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Literature Review

Health Policy Perspectives on Paediatric Tuberculosis Management: A Literature Review

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Abstract
Paediatric tuberculosis (TB) remains a significant public health challenge, particularly in low- and middle-income countries (LMICs). While TB is largely preventable and treatable, children often face barriers to timely diagnosis and appropriate treatment due to gaps in health policy and systems. This literature review examines health policy perspectives on Paediatric tuberculosis management, focusing on global and national policies, the integration of TB services into broader health systems, and the challenges of implementing effective Paediatric TB control programs. The review highlights successful policy interventions, the role of international guidelines, and the need for strengthened health systems to address the unique challenges of Paediatric TB.

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Introduction
Tuberculosis (TB) is one of the top 10 causes of death worldwide, with children representing a significant proportion of the global TB burden. Despite advances in TB control, Paediatric TB remains underdiagnosed and undertreated, with an estimated 1.1 million children developing TB annually, of whom 233,000 die, including many who are undiagnosed or untreated (1). Effective management of Paediatric TB requires not only clinical interventions but also robust health policies that address the specific needs of children. This literature review explores the health policy perspectives on Paediatric TB management, examining the global policy frameworks, national strategies, and the challenges and opportunities in implementing these policies.

Global Health Policy Frameworks

The WHO End TB Strategy

The World Health Organization's (WHO) End TB Strategy, launched in 2015, is a global policy framework aimed at ending the TB epidemic by 2035. The strategy emphasizes the need for universal access to TB prevention, diagnosis, treatment, and care, with specific attention to vulnerable populations, including children. The strategy calls for the integration of Paediatric TB services into national health systems, the adoption of child-friendly diagnostic tools, and the implementation of preventive measures such as the administration of the Bacillus Calmette-Guérin (BCG) vaccine and preventive therapy for TB-exposed children (2).

Global Plan to End TB 2023-2030

The Global Plan to End TB 2023-2030, developed by the Stop TB Partnership, provides a roadmap for scaling up TB interventions globally. The plan includes specific targets for Paediatric TB, emphasizing the need to close the diagnosis and treatment gap for children. It advocates for increased investment in Paediatric TB research, the development of new child-friendly TB drugs, and the implementation of policies that ensure equitable access to TB care for children (3).

United Nations High-Level Meeting (UNHLM) on TB

The 2018 UNHLM on TB was a landmark event that brought global attention to the TB epidemic, resulting in a political declaration that set ambitious targets for TB control, including Paediatric TB. The declaration underscored the importance of political commitment, multisectoral action, and international cooperation in achieving these targets. It also highlighted the need for policies that prioritize children in TB programs and address the social determinants of health that contribute to the TB burden in children (4).

National Health Policies on Paediatric TB

Integration of Paediatric TB into National Health Systems

National TB programs are responsible for the implementation of global policies at the country level. Successful management of Paediatric TB requires the integration of TB services into broader health systems, including maternal and child health programs, HIV services, and primary care. Countries such as South Africa and India have developed comprehensive national TB strategies that include specific components for Paediatric TB, such as routine screening of children in TB-affected households, the use of child-friendly TB diagnostics, and the provision of preventive therapy (5,6).

Challenges in Policy Implementation

Despite global and national efforts, significant challenges remain in the implementation of Paediatric TB policies. These challenges include inadequate funding, weak health infrastructure, limited access to Paediatric TB diagnostics, and insufficient training of healthcare providers in managing Paediatric TB. Additionally, social and cultural factors, such as stigma and lack of awareness about TB, contribute to delays in seeking care for children with TB symptoms (7).

Case Study: India's National Strategic Plan for TB Elimination

India, which accounts for a quarter of the global TB burden, has made significant strides in addressing Paediatric TB through its National Strategic Plan for TB Elimination (2017-2025). The plan includes a specific focus on Paediatric TB, with strategies for early diagnosis, treatment adherence, and prevention. India's approach includes the use of rapid molecular diagnostics, integration of TB services with routine immunization programs, and active case finding in high-risk populations. However, challenges such as underreporting of Paediatric TB cases and gaps in healthcare access remain (8).

The Role of Health Systems in Paediatric TB Management

Strengthening Health Systems

Strengthening health systems is critical for the effective management of Paediatric TB. This includes improving the availability and accessibility of Paediatric TB diagnostics and treatments, ensuring that healthcare providers are adequately trained, and integrating TB services into primary healthcare and maternal and child health programs. Health systems strengthening also involves enhancing surveillance and reporting systems to accurately capture Paediatric TB cases and track progress towards elimination targets (9).

Health Workforce Capacity

A well-trained health workforce is essential for the early detection, diagnosis, and treatment of Paediatric TB. However, in many LMICs, there is a shortage of healthcare providers trained in Paediatric TB management. Training programs that focus on the unique aspects of Paediatric TB, including the use of child-friendly diagnostic tools and treatment regimens, are crucial for improving outcomes. Additionally, task-shifting strategies, where non-specialist health workers are trained to manage Paediatric TB, can help address workforce shortages (10).

Community Engagement and Social Support

Community engagement is a key component of successful Paediatric TB management. Policies that involve communities in TB prevention and care, such as community-based TB screening and treatment support programs, have been shown to improve outcomes. Social support mechanisms, including nutritional support and financial assistance for families affected by TB, can also play a significant role in ensuring that children complete their TB treatment and recover fully (11).

Innovations and Future Directions

Advancements in Paediatric TB Diagnostics

Recent advancements in Paediatric TB diagnostics, such as the development of rapid molecular tests and the use of stool samples for TB detection in young children, offer new opportunities for early and accurate diagnosis. Policies that support the adoption and scale-up of these technologies are essential for improving Paediatric TB outcomes. Additionally, ongoing research into new diagnostic tools, including biomarkers and point-of-care tests, holds promise for further enhancing Paediatric TB diagnosis (12).

Development of Child-Friendly TB Treatments

The development of child-friendly TB treatments, including fixed-dose combination therapies and dispersible tablets, has been a significant advancement in Paediatric TB care. However, challenges remain in ensuring that these treatments are widely available and affordable. Policies that promote the procurement and distribution of child-friendly TB drugs, as well as research into new Paediatric formulations, are critical for improving treatment adherence and outcomes (13).

Global Collaboration and Funding

Global collaboration and sustained funding are vital for addressing the Paediatric TB burden. Initiatives such as the Global Fund, Unitaid, and the WHO's Global TB Program provide crucial support for national TB programs, including those targeting Paediatric TB. Continued advocacy for increased funding, particularly for Paediatric TB research and program implementation, is essential for achieving the goals of the End TB Strategy (14).

Conclusion

Paediatric tuberculosis management requires a comprehensive approach that integrates global and national health policies, strengthens health systems, and addresses the unique challenges faced by children with TB. While significant progress has been made in developing policies and interventions for Paediatric TB, challenges remain in their implementation, particularly in LMICs. To achieve the ambitious targets set by the WHO End TB Strategy, there is a need for continued innovation, increased investment, and stronger political commitment to addressing Paediatric TB. By aligning policies with the specific needs of children and strengthening health systems, it is possible to reduce the burden of Paediatric TB and move closer to the goal of ending the TB epidemic.

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