

Prevalence and health-care seeking behavior of chest symptomatic among children in Udupi, Karnataka

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Abstract

Background: Globally, the burden of tuberculosis is estimated to be highest in India. As per Revised National Tuberculosis Control Program (RNTCP) India 2011 Report, 44,357 smear-positive cases were diagnosed among all age groups in Karnataka State, and Udupi reported 8% of pediatric cases in all new cases. Tuberculosis often goes undiagnosed in children; the success of tuberculosis control depends on early diagnosis and appropriate treatment, which is the epidemiological basis of the global plan to stop tuberculosis. Considering these aspects, this study was undertaken.

Objective: To find out the prevalence of chest symptomatic in children below 15 years and to study the health-care seeking behavior of caregivers.

Materials and Methods: A community-based cross-sectional study was carried out in the rural areas of Udupi Taluk, Karnataka, India. A two-stage cluster sampling technique was adopted to conduct this study. The caregivers of children below 15 years of age were interviewed for the collection of data. Chest symptomatic was considered as the children having persistent fever with cough more than 2 weeks in the last 3 months.

Result: Prevalence of chest symptomatic was 0.64%, and 93.5% of caregivers had consulted health-care facility for treatment of their children. A total of 98.7% of children were vaccinated with Bacillus Calmette–Guerin (BCG) vaccine, whereas 1.29% of children were not vaccinated with BCG vaccine.

Conclusion: Community awareness and strengthening of RNTCP for early detection and treatment of chest symptoms among children may contribute in reducing the burden of childhood tuberculosis.

KEY WORDS: Chest symptomatic, childhood tuberculosis, health-care seeking behavior

Introduction

Tuberculosis is a disease that continues to plague mankind despite the fact that its etiology has been known for more than a century, and effective means of treatment being available

for more than 50 years. Drugs that can cure most patients with tuberculosis have been available since 1950s, yet tuberculosis remains the world's second most important cause of death from an infectious agent, after the human immunodeficiency virus.^[1] Tuberculosis control is high on the international public health agenda, not only because of the enormous burden of the disease, but also because short-course chemotherapy is recognized to be among the most cost effective of all health interventions.^[2–4]

Tuberculosis continues to be a significant cause of morbidity and mortality for children throughout the world. Programs that target children for treatment of tuberculosis infection and disease might have modest short-term effects on disease rates, but will be critical to achieve long-term control of the disease, particularly in countries with low incidence of tuberculosis.

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The occurrence of tuberculosis in children reflects the failure of tuberculosis control in adults. Delay in seeking appropriate health care leads to morbidity of disease in the community and economic burden for the society. Therefore, this study was conducted to estimate the prevalence of chest symptomatic among children below 15 years of age and to study health-care seeking behavior of caregivers of children with chest symptomatic.

Materials and Methods

This was a community-based, cross-sectional study carried out in the rural areas of Udupi Taluk, Karnataka, India. The children below 15 years of age residing within Udupi Taluk were included in the study and the caregivers of the children were respondents. A “chest symptomatic” was defined as a child below 15 years of age suffering from persistent fever with cough for more than 2 weeks in the last 3 months, whereas “health-care seeking behavior” was defined as any action taken by a person for seeking help from other person or agency in the community for relief of symptoms.^[5]

In this study, the sample size was 774 subjects below 15 years of age. This was calculated by considering prevalence 1.34% of chest symptomatic among children below 15 years,^[6] absolute precision 1% with confidence interval at 95%, and design effect 1.5. A two-stage cluster sampling technique was adopted to conduct this study. The total number of villages in Udupi Taluk was 99, each village was considered as a cluster. There were a total of 99 clusters of which 30 clusters were selected randomly by lottery method in the first stage of sampling, followed by selecting 25 children from each cluster. Data for the study were collected through household surveys from each randomly selected house and the required information was collected from caregivers of the children using pretested pro forma. The data collection was done from March 2013 to May 2013.

The research protocol was approved by the Institutional Ethics Committee and written informed consent was obtained from each study participant before inclusion in the study. The investigator used pretested structured questionnaire and collected details on sociodemography, chest symptoms details, and health-care seeking behavior of caregivers toward children. “Udai Pareek Scale” was used to find the socio-economic status of the family. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 15.

Result

A total of 774 children below 15 years of age were included in this study, of which 40.6% of children were in the age group of 0–5 years, followed by 31% and 28.4% in 6–10 years and 11–15 years, respectively. Among them, 51.7% were boys and remaining 48.3% were girls. A total of 98.7% of children were vaccinated with Bacillus Calmette–Guerin (BCG) vaccine, whereas 1.29% of children were not vaccinated with

Table 1: Prevalence of chest symptomatic in children ($N = 774$)

Variables	Frequency (%)
No persistent fever and no cough	705 (91.10)
Persistent fever with no cough	27 (3.50)
No persistent fever with cough <2 weeks	11 (1.40)
Persistent fever with cough <2 weeks	22 (2.84)
No fever with cough >2 weeks	4 (0.5)
Persistent fever with cough >2 weeks	5 (0.64)

BCG vaccine. Family history of tuberculosis was reported by 1.8% whereas history of tuberculosis was reported in one child and the child lived with close contact with mother who suffered from tuberculosis in the past.

The prevalence of chest symptomatic was 0.64% [Table 1]. A total of 77 children of 774 children had clinical symptoms in the last 3 months during the study period; caregivers of all the 77 children consulted health-care facility (HCF) for the treatment of their children. Just more than half (57.14%) of caregivers approached the HCF because of the reason that their child suffered from fever, followed by other symptoms such as cough, urinary tract infections, breathing problems, and so on [Tables 2 and 3].

More than two-third (90.9%) of caregivers consulted allopathic treatment, followed by 5.2% of caregivers consulted herbal/Ayurvedic treatment, whereas a small proportion consulted both allopathic and Ayurvedic treatment. The striking feature was majority (93.5%) of caregivers had consulted HCF for the treatment of their children, whereas a small proportion (6.5%) of caregivers had taken action at home before visiting a HCF for the treatment of their child. Only one caregiver had taken home remedy for the treatment of the child, whereas four caregivers (5.19% of 6.5%) had started self-medication for the treatment of their children.

Most of the caregivers ($N = 64$) (83.11%) had consulted private HCF for the medical care of their children, whereas some of them ($N = 13$) (16.88%) had consulted government HCF. Of 64 caregivers, 84.4% of caregivers, opted for private HCF for better treatment than government HCF, whereas 9.4% of caregivers opted for private HCF because it was close to their house, and 3.22% of caregivers consulted private HCF because they did not trust government doctors. Caregivers opted for government facility ($N = 13$) because treatment and diagnostic services were free of cost. Other common reason was that they could not afford private HCF, whereas some ($n = 5$ [38.5%]) of the caregivers opted for the government HCF because they were satisfied with the government HCF. We also found that majority of the patients were not satisfied with earlier doctor's treatment, this lead them to change of HCF. Moreover, some reported that they were not satisfied with earlier treatment and also that the treatment was unaffordable for them.

Our study reveals that 83.17% of parents consulted health-care center for the follow-up visits, meanwhile 16.83% parents did not consult health-care center for follow-up of their children's treatment. Thus, it showed poor health-care seeking

Table 2: Health-care seeking behavior of caregivers toward treatment of their children (*N* = 77)

Variables	Frequency (%)
Did you take the child to HCF in last 3 months? (Yes)	77 (100)
Predominant symptom made to approach HCF?	
Fever	44 (57.14)
Cough	15 (19.48)
Respiratory infection	4 (5.19)
Fever and cough	7 (9.09)
Fever and vomiting	1 (1.3)
Urinary tract infection	1 (1.3)
Breathing problem	3 (3.9)
Other	2 (28.6)
Was any action taken at home before visiting HCF? (Yes)	5 (6.5)
The first action taken by you	
Home remedy	1 (1.3)
Self medication	4 (5.19)
Consulted health facility	72 (93.5)

HCF, health-care facility.

Table 3: Source of contact for medical care after onset of symptoms (*N* = 77)

Source of first contact for medical care	Frequency (%)
Private practitioner—MBBS	33 (42.85)
Private practitioner—specialist	27 (35.06)
Private practitioner—BAMS	4 (5.19)
Subcenter	2 (2.6)
Primary health center	6 (7.79)
Community health center	4 (5.19)
District hospital	1 (1.29)

MBBS: Bachelor of Medicine and Bachelor of Surgery;
BAMS: Bachelor of Ayurveda and Bachelor of Surgery.

behavior among parents for their children. Among them (*N* = 77), 75.32% of children had completed their course of treatment, whereas 23.37 were on treatment during the study time, and the remaining less than 2% children did not complete the full course of treatment.

Discussion

In our study, it was found that chest symptomatic occurred in 0.64% of children less than 15 years of age, 3.5% of children suffered from persistent fever with no cough, whereas 2.8% of children suffered from persistent fever with cough less than 2 weeks. The caregivers of all the children with clinical symptoms consulted HCF on the first day or preceding day of illness irrespective of gender and socioeconomic status. More than two-third of caregivers consulted private HCF for the medical care of their children and less than one-third of caregivers consulted government HCF.

A study from rural areas of Tamil Nadu reported that 1.3% of children below 15 years of age were chest symptomatic.^[6] Earlier studies reported that medical advice was sought on the second day of illness in most of the episodes of illness, irrespective of the sex of the child.^[6] A later study, which encompassed from urban Dhaka, reported that disparities across socioeconomic groups and gender persisted in seeking quality health care for under-five children with febrile illness in urban Dhaka. Girls from poor families were less likely to access qualified medical care.^[9] A contrasting result was seen in a study in Granada, Nicaragua, where they found most mothers (>75%) selected public health facilities as their first choice. More than half (>58%) were satisfied with the medical services, but the poorest mothers expressed more dissatisfaction.^[10]

We also found that more than 90% of caregivers consulted allopathic treatment, followed by herbal/Ayurvedic treatment, and both allopathic and Ayurvedic treatments.

A study, which encompassed from slum of Bankura, West Bengal, reported that pharmacies (46.2%) were the most common facilities where care was sought, followed by allopathic medical practitioners (26.4%), no care was sought for eight (2.7%) children, and 26 (8.9%) children received traditional/home-made remedies.^[11]

Conclusion

In our study, the finding suggests that prevalence of chest symptomatic among children is lower in Udupi Taluk and history of tuberculosis was observed in one child. Health-care seeking behavior of caregivers is positive toward their children and the majority of the caregivers had consulted HCF for the treatment of their children, whereas few of them had taken action

at home before visiting a HCF. Most of the caregivers visited for the follow-up of treatment of their children irrespective of gender and socioeconomic status. Health-care seeking behavior toward government HCFs was lower, whereas toward private HCFs was high. This study gives a baseline data of children with chest symptomatic in this region, which will help in gaining specific attention from program planners to focus on early diagnosis and treatment of chest symptomatic among children through Revised National Tuberculosis Control Program (RNTCP) and community awareness.

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