10.5005/jp-journals-10050-10053

ORIGINAL ARTICLE

The Study of Sociodemographic Profile of Pediatric Tuberculosis Patients in Bareilly District, Uttar Pradesh: A Cross-sectional Study

[1]Piyush Gupta, [2]Arun Singh, [3]Hari S Joshi, [4]Pankaj Kumar, [5]Himalaya Singh

ABSTRACT

Introduction: Tuberculosis in children is mainly due to failure of tuberculosis control in adults. In India, over 100,000 children die from tuberculosis every year. The risk of developing disease after infection is determined by various factors, including age at exposure, sex, family, and socioeconomic status. There are no such studies carried out in Bareilly district till date; therefore, with this view, this study is being conducted.

Aims and objectives: To know the sociodemographic profile of pediatric tuberculosis patients in Bareilly district.

Materials and methods: A cross-sectional study was carried out on 120 children aged 0 to 14 years registered at various tuberculosis units (TUs) in Bareilly district. The selection of TUs was done by simple random sampling.

Result and conclusion: Out of total 120 cases in the study, majority of them were females (65%), followed by 35% male pediatric tuberculosis cases; 61.7% study participants belonged to 10 to 14 years of age, and 51.7% belonged to lower socioeconomic status.

Keywords: Pediatric, Socioeconomic status, Tuberculosis.

How to cite this article: Gupta P, Singh A, Joshi HS, Kumar P, Singh H. The Study of Sociodemographic Profile of Pediatric Tuberculosis Patients in Bareilly District, Uttar Pradesh: A Cross-sectional Study. Int J Adv Integ Med Sci 2016;1(4):164-166.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Tuberculosis (TB) remains a worldwide public health problem caused by *Mycobacterium tuberculosis*. The actual burden of pediatric TB is not known due to diagnostic difficulties. It is assumed that about 10% of total TB load is found in children. Globally, about 1 million cases of pediatric TB are estimated to occur every year, with more than 100,000 deaths.[1] Among the new TB cases, 5% of patients were in pediatric age group (0–14 years).[2] Children rarely have sputum smear positive TB and it is unlikely that they are a powerful source of transmission of TB. Tuberculosis in children is mainly due to failure of TB control in adults. The risk of infection to a child depends on extent of exposure to infectious droplet nuclei. An infant whose mother has sputum smear positive pulmonary tuberculosis has a high chance of becoming infected.[3] The risk of developing disease after infection is determined by various factors, including age at exposure, nutritional and immune status, genetic factors, virulence of the organism, and magnitude of initial infection.[4]

[1,4]Junior Resident (3rd Year), [2]Professor, [3]Professor and Head [5]Junior Resident (2nd Year)

[1-5]Department of Community Medicine, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India

Corresponding Author: Piyush Gupta, Junior Resident (3rd year), Department of Community Medicine, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, India, Phone: +918475975207, e-mail: drpg8475@gmail.com

AIMS AND OBJECTIVES

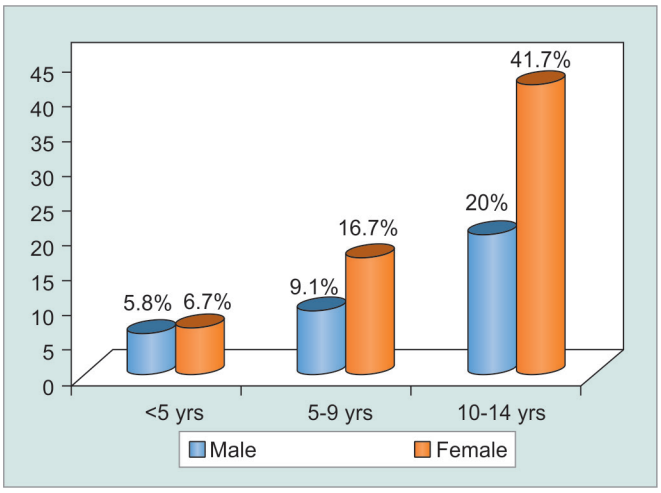
The aim of this article is to know the sociodemographic profile of pediatric TB patients in Bareilly district.

MATERIALS AND METHODS

A facility-based cross-sectional study was carried out at various tuberculosis units (TUs) of Bareilly district, Uttar Pradesh, India, from December 2014 to November 2015 on all pediatric patients in the age group of 0 to 14 years diagnosed as TB and registered under Revised National Tuberculosis Control Program (RNTCP).

Prevalence of pediatric TB in India (as stated by the World Health Organization) is 7%. Taking 5% allowable error, 10% of nonresponse rate and using the formula sample size (n) = $4\,pq/d^2$, the calculated sample size is 110.

Bareilly has a total of 20 TUs, 45 designated microscopic centers (DMCs), and 711 directly observed treatment, short-course (DOTS) centers. Tuberculosis units were selected by simple random sampling, from the above-selected TUs. Designated microscopic centers will be selected by simple random sampling method. All pediatric cases registered at selected DMC and fulfilling our inclusion criteria, i.e., all pediatric cases in the age group of 0 to 14 years diagnosed as TB, and registered under RNTCP put on DOTS regimen and willing to participate in the study, are selected for the study. After obtaining clearance from Institutional Ethical Committee of the college, and informed consent taken from the patients/guardians/parents of pediatric TB cases, data



Graph 1: Distribution of pediatric TB patients (%) according to age and sex in study

Table 1: Distribution of pediatric TB patients according to sociodemographic variables

Character	*Number*	*Percentage*
Religion		
Hindu	62	51.7
Muslim	58	48.3
Type of family		
Nuclear	60	50
Joint	60	50
Socioeconomic status (BG Prasad socioeconomic classification)		
Lower	62	51.7
Lower middle	23	19.1
Upper lower	20	16.7
Upper middle	14	11.7
Upper	1	0.8
Total	120	100

regarding sociodemographic profile were collected using predesigned and pretested schedule for the pediatric TB patients registered under RNTCP during their visit to hospital/health center. The results were displayed with the help of graph and tables according to the aim and objectives of the study. Valid inferences were drawn and discussed with the other related studies reported from various parts of the world.

RESULTS

A facility-based cross-sectional study was conducted on pediatric TB patients in Bareilly district, Uttar Pradesh, and the observed results are described by tables and graphs.

Graph 1 shows that majority of the study participants were females, i.e., 65.1% as compared with males, i.e., 34.9% out of 120 study participants, and most of them belonged to age group 10 to 14 years, which is followed by 5 to 9 years and <5 years, which is 61.7, 25.8, and 12.5% respectively.

Table 1 shows that majority of study participants were Hindus and belonged to lower socioeconomic status.

DISCUSSION

Majority of the study participants belong to 10 to 14 years of age, which were 74 (61.7%) followed by 5 to 9 years and <5 years, which were 31 (25.8%) and 15 (12.5%). Similar results were found in Kamble et al[5] where majority of study subjects, 276 (59.7%), were in the age group of 11 to 14 years, followed by the age group of 6 to 10 years. Out of 120 study participants, majority of them were females, 78 (65%), followed by males 42 (35%). Similar cross-sectional study by Satyanarayana et al[6] on characteristics and program-defined treatment outcomes among childhood in Delhi also reported more females, 651 (61.0%), in their study. In the present study, out of 120 children, 62 (51.7%) were Hindus as compared with Muslims children, which were 58 (48.3%). Similarly, Kamble et al[5] observed that the present study revealed that 347 (75.1%) study subjects were Hindus, 78 (16.9%) were Muslims, 23 (5%) were Sikhs, and 14 (3%) were Christians.

Majority of the children 62 (51.7%) belonged to lower socioeconomic status out of 120 children, followed by lower middle socioeconomic status, which were 23 (19.1%). Contrary to this observation, it was found that Bai and Devi[7] in Kottayam district of Kerala observed that slightly more than half (51.8%) belonged to low, 46.2% to middle, and 2% to high socioeconomic groups.

CONCLUSION

With the help of above findings, it can be concluded that majority of pediatric TB cases were female, 10 to 14 years of age, Hindus, and belonged to lower socioeconomic status. So government and local bodies need to focus on these areas and necessity of more studies to see the effect of these socioeconomic factors on treatment-seeking behavior and treatment outcomes of DOTS in the pediatric TB cases.

REFERENCES

1. Government of India. TB India 2014, RXITCP Annual status report, DGHS. New Delhi: Ministry of Health and Family Welfare; 2014.
2. Ministry of Health. Tuberculosis and lung disease. 2nd ed. Ministry of Health, Division of Leprosy; 2013. p. 3.
3. Park, K. Park's text book of preventive and social medicine. 23rd ed. Jabalpur: M/s Banarsidas Bhanot; 2015. p. 193-195.
4. Marais BJ, Gie RP, Schaaf HS, Hesseling AC, Obihara CC, Starke JJ, Enarson DA, Donald PR, Beyers N. The natural

history of childhood intra-thoracic tuberculosis: a critical review of literature from the pre-chemotherapy era. Int J Tuberc Lung Dis 2004 Apr;8(4):392-402.
5. Kamble B, Panesar S, Singh S, Kishore J. Tuberculosis status among cured or treatment completed pediatric tuberculosis patients under revised National Tuberculosis Control Programme in Delhi. Sch J App Med Sci 2016 May;4(5C): 1617-1623.
6. Satyanarayana S, Shivashankar R, Vashist RP, Chauhan LS, Chadha SS, Dewan PK, Wares F, Sahu S, Singh V, Wilson NC, et al. Characteristics and programme-defined treatment outcomes among childhood tuberculosis (TB) patients under the National TB Programme in Delhi. PLoS One 2010 Oct;5(10):e13338.
7. Bai SS, Devi RL. Clinical spectrum of tuberculosis in BCG vaccinated children. Indian Pediatr 2002 May;39(5):458-462.