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Tackling mortality due to childhood tuberculosis

March 24 marks World Tuberculosis Day, an opportunity to promote greater commitment and leadership in the fight against tuberculosis at all levels. It is particularly urgent to increase awareness and mobilisation on childhood tuberculosis because tuberculosis mortality is still unacceptably high in children. Indeed, there were 253 000 deaths among one million estimated cases in 2016, almost exclusively in young children who did not receive treatment.^{1,2} Affordable and child-friendly treatments are available, but childhood tuberculosis is often underdiagnosed: only 45% of all estimated paediatric tuberculosis cases were notified to the WHO in 2016.¹ This situation is partly explained by the lack of adapted health-care structures and the low implementation of public health policy and tools for the detection and prevention of childhood tuberculosis.

The recommendations from the WHO's *Roadmap for Childhood Tuberculosis: towards zero deaths*³ of better coordination between health-care providers and decentralisation of tuberculosis services to primary facilities are seldom implemented. In most resource-limited countries, paediatric tuberculosis services are still concentrated in tertiary and secondary health-care systems, with poor involvement of primary facilities, where most of children seek care. Indeed, these primary facilities do not have adequate resources for bacteriological confirmation of the disease, which require adapted sample collection methods to young children unable to expectorate. They also lack sensitive tests and have low capacities for clinical and radiological diagnoses of tuberculosis.⁴ Tuberculosis diagnosis is even more challenging in highly vulnerable children with HIV infection or with severe malnutrition.

Underdiagnosis of paediatric tuberculosis is also due to the

absence of systematic screening of children in contact with adults with contagious tuberculosis. When looking at children younger than 5 years in contact with tuberculosis, around 35% of them are already infected without disease and 10% have active tuberculosis at the time of screening.⁵ WHO's recommendations to screen household contacts and offer preventive therapy to eligible contacts are rarely implemented. The reasons for not implementing these recommendations include lack of recognition of childhood tuberculosis as a public health problem, health-care and human resource limitations, and the challenges of paediatric tuberculosis diagnosis.⁶ The current WHO guidelines,⁷ while acknowledging the limited access to tuberculin and to chest radiography in many endemic countries, recommend symptom-based screening followed by preventive therapy that can be initiated within the local community services for non-symptomatic contacts. Symptomatic contacts should be referred to health-care facilities for further evaluation.

Moreover, most tuberculosis programmes rely on passive case-finding in children. Active tuberculosis screening is recommended only for children with HIV or in contact with infectious tuberculosis cases.⁸ A broader active tuberculosis screening would improve the identification of children with presumptive tuberculosis in countries with a high burden of tuberculosis. Particular attention should be given also to young children admitted with severe pneumonia. Recent data have shown that up to 23% of those admitted to hospital with an initial diagnosis of pneumonia were later diagnosed as having tuberculosis.⁴

To reduce childhood tuberculosis mortality, we need to develop innovative diagnostic approaches with optimised sample collection and testing at primary facilities. We also need to implement early screening and detection in vulnerable children. Improved child contact tracing using

community-based approaches and better integration of tuberculosis care in maternal, newborn, and child health services, HIV clinics, and nutrition services will be crucial.

We declare no competing interests.

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