WOMEN'S AND CHILDREN'S HEALTH
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POLICY BRIEF

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Child tuberculosis: programmes, policy and practice

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Childhood tuberculosis (TB) is increasingly a priority for National Tuberculosis Control Programs and the WHO TB Programme, as global strategies shift focus from control to the ambitious aim of elimination.

Young children have a high risk of developing tuberculosis disease after infection, with the highest risk in infants under 1 year (up to 40%). Undernutrition and HIV infection also increase risk of disease. Recent WHO estimates of childhood tuberculosis are conservative at 6% (490 000 cases) of total cases. This is low compared to data from studies in endemic areas at 10-15%. Under-reporting of childhood tuberculosis is common because:

- current microbiological tests are not sensitive enough to confirm disease in most children with TB;
- where diagnostic facilities are not available, non-microbiological diagnosis is inaccurate;
- and even when diagnosis is made, these cases are often not reported to existing tuberculosis registration systems.

Studies in a range of settings are needed to calculate the burden of tuberculosis in children.

Tuberculosis is preventable and treatable. In countries where tuberculosis is endemic, current strategies to reduce childhood tuberculosis focus on identifying and treating adults and Bacillus Calmette-Guerin vaccination. The efficacy of the BCG vaccine is low for preventing all forms of TB (meta-analysis at 50%), but it does provide protection against severe forms of TB that occur in young children.

Young children who live with a family member with tuberculosis are at high risk of infection; however, when an adult is diagnosed with tuberculosis, there is often no attempt to screen children in the household for the disease.

Key Messages

- Estimates of the burden of childhood tuberculosis are conservative; studies in a range of settings are needed to calculate the burden of tuberculosis in children.
- WHO guidelines promote symptom-based screening and preventive therapy for child contacts under 5 years; however, screening is rarely implemented.

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Symptom-based screening and preventive therapy

Symptom-based screening of children allows for early detection and treatment of childhood tuberculosis disease and identification of children who are eligible for preventive therapy.

Preventive therapy is safe and cost-effective for child contacts under five years old without symptoms. Isoniazid preventive therapy requires daily medication for six months. However, it is difficult to convince parents that children without symptoms should adhere to treatment and non-adherence may decrease effectiveness by 50-80%. Adherence can be increased by supervision and education to encourage parents to continue treatment for their children. Current evidence also supports the use of shorter drug regimens to increase adherence.

As countries update their national guidelines, many are adopting symptom-based screening for child contacts. Symptom-based screening can be conducted in health clinics instead of hospitals or specialised clinics. Tuberculosis prevention and care should be integrated with maternal and child health programs in settings where tuberculosis is endemic. Combined strategies that address the social determinants of tuberculosis disease and explore the protective value of vaccination strategies are needed.

Multi-drug resistant TB

Multi-drug resistant tuberculosis is increasingly prevalent; the primary cause is inappropriate treatment. Preventive therapy in children does not contribute to drug resistance because children tend to develop lower levels of bacteria (paucibacilliary disease), which reduces the chance of drug resistance.

For child contacts of patients with multi-drug resistant tuberculosis there is a lack of evidence-based guidelines. Current WHO guidelines do not recommend the use of second-line anti-TB drugs for children in contact with family members who have multidrug resistant tuberculosis; instead, they recommend that children <5 years of age be closely followed for a minimum of two years and initiated on appropriate treatment if necessary.

Policy recommendations

- Children should be a focus of national tuberculosis program activities and guidelines.
- Symptom-based screening and preventive therapy should be implemented for child contacts of tuberculosis patients.
- Tuberculosis prevention and care should be integrated with maternal and child health programs. This will require training for all health workers to identify at-risk children and refer them for preventive therapy or treatment as needed.

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