



Beyond Diagnosis: Closing the Care Gap for Children with Tuberculosis in Pakistan

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A familiar and sad story plays out in the busy outpatient departments of public hospitals in Pakistan: a child diagnosed with tuberculosis is started on treatment with optimism and disappears. The child does not return for follow-up. This disconnection between care is where the childhood battle against TB is too often lost. While the national dialogue rightly acknowledges key gaps in diagnostic service delivery, the silent epidemic of children lost in the treatment cascade is an important, yet overlooked, domain in our public health response.

The issue of tuberculosis (TB) in Pakistan extends beyond medical science; it involves delivery systems and social issues. Families living on a daily income cannot afford monthly travel to distant TB centers, since the journey costs a day's wages and additional transportation costs.^{1,2} Stigma from a chronic cough creates secrecy, which often leads to treatment avoidance. After beginning intensive treatment, a child may appear "better," causing caregivers to think treatment is no longer needed since they no longer see "treatment" happening.^{3,4} As a result, unfavorable outcomes, particularly loss to follow-up (LTFU) and loss of life, occur consistently and reflect a system not yet designed for patients or caregivers.

Our most at-risk children are often the ones who receive the least attention in health care. The malnutrition problem in the country worsens TB spread and makes the disease deadlier. A child with TB who is also malnourished experiences a cycle of suffering: the disease worsens malnutrition, and malnutrition weakens the body's defenses.⁵ Our clinical response must be well-organized. TB treatment centers should provide therapeutic food, nutritional counseling, and a care bundle.⁶ Childhood DR-TB is another neglected vulnerability. More adults infected with drug-resistant TB means more exposed and infected children. Diagnosing DR-TB in children is hard, and treatments are longer, more toxic, and harder to follow.^{7,8} No child-suitable forms of second-line drugs exist. Few cities have needed experts. We must shift DR-TB management from central locations, build district-level capacity, and demand better child drug formulations.

To build a more resilient health system for children with TB, we must prioritize ensuring that no child is lost after diagnosis. The solution demands a paradigm shift from a facility-centric to a family-centric model of care, bridging every gap in the treatment journey not just improving clinical tools.

We should train and deploy community health workers to administer and directly observe treatment (DOT) within a child's village or neighborhood. This approach removes transportation barriers and embeds support within the family's environment.

Implementing simple SMS reminders for drug doses and appointments, as well as mobile phone-based video-supported DOT, can bridge geographical gaps and improve adherence at scale.

Integrating pediatric TB services into existing maternal and child health programs, such as immunization clinics and nutrition centers, can normalize TB care, reduce stigma, and create multiple touchpoints for families.

Prioritizing child-contact management is essential. Finding and treating infectious adult cases, then screening all household child contacts, and providing TB Preventive Therapy (TPT) to these exposed children must become standard practice for all public health professionals.

To improve pediatric TB outcomes in Pakistan, we must look beyond the microscope and X-ray viewer. We must begin to address the logistical, economic, and social determinants of health that influence whether or not a child will complete treatment or is lost to the system. If we can create a supportive, decentralized, and humane ecosystem of care, we will be able to help ensure that a diagnosis of TB for a Pakistani child is the beginning of a journey towards health, rather than the beginning of being lost to the system.

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