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**Review Article**

# Integration of national tuberculosis elimination programme with child and adolescent health: India on track of end tuberculosis strategy

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## ABSTRACT

As per the global tuberculosis (TB) report 2020, 56% adult males, 32% adult females and 12% children worldwide, have TB. In India, an estimated 3.33 lakh children in the 0-14 years age group become ill with TB each year (28% of global childhood TB burden), with a slightly higher burden among males. In 2019, the national tuberculosis elimination programme (NTEP) reported 1.5 lakh TB cases of children aged 0-14 years, indicating a gap of 55% in TB notifications in this age group.[1] In order to address the gaps in pediatric TB coverage, the NTEP collaborated with child health and adolescent health programmes of the ministry of health and family welfare (MoHFW). The two primary health programmes that serve children and adolescents across the country are Rashtriya Bal Swasthya Karyakram (RBSK) and Rashtriya Kishor Swasthya Karyakram (RKSK), respectively. This integration will bring the country forward towards the efforts of its goal to achieve the target of end TB strategy.

**Keywords:** TB, NTEP, RBSK, RKSK

## INTRODUCTION

Globally, people of all age groups are affected by tuberculosis (TB). As per the Global TB report 2020, 56% adult males, 32% adult females and 12% children worldwide, have TB. In India, an estimated 3.33 lakh children in the 0-14 years age group become ill with TB each year (28% of Global childhood TB burden), with a slightly higher burden among males. Pulmonary TB is the most common form in children.[1] It is difficult to diagnose TB in children, firstly because the symptoms of TB among children are similar to other childhood illnesses and secondly, because of difficulties in accessing pulmonary samples as children more often swallow sputum. Tuberculosis in adolescents is distinct from both childhood and adult TB, they can develop excavated pulmonary forms and disseminate bacilli through cough.[2]

## BURDEN OF PROBLEM

Children up to 14 years constitute about 30% (Census 2011) of the population in India and are expected to contribute about 13% of the caseload.[1] In absolute numbers, children up to 14 years total 37 crores, while adolescents aged 10-19 years total 25.3 crores in India.[2] In 2019, the NTEP reported 1.5 lakh TB cases of children aged 0-14 years, indicating a gap of 55% in TB notifications in this age group.

**Table 1: Pediatric and adolescent TB burden in India, 2019 (Data source-Nikshay).**

| Indicators | Paediatric (0-14 years) | Adolescents (10-19 years) | All TB |
|---|---|---|---|
| **No. TB cases notified (% of total TB cases notified** | 1,51,286 (6) | 3,01,301 (13) | 24,10,344 (-) |
| **Pulmonary TB cases (%)** | 60 | 67 | 74 |
| **Microbiologically confirmed cases (%)** | 20 | 43 | 49 |

## INTEGRATION OF NTEP WITH CHILD AND ADOLESCENT HEALTH

In order to address the gaps in pediatric TB coverage, the NTEP collaborated with MoHFW. The two primary health programmes that serve children and adolescents across the country are RBSK and RKSK, respectively.[4]

### *NTEP*

National tuberculosis programme (NTP) has been in operation since 1962. However, the treatment success rates were unacceptably low and the death and default rates remained high. Spread of multidrug resistant TB was threatening to further worsen the situation. In 1993, in order to overcome these lacunae, the government of India decided to give a new thrust to TB control activities by revitalising the NTP into revised national TB control programme (RNTCP). The revised strategy was introduced in the country in a phased manner and adopted directly observed treatment short-course (DOTS) strategy as the most systematic and cost-effective approach to revitalize the TB control programme in India. In 2006, STOP TB strategy was announced by WHO and adopted by RNTCP.[5]

In 2014, the world health assembly unanimously approved to end global TB epidemic by END TB strategy, a 20year programme with vision of a world with zero death, disease and suffering due to TB. Ending TB and achieving the SDGs requires intensified action across government ministries, communities, the private sector, and civil society. It will take health and socioeconomic interventions, along with research and innovation. In view of end TB targets, the programme has been renamed from RNTCP to national TB elimination programme (NTEP).[5] The NTEP has vision of achieving a "TB free India" and aims to provide universal access to TB control services. The programme provides various free of cost, quality TB diagnosis and treatment services across the country through the government health system. The national strategic plan for elimination of tuberculosis 2017-25 was approved on the 8th of May 2017 and has been operational since then in the entire country with the goal of ending TB by 2025. This NSP addresses requirements for achieving the SDG and end TB targets for India and is driven by the detect-treat-prevent-build approach.[6]

### *RBSK*

RBSK is a new initiative launched in February 2013. It includes a provision for child health screening and early intervention services through early identification of 4D'S: Defects at birth, diseases, deficiencies and development delays, in children aged 0 to 18 years through facility-based facility screening and community-based screening. The screening at Anganwadis and schools is done by mobile health teams (MHT). RBSK is expected to perform comprehensive screening of more than 27 crore children in a phased manner.

MHT comprise of a medical officer, an auxiliary nurse-midwife (ANM)/ staff nurse and a pharmacist and they screen children for 32 health conditions. Screening is done at the Anganwadi centre twice a year for children in the 0-6 years age group and, at government and government-aided schools once a year for 7-18-year age group.[4]

### *RKSK*

RKSk aims to increase availability and access to health-related information to the adolescent population. RKSK addresses sexual reproductive health (SRH), nutrition, non-communicable diseases (NCD), substance misuse, mental health, injuries and violence (including GBV) through a health promotion approach, which is a paradigm shift from the previously existing clinic and facility-based approach.[5]

Adolescent friendly health clinic (AFHCs) are dedicated spaces for adolescents in the existing health system at the level of PHC, CHC, sub divisional hospitals, district hospitals and medical college. Dedicated counsellors are available at the block level or CHC onwards.[5]

Peer educators (Pes)/Saathiya are adolescents selected by members of village health sanitation and nutrition committee (VHSNC) facilitated by ASHAs, based on their communication skills motivation and interest to lead such an activity. Every village, has at least four Pes i.e., two male and two female per village/1000 population/ASHA. Peer educators promote early health seeking behaviour.[4]

Adolescent health day (AHD) are organised in every village once every quarter and are used to increase awareness among adolescents, parents, families and stakeholders about the (including GBV), substance misuse and NCDs. These AHD will now also be used to spread awareness on TB and messages on cough etiquette.[5]

Weekly iron and folic acid supplementation (WIFS) entail the provision of weekly supervised iron folic acid (IFA) tables to in school boys and girls and out of school girls, and biannual albendazole tablets for helminthic control for prevention of iron- deficiency anaemia.[5]

***Activities to be done by RBSK and RKSK***

The counsellor at the adolescent friendly health clinic (AFHC) is responsible for verbal screening and MHT does the active screening for TB. All identified presumptive TB cases are then referred by the MHT/AFHC in charge to the NTEP using NTEP referral forms. Children in age group of 0-6 years are to be referred to nearest facility having a pediatrician (list of pediatrician or health facilities with pediatrician available under the health system should be available with NTEP, RKSK and RBSK to ensure smooth coordination. Children aged 6-18 years are to be referred to nearest designated microscopy centre (DMC) for diagnosis of TB. All referrals from MHT/AFHC to be documented in NETP-RBSK/RKSK line list to ensure linkages to services and tracking. In order to track the referred case, real time information sharing on referrals to ensure among focal persons of local NTEP, RBSK, RKSK units using existing communication channels.[4]

Outreach activities by AH counsellors' stresses on TB also along with the six key priorities identified under RKSK. AFHC team will provide integrated counselling for reduction of risk factors for TB (including under-nutrition, NCDs), improve treatment adherence through substance misuse prevention, increase uptake of TB preventive therapy and improve quality of life through supporting mental and emotional well-being. Adolescent Health and Wellness Days will also highlight the symptoms, causes, prevention and treatment available for tuberculosis. Peer Educators will also discuss ill effects of TB, risk factors and its prevention. Suspected cases to be referred to the AFHC.

The national emergency helpline (112), Nikshay Sampark (call centre), and adolescent helpline act as leverage in raising awareness and linkages to TB and health related services and disseminating information on cough etiquette/TB screening /TB prevention at AFHCs using TB IEC materials provide by the NTEP division. AFHC service providers will raise awareness on TB as one of the causes of menstrual abnormalities and even infertility (the prevalence of genital TB among women with infertility is 24.2% (ranging from 18.5% to 29.9%) and the incidence of infertility among genital TB cases is between 40% to 80%.[4]

***Activities to be done by NTEP***

Once a presumptive TB case is referred by MHT/AFHC to NTEP services, child will be tested for TB. TB is diagnosed through chest X-ray, NAAT and microscopy. Children who cannot expectorate sputum need sample collection through methods as gastric aspirate, gastric lavage and induced sputum. The NTEP will ensure sample collection for all children referred by the RBSK and RKSK to the DMCs, where the sample can be collected and transported to the nearest NAAT site. If required, the child can further be referred to CHC/District TB centre (DTC). Tracking has to be a coordinated effort between NTEP and health system till the completion of diagnosis as TB or non-TB. Hence, the real time information on referrals shared by MHT/AFHC has to be tracked by NTEP staff with the support of health system/frontline health workers using existing communication channels or technology-based communication processes, whichever is available.[4]

All those diagnosed with TB, will be initiated on anti-TB treatment (ATT) by NTEP, which is available up to village level and patients will be notified via Nikshay. All patients on ATT will be screened for comorbidities like HIV, diabetes, ensuring initiation of TB treatment and followed- up till completion of treatment by NTEP. Reverse linkage has to be ensured with AFHC and RBSK services in adolescents/children already diagnosed with TB for other counselling/ clinical services. NTEP will put effort in creating awareness among adolescent population and local communities on TB, their vulnerability, associated risk factors and ensuring linkages to appropriate services, along with RKSK and RBSK teams. NTEP team will participate in quarterly adolescent health and wellness days (AHWDs), community awareness activities, based on the need and ensures to undertake mapping of AFHCs in Nikshay to ensure appropriate linkages and for monitoring of activities.[4]

## CONCLUSION

The integrated approach of NTEP with the child and adolescent health components, RBSK and RKSK respectively can achieve significant positive change and make a real difference in the lives of many people it serves. The proper training of personnel involved will bring about the desired result. Strong public health actions for effective implementation of the integrated approach can bring India in the right track for the vision of end TB strategy.

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