

ORIGINAL RESEARCH

To determine the socio-demographic characteristics of pediatric tuberculosis patients

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ABSTRACT

Aim: To determine the socio-demographic characteristics of pediatric tuberculosis patients. **Materials and methods:** The study was conducted among all the 100 pediatric TB patients who were currently under treatment at Hospital. All patients and their parents were interviewed at center. Each interview was conducted at a time when patient come into OPD and ward. 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 pre tested Performa, socio demographic information was collected. **Results:** Out of 100 pediatric patients 57 (57%) were male. Age range of the children was 1 to 14 years. In our study mean age of children was 8.78 ± 2.98 years. 45(45%) patients were adolescents. 84(84%) patients were from rural area. 42(42%) heads of the family of patients were illiterate. 78(78%) of the patients lived in joint family. 59(59%) patients had kuccha house. Overcrowding was present in 88% of the patients. Family history of TB was present in only 22% of the patients. 78% of the patients belonged to social IV and V according to modified Prasad's classification (Table 1). 70(70%) patients had extra pulmonary TB (Table 2). These pediatric TB cases were divided into two categories as per Revised National Tuberculosis Control Programme (RNTCP). Category-1 constituted 83(83%) cases. 17(17%) cases were in Category-2 (Table 3). 4% patients had HIV infection. 55% of patients preferred syrup formulation, if available. **Conclusion:** Our findings indicate that pediatric tuberculosis is a significant issue for children aged 1-9 who come from poor socio-economic backgrounds. Inadequate living conditions, which persistently afflict our people, are a significant risk factor for the spread of tuberculosis.

Keywords: TB, Pediatric TB, Tuberculosis, Socio demographic profile, Extra pulmonary TB

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INTRODUCTION

Tuberculosis (TB) is among the leading 10 causes of death in children. In 2011, the World Health Organization (WHO) projected that there were around 0.5 million cases of pediatric tuberculosis (TB) globally, resulting in 64,000 deaths among children. In underdeveloped nations such as India, the yearly probability of children contracting TB infection ranges from 2% to 5%. Tuberculosis is a prevalent, persistent bacterial illness that may be transmitted globally. The illness is considered unusual because to its diverse clinical manifestations, host reaction, responsiveness to chemotherapy, underlying cause, and societal consequences. It remains a prominent global public health issue. It affects around one third of the global population at any one moment. Annually, there are almost 9 million new cases of tuberculosis in all its varieties, resulting in the deaths of 3 million individuals. Developing nations account for 95% of

TB cases and 98% of TB-related fatalities [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.² 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, labourers, 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]. This study is a humble effort to throw light on socio demographic profile of pediatric tuberculosis patients.

MATERIALS AND METHODS

This Cross sectional observational, descriptive epidemiological study was conducted at Department of Paediatric. An informed and written consent was taken from the participating subjects prior to the commencement of the study.

The study was conducted among all the 100 pediatric TB patients who were currently under treatment at Hospital. All patients and their parents were interviewed at center. Each interview was conducted at a time when patient come into OPD and ward. 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 pre tested Performa, socio demographic information was collected. The collected data was analyzed using statistical package for social science (SPSS 21.0).

RESULTS

Out of 100 pediatric patients 57 (57%) were male. Age range of the children was 1 to 14 years. In our study mean age of children was 8.78±2.98 years. Mean age of male patient was 9.27±2.67 years. Mean age of female patient was 7.34±1.23 years. 45(45%) patients were adolescents. 84(84%) patients were from rural area. 42(42%) heads of the family of patients were illiterate. 78(78%) of the patients lived in joint family. 59(59%) patients had kuccha house. Overcrowding was present in 88% of the patients. Family history of TB was present in only 22% of the patients. 78% of the patients belonged to social IV and V according to modified Prasad's classification (Table 1). 70(70%) patients had extra pulmonary TB (Table 2). These pediatric TB cases were divided into two categories as per Revised National Tuberculosis Control Programme (RNTCP). Category-1 constituted 83(83%) cases. 17(17%) cases were in Category-2 (Table 3). 4% patients had HIV infection. 55% of patients preferred syrup formulation, if available.

Table 1: Socio demographic profile of pediatric tuberculosis patients

Character	Specific Character	No. of Patients (n=100)	Percentage
Sex	Male	57	57
	Female	43	43
Age groups(in years)	Preschool (1-4 Years)	17	17
	Primary school (5-9 years)	38	38
	Adolescent (10- 14years)	45	45
Residence	Rural	84	84
	Urban	16	16
Education of Heads of Family	Illiterate	42	42
	Primary	27	27
	Secondary	11	11
	Middle school	9	9
	Higher secondary	7	7
Type of family	Above Higher secondary	4	4
	Nuclear	22	22
Housing condition	Joint	78	78
	Kuccha House	59	59
	Pukka House	41	41
	Overcrowding Present	88	88
Family history of TB	Overcrowding Absent	12	12
	Present	22	22
Social Classification according to Modified Prasad's Classification	Absent	78	78
	Class-1	0	0
	Class-2	7	7
	Class-3	15	15
	Class-4	46	46
	Class-5	32	32

Table 2: Age group and type of TB wise distribution of the patients

Age Group	Type of TB		Total
	Extra Pulmonary TB	Pulmonary TB	
Preschool (1-4 years)	12	5	17
Primary school (5-9 years)	29	9	38
Adolescent (10-14 years)	29	16	45
Total	70	30	100

Table 3: Gender and category wise distribution of the patients

Category	Female	Male	Total
Category 1	38	45	83
Category 2	5	12	17
Total	43	57	100

DISCUSSION

Out of 100 pediatric patients 57 (57%) were male. Age range of the children was 1 to 14 years. In our study mean age of children was 8.78 ± 2.98 years. Mean age of male patient was 9.27 ± 2.67 years. Mean age of female patient was 7.34 ± 1.23 years. 78% of the patients belonged to social IV and V according to modified Prasad's classification 4% patients had HIV infection. 55% of patients preferred syrup formulation, if available. In Thakor N et al out of 100 patients, 60 were female and 40 were male. Age range was 1-14 year. Mean age of children was 8.63 ± 3.66 years. Mean age of male patients was 9.36 ± 3.16 years. Mean age of female patients was 7.53 ± 4.10 years. According to modified Prasad's classification, 78% patients belonged to lower socioeconomic class. 94% patients were in Category-1 and 79% had extra pulmonary TB. 4% patients had HIV infection. Parents of 90% patients didn't have knowledge of TB. 60% of patients preferred syrup formulation, if available [5]. In the study carried out by S.K. Kabra et al, mean age of the children was 7.75 years and sex distribution were almost equal. Category-1 constituted 70.4% cases. Category-2 and Category-3 cases were 2.6% and 27.0% respectively [6]. In the study of V K Arora et al, Extrapulmonary TB (EPTB) was seen in 47 percent of children. Among EPTB, lymphadenopathy was seen in 75 % of cases in their study [7]. Whereas, in the study carried out by Saumyaswaminathan et al, lymphadenopathy was the most common (67%), among extrapulmonary manifestations [8]. In our study family history of TB was present in only 23 % of the patients similar to the findings observed by Madhi F et al in a Paris suburb, where 22% had history of contact with TB patients [9]. Prevalence of HIV infection in the patients was 4%. Several studies have shown prevalence between 0.8 to 2% [10-12].

CONCLUSION

Our findings indicate that pediatric tuberculosis is a significant issue for children aged 1-9 who come from poor socio-economic backgrounds. Inadequate living conditions, which persistently afflict our people, are a significant risk factor for the spread of tuberculosis. Therefore, enhancing the socio-economic circumstances and providing appropriate care for adult

tuberculosis patients, who serve as the sources of infection for children, would significantly contribute to the prevention of pediatric tuberculosis and safeguard the well-being of children, who represent the future of our nation.

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