ADDRESSING AND PREVENTING CHILDHOOD TB

INFORMATION NOTE

Introduction

It is estimated that 1 million of the global total of 9 million tuberculosis (TB) cases each year occur in children (0-14 years). However, estimates of the burden of childhood TB are very uncertain. Children with TB are not usually given high priority by National TB control Programmes (NTP) because children are less likely to transmit disease. Basic and translational research on diagnostic tools has not focused on paediatric needs to date. Childhood TB has been largely absent from the global public health agenda despite being a major contributor to childhood morbidity and mortality particularly in high-burden TB settings. The expanded WHO Stop TB Strategy (2006) recognised that children are a vulnerable and important group. Recent evidence has shown that the prevention and control of childhood TB should be an integral part of NTP strategies. A recent call for action for childhood TB has highlighted the rationale for raising attention and scaling up TB control and prevention among children (See ''Call for Action for Childhood TB'' - annex)

Why is it important to address childhood TB?

There is an urgent need to recognize that prevention, diagnosis and treatment of TB in children are important for public health as well as for ensuring the individual right of the child to health. Children suffer severe TB related illness that contributes significantly to the overall burden of TB and to overall child mortality. The risk of progression from infection to disease is increased among children, particularly in the young (0-4 years), HIV-infected and malnourished. These are also the groups that pose the greatest diagnostic challenges. Young children are also at risk of developing severe and disseminated TB such as miliary TB and TB meningitis. Bacteriological confirmation of the diagnosis of TB is challenging because of difficulties with obtaining sputum samples, the paucibacillary nature of disease and a lack of culture facilities in most high-burden TB settings. For these reasons, the burden of disease and the extent of drug resistant TB in children are not well documented.

MDGs 4,5, and 6

The Global Fund recommends integrated approaches to achieve Millennium Development Goals (MDGs) 4 (reducing child mortality), 5 (improving maternal health) and 6 (combating HIV, malaria and other diseases) and improve health outcomes for women and children. The integration of child mortality reduction approaches and childhood TB control could play a pivotal role in achieving the mentioned MDGs.

To date, the focus on TB has been under the framework of Millennium Development Goal (MDG) 6. Children and mothers are particularly vulnerable within the context of TB-associated poverty, and it is critical to ensure that their needs are not forgotten. Improving child and maternal health are the focus of MDG 4 and 5. The challenges for TB control in adults, mothers and children overlap and require integration between services that address TB, HIV, and maternal and child health.

The acceleration towards TB elimination called by the Stop TB Strategy requires the recognition that children with TB infection today represent the reservoir of TB disease tomorrow and therefore play a pivotal role in the progress in global TB control and elimination.

What tools are available for addressing and preventing childhood TB within National Tuberculosis Programmes?

The basis for establishment of effective childhood TB control is available and supported by evidence and best practices. Improved TB control in the community will reduce the burden of child TB. The diagnosis of TB in children is a clinical diagnosis, supported when possible by laboratory diagnostic techniques. Treatment of childhood TB is highly effective and has an excellent safety profile. Prevention of progression of latent TB infection to active disease by identification of at risk cases through contact screening and other active case finding approaches, and provision of preventive therapy are interventions with well documented effectiveness in all settings that can be scaled up within NTPs. These elements provide the basis for development of national, regional and global comprehensive childhood TB control approaches. Guidelines for NTPs that focus on management of TB in children have been developed in the last 5 years, and have provided a framework for many NTPs to adapt or update national guidelines to increase the attention to childhood TB. The challenge is broader implementation to address the policy-practice gap.

What should be specifically addressed within strategies to address and prevent childhood TB?

Five major areas of intervention can be indicated for planning and strategy purposes when NTP are faced with addressing childhood TB control. The Table below broadly indicates the objectives linked to implementation of activities within these areas.

Prevention

Approaches include prevention of infection through improved TB control and prevention from infection to disease. BCG is effective in protecting children from severe TB disease. Contact screening and management has enormous potential to prevent children exposed to and infected with TB from developing TB disease.

Activities in this area may include the following but could be extended and/or modified in line with the specific TB epidemiology and control situation:

- Implementation of child contact screening and management
- Development of setting-specific active case finding strategies to identify infected children and prevent progression of disease

Diagnosis & Management

Children with TB disease present to the health services in many contexts from peripheral primary care to tertiary referral level. Despite the known difficulties in confirming bacteriological diagnosis of TB in children, diagnosis can be made in most children in an outpatient setting based on careful clinical assessment and in line with international guidelines. Furthermore, standardized treatment is as effective in children as in adults. The correct implementation of standardized and recommended approaches, through the proper capacity building of the TB service delivery system, can lead to an optimal identification and management of childhood TB. Health care workers at all levels need to be familiar with the approach to clinical diagnosis and indications for investigation and/or referral. NTP

staff needs to be familiar with particular needs for children such as diagnostic and therapeutic options as well as the importance of registering and reporting child TB cases.

Activities in this area may include the following but could be extended and/or modified in line with the specific TB epidemiology and control situation:

- Training of health care workers and NTP staff on diagnosis and management of childhood TB in line with International Standards for TB Care, WHO or National Childhood TB Management Guidelines.

Monitoring and surveillance

Monitoring and surveillance of childhood TB cases has traditionally been overlooked because of the prior emphasis on sputum smear positive cases. However, the expanded Stop TB Strategy highlights the importance of improved case detection, recording and reporting of all forms of TB. NTPs need to be aware of established global policy changes in reporting childhood TB age groups and the importance of implementing this change.

Activities in this area may include the following but could be extended and/or modified in line with the specific TB epidemiology and control situation:

- Implementation of paediatric age specific grouping surveillance for both bacteriologically positive and negative childhood TB cases
- Development of routine monitoring of childhood TB data to assess diagnostic practices, epidemiological and forecast childhood TB drugs needs.

Operational Research

Operational research has a critical role to play in helping NTPs improve management of childhood TB. Many activities are now recommended for childhood TB control within NTPs but have often not been implemented by NTPs. There is a need for evidence to assess the impact and effectiveness of interventions such as training or child contact screening, and evidence to inform effective implementation of interventions.

Activities in this area may include the following but could be extended and/or modified in line with the specific TB epidemiology and control situation:

- Evaluate current national diagnostic guidelines and approaches for diagnosis, detecting and screening for childhood TB vis-à-vis the criteria defines in the International Standards for TB Care and the Guidance for Childhood TB control (refer to resources list).
- Evaluate adaptation/adoption of diagnostic approaches inclusive of rapid diagnostics and other new tools in support of childhood TB detection and management
- Determine and assess how many childhood TB contacts qualify for chemoprophylaxis defining highest risk groups to prioritize interventions.
- Document and assess at what level children enter NTPS, the availability of qualified staff and their effectiveness in performing diagnosis and delivering treatment.
- Assess and ensure private, non-public, NGO and other sectors contribution and/or potential contribution to childhood TB detection and management

Advocacy & Communication

Children with TB are a particularly vulnerable population. The main public health messages that address TB relate to reducing the infectiousness of TB and do not relate to the impact of TB disease on children. Advocacy on behalf of children such as the recent "Call to Action" (see Annex) is critical for improved management and increased attention by NTPs.

Activities in this area may include the following but could be extended and/or modified in line with the specific TB epidemiology and control situation:

- Development of communication and advocacy strategies and activities to involve private, non-public, NGO and other sectors in contributing to childhood TB detection and management
- To document success stories and local best practices in childhood TB prevention and control to increase local and international acceptability of the importance of ensuring sustainability of childhood TB control
- To develop communication strategies to reach out to local child health stakeholders and highlight the benefits and needs for inclusion of childhood TB in overall approaches for reduction of child mortality and morbidity

Table. Potential areas for interventions and related objectives

Areas of intervention	Objectives
Prevention	*To diminish progress to active TB in children exposed to infectious TB cases * To diminish the reservoir of latently infected children that might fuel the epidemics in the decades to come
Diagnosis & Management	*To improve capacity for best practice approaches for diagnosis and treatment of childhood TB cases * To increase the number of childhood TB cases promptly and correctly detected thus limiting severe morbidity and mortality
Monitoring & Surveillance	*To provide a reliable assessment of childhood TB epidemiology, diagnostic and control practices
Operational Research	* To provide evidence of effectiveness, feasibility and potential for scaling-up of prevention, diagnosis and management approaches (including the use of new tools for TB) in childhood TB.
Advocacy	*To increase awareness on the need to integrate childhood TB prevention and control in national tuberculosis programmes and in national childhood mortality reduction strategies

Annex - Call for Action for Childhood TB

We, participants gathered at the 'International Childhood Tuberculosis Meeting' held March 17-18, 2011 in Stockholm, Sweden recognize that:

- Worldwide, at least 1 million TB cases occur each year in children under 15 years of age.
- The true burden of TB in children is unknown because of the lack of child-friendly diagnostic tools and inadequate surveillance and reporting of childhood TB cases.
- Children with TB infection today represent the reservoir of TB disease tomorrow.
- Children are more likely to develop more serious forms of TB such as miliary TB and TB meningitis resulting in high morbidity and mortality.
- Despite policy guidelines, the implementation of contact tracing and delivery of isoniazid preventive therapy (IPT) to young and HIV-infected children is often neglected by public health programmes.
- Most public health programs have limited capacity to meet the demand for care and high-quality services for childhood TB.
- TB care for children is not consistently integrated into HIV and care and maternal and child health programs.
- BCG, the only licenced TB vaccine, has limited efficacy against the most common forms of childhood TB and its effect is of limited duration.
- Due to inadequate case detection it is estimated that a large number of children suffering from TB are not appropriately treated. This is further compounded by drug stock outs and the lack of child-friendly formulations of drugs for TB treatment and prevention.
- Children are rarely included in clinical trials to evaluate new TB drugs, diagnostics or preventive strategies.

To address this current situation, we, the undersigned, call for:

- National TB programmes to include and prioritize childhood TB in their national strategic plans in order to address millennium development goals for children and pregnant women.
- All health care providers to integrate childhood TB into their services.
- The scientific community to include children—of all ages—in clinical and operational studies.
- TB drug and diagnostic product developers to specifically include children in development plans and implementation of research at an early stage.
- Donors to encourage collaboration with researchers, local communities, TB control programmes and other stakeholders to address the growing problem of childhood TB concentrating on:
- Innovative research to develop child-friendly TB diagnostics, drugs, biomarkers and vaccines
- The strengthening of public health facilities and services so that mothers and children with and without HIV can receive appropriate TB care
- Providers of technical assistance to invest in building local technical and programmatic capacity to prevent, diagnose and treat TB in children in all age groups.
- The WHO to accelerate in-country adoption and use of childhood TB guidelines.
- Policy makers to adopt the existing and new WHO recommendations for childhood TB, evaluate implementation, scale-up and assess the impact of implementation strategies.
- Civil society to demand equitable prevention, diagnostics, treatment and care services for childhood TB and to monitor the scale- up of these services.

To ensure that all children exposed to TB or suffering from TB are correctly managed and receive the appropriate treatment, the individuals and institutions signing on to this call to action, pledge to advocate for universal access to prevention, diagnosis and treatment of TB for people of all ages.
We furthermore call on the international community to endorse this call for action to ensure that there is capacity to address the needs of children with TB.

Resources

Guidance for national tuberculosis programmes on the management of tuberculosis in children. WHO/HTM/TB/2006.371 **http://whqlibdoc.who.int/hq/2006/WHO_HTM_TB_2006.371_eng.pdf**

Guidance for national tuberculosis and HIV programmes on the management of tuberculosis in HIV-infected children: recommendations for a public health approach. WHO and IUATLD. 2010

Rapid advice: treatment of tuberculosis in children. WHO/HTM/TB/2010.13
http://whqlibdoc.who.int/publications/2010/9789241500449_eng.pdf

International Standards for Tuberculosis Care, 2nd edition, 2009
http://www.tbcta.org//Uploaded_files/Zelf/ISTCReport2ndEdition1258118339.pdf

Desk-guide for diagnosis and management of TB in children
http://www.theunion.org/index.php/en/resources/scientific-publications/item/193-desk-guide-for-diagnosis-and-management-of-tb-in-children-