.

Awareness	Knowledge of caregivers of the patients	Literate (88)	Illiterate (n=63)	Total(n=151)	Chi ² value and p value
Is it communicable disease	Yes	43(48.9%)	25(38.1%)	68 (45.0%)	Chi ² =2.74
	No	35(39.8%)	38(61.9%)	83 (55.0%)	P=<0.05
Is it caused by germ	Yes	43(48.9%)	21(33.3%)	64 (42.4%)	Chi ² =5.82
	No	35(39.8%)	42(66.7%)	87(57.6%)	P=<0.005
Is it spread by droplets	Yes	42(47.7%)	26(41.3%)	68 (45.0%)	Chi ² =3.65
	No	36(40.9%)	37(58.7%)	83 (55.0%)	P=<0.05
Is it curable	Yes	63(71.6%)	26(41.3%)	89(58.9%)	Chi ² =12.72
	No	25(28.4%)	37(58.7%)	62 (41.1%)	P=<0.005
Ability to specify symptoms of TB	Yes	61 (69.9 %)	33 (52.4%)	94 (62.3%)	Chi ² =3.79
	No	27 (30.7%)	30 (47.6%)	57 (37.7%)	P=<0.005
Knowledge regarding DOTS center for treatment of TB	Yes	76(86.4%)	28(42.9%)	104 (68.9%)	Chi ² =28.17
	No	12(13.6%)	35(57.1%)	47 (31.1%)	P=<0.005

DISCUSSION

In Rami Kiran et al out of 151 patients, 104 (68.8%) were male. Age range was 14 year to 80 year. 147 (97.3%) were from rural area. 63 (41.7%) were illiterate. 130 (86%) patients belonged to joint family. 118 (78.1%) had less than Rs. 500 per capita income. More than 50% patients of TB were aware of person to person transmission of TB. 62 (41.05%) patients of TB knew mode of spread of TB. 95 (62.91%) patients correctly answered that cough was commonest symptoms. 99 (65.56%) patients knew about DOTS clinic. Only 90 (59.6%) patients believed that TB was curable.⁶

India has the highest number of cases in the world and it has to be addressed at any cost.⁷ Knowledge and awareness regarding various aspect of TB is very important among the masses to curb it. The mass survey carried out by health government of India reported poor level of awareness among disadvantaged section of society.⁸ Literacy has been identified as the key deciding factor for the level of awareness.

The KAP study among sandstone quarry workers in Rajasthan by Yadav SP et al showed that literate people was having significantly higher level of awareness and knowledge regarding TB.⁹ The study conducted in rural Delhi by Fochsen et al showed >95% participants being aware of cause of TB.¹⁰ In Kar et al only 20% replied cough or sputum as a mode of spread of TB and rest 80% didn't have knowledge or wrong knowledge about mode of spread of TB.¹¹

In present study 45% caregivers of the patient told mode of spread of TB by coughing and spitting. In our study 62.3% caregivers of the patients correctly specified symptoms of TB. In Matta S et al fever (50.6%), cough (59.3%), weight loss (20.6%), expectoration (11.3%),

haemoptysis (11.3%) were reported to be the main symptoms of TB known to the people.¹² In Subramaniam et al cough, fever, haemoptysis, were known to 66%, 13%, 15% of the individual respectively.¹³ Some patient have got incorrect knowledge about the cause such as hereditary, smoking, alcoholism, and poor diet. A prominent finding of our study was that 42.4% caregivers of the patients of Dharpur-Patan hospital knew mode of transmission. In our study 32.3% caregivers of the patients knew that TB can be prevented by BCG vaccine. In Madhu Vidhani et al showed that 9.0% of patient knew that TB can be prevented by BCG vaccine.¹⁴

In our study poor knowledge about cause, symptoms and transmission of the disease were observed caregivers of paediatric TB patient Misconceptions and incorrect knowledge like food and utensils as mode of transmission need to be removed.

WHO also recognizes the importance of TB related knowledge, attitude and practice survey in advocacy, communication, social mobilization strategy planning.¹⁵

CONCLUSION

Apart from pharmacological treatment poor knowledge of tuberculosis in caregivers of the pediatric TB patients also needs great attention for better control and prevention of TB in pediatric age group. An attempt could be made in future to improve awareness among illiterates to remove myths and misconceptions, to allay the social stigma attached with it, to decrease TB transmission.

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