



SYSTEMATIC SCREENING OF PRESUMPTIVE PAEDIATRIC TB PATIENTS AND GASTRIC ASPIRATE SPECIMEN COLLECTION IN PRIMARY AND SECONDARY HEALTH CARE FACILITIES IN RAJNANDGAON DISTRICT, CHHATTISGARH

EXECUTIVE SUMMARY

Early diagnosis of paediatric Tuberculosis (TB) is important concerning the rapid progression from infection to disease among children. However, limited access of paediatric TB diagnostic technique leads to low notification of paediatric TB in Chhattisgarh, India.

This study was conducted by the State Health Resource Centre (SHRC), Chhattisgarh to test the feasibility on gastric aspirate specimen collection through training of healthcare providers. Findings reported the need for sensitizing health providers at the public and private care centres on screening of presumptive paediatric patients on gastric aspirates for improving diagnosis and care of paediatric TB cases.



Childhood TB makes up a substantial fraction of the total TB burden. Source: CDC

BACKGROUND

It is estimated that paediatric TB constitutes 10–20% of all TB in high burden countries, accounting for 8–20% of TB-related deaths (Cossio MLT, et.al. 2015). According to the TB India 2014 report, 5% of all new paediatric cases were in 0-14 years. However, children with TB are given low priority in most National Health Programs and are neglected in this epidemic.

There are inherent challenges in diagnosis and treatment of paediatric TB, including low levels of awareness about paediatric TB, lack of training for paediatricians in diagnostic modalities and drug algorithms. These challenges lead to cases being missed as well. Even though the Central TB Division and the Indian Academy of Paediatrics have together brought out Standard Paediatric TB guidelines, it is yet to be disseminated amongst all paediatricians.

Early diagnosis of paediatric TB is important because there is a rapid progression from infection to disease among children that may later contribute to the epidemic. An innovative method is needed to diagnose paediatric TB and one such method is the collection of gastric aspirate. The Revised National Tuberculosis Control Program (RNTCP) has recommended the collection of gastric aspirates for diagnosis of children as standardized method for to control paediatric TB.

This study was conducted in Rajnandgaon, Chhattisgarh with the aim to estimate proportion of presumptive paediatric TB patients, acceptance of gastric aspirate and proportion of patients among whom gastric aspirate was collected and found positive for M.TB.



AIM OF THE PRESENT POLICY BRIEF

To inform the importance of screening presumptive paediatric TB cases and collection of gastric aspirate specimens for paediatric TB care and management.

GAP ANALYSIS

The World Health Organization (WHO) indicates that sputum microscopy smear-positive TB in children (<14 years old) accounts for 0.6%–3.6% of all reported cases. TB is widely prevalent among children, especially in those with coexisting severe malnutrition and immunodeficiency. Chhattisgarh is one of the high priority states in terms of high malnutrition and immunodeficiency among children (Socio Economic and Caste Census 2011). Some challenges were observed during this paediatric TB surveillance:

(i) Difficulty in paediatric TB diagnosis due to untrained healthcare providers in health facilities (ii) Lack of knowledge regarding standard case definition

(iii) increased extra-pulmonary disease in children and low public health priority of paediatric TB.

In Chhattisgarh, methods of alternate specimen (Bronchoalveolar Lavage, Gastric aspirate, Induced sputum) collection to diagnose Paediatric TB cases are still limited to tertiary health care facilities only. An innovative method is a need of the hour to diagnose paediatric TB. Imparting training to health care providers about TB diagnostic algorithm and methods of alternate specimen collection (i.e. Gastric aspirate) down the line (i.e. below tertiary health care facility) could be one of the strategies to improve notification of paediatric TB cases.

INTERVENTION

Two days training by the Department of Paediatrics, AIIMS Raipur on Gastric Juice Aspiration was conducted, wherein one doctor and one nurse each from 48 PHC, 10 CHC, and 1 DH were trained. This training provided hands on demonstration of gastric aspirate specimen collection from presumptive paediatric TB cases. After the training, they were asked to implement the project by doing the gastric aspiration and send the collected samples to the district for testing. Mitanins (ASHA workers) working in Rajnandgaon district as community health workers were also trained in taking gastric aspirates. After the training a referral network was established in which the Mitanins referred presumptive TB cases directly to facilities.

OBJECTIVES OF THE STUDY

- To estimate the proportion of presumptive paediatric TB patients out of all out-patients (OPD) in 0 to 10 years age group.
- To know acceptance rate of the parents for the gastric aspirates as a method of specimen collection, if children are unable to produce sputum.
- To find out proportion of patients among whom gastric aspirate collected out of those eligible.
- To find out the proportion of gastric aspirate specimen found to be positive for Mycobacterium TB.



KEY FINDINGS

- Of the total OPD (n=109712), 0.49% were presumptive TB cases.
- Among those eligible for gastric aspirate (n=460), 81.52% gastric aspirate were collected.
- 0.80% were found positive for M.Tuberculosis.
- The acceptance rate of parents for gastric aspirates as a method of specimen collection was 78.89%. Patients and parents were enthusiastic about the test.
- Increase in samples tested - 426 samples collected at periphery.

POLICY RECOMMENDATIONS

There is need for sensitising all doctors at the public and private care centres on the screening of presumptive paediatric patients on gastric aspirates. However, this diagnostic tool can only supplement other diagnostic tools such as Mantoux test, X-ray and CBNAAT and cannot substitute other tools. Furthermore, there is a need to re-examine the quality of presumptive paediatric case detection, training, specimen selection and transportation for intervention sustainability.

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