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Editorial

Unite all the services against childhood tuberculosis

The World Health Organization (WHO) estimated that in 2014 one million children developed tuberculosis (TB) and that 140000 of these children died from TB[1]. Of the children who develop TB, 95 per cent live in low and middle income countries[1]. Prior to 2003 childhood TB was not regarded as a global priority but after the establishment of a Childhood TB Working Group by the WHO a flurry of activity followed[2]. International guidelines for the management of childhood TB were established, children were included in countries annual TB reports, childhood TB drug doses were adjusted and National TB Programmes developed and implemented childhood TB treatment guidelines[2].

It was encouraging to note that so much was achieved in a short space of time. In light of these encouraging developments it is disappointing that so many children still die from a treatable disease. The reasons for the deaths are not clear. Possible reasons include limited access to health care, lack of awareness of childhood TB, childhood TB being difficult to diagnose, diagnostic tests that mostly require sputum samples which are difficult to collect in children, childhood TB being a paucibacillary disease, and the absence of child-friendly drug formulations.

Over the past decade another possible reason has become clear. Tuberculosis has been regarded as a chronic disease with patients developing symptoms weeks before presenting for care[3]. It was, therefore, assumed that children would follow the same clinical pattern. Recommendations were made that children with chronic cough (longer than 2 wk), documented weight loss or failed to gain weight must be investigated for TB[3]. More than a decade ago in a study on the causes of death from pneumonia in African children, *Mycobacterium tuberculosis* (MTB) was the third most common organism, occurring in both young and older children[4]. This observation was supported by another Southern Africa study which indicated MTB was the responsible organism in 7 per cent of children presenting with acute pneumonia[5]. In children who failed to respond to 48 h of treatment for pneumonia this percentage increased to 17 per cent[6]. The proportion of children presenting with an acute pneumonia was similar in HIV infected and HIV-uninfected children. This clinical presentation of childhood TB is not limited to Sub-Saharan Africa as similar reports have originated from South East Asia where MTB has been isolated from 7 per cent of children presenting with an acute pneumonia[7]. In this study TB was clinically diagnosed in an additional 16 per cent[7].

Distinguishing an acute pneumonia caused by MTB from pneumonia caused by other organisms is difficult. There is no difference in the duration of cough (reported to vary between 5-7 days), temperature at presentation, respiratory rate or severity of pneumonia[5-7]. The radiological picture of acute TB pneumonia remains unreported except for a few well defined clinical scenarios such as expansile pneumonia caused by MTB[8]. The only consistent risk factors indicating the possibility of an acute pneumonia caused by MTB are a close contact with an infectious case and being younger than one year[6,7]. The use of antibiotics to treat a possible bacterial pneumonia has been shown to delay the diagnosis of TB in adult patients and there is no reason why this would not happen in children[9]. The mortality of children presenting with acute pneumonia caused by MTB is uncertain but mortality rate as high as 32 per cent has been reported in HIV-infected infants[10]. Making the diagnosis requires an awareness of the condition as well as a high degree of suspicion that MTB is a cause of acute pneumonia in children especially if the child has been exposed to an infectious TB case.

This editorial is published on the occasion of World TB Day - March 24, 2016.

To be able to increase the number of children diagnosed with acute pneumonia caused by MTB is going to be challenging. Until we have a new point of care diagnostic we have to rely on using the present tools and services. National Tuberculosis Programmes (NTP) are not going to be able to diagnose all the cases of childhood TB especially those presenting with acute pneumonia. To address this problem requires that all health and social services unite. Childhood TB can be prevented by ensuring the pregnant mothers attending antenatal clinics are screened for both TB and HIV during pregnancy and that treatment for both diseases is timeously started. Infants and children exposed to an infectious TB case need to be screened and started on either treatment or chemoprophylaxis. Health strategies such as Integrated Management of Childhood Illness (IMCI) must ensure that TB is included in the evaluation and management of children. NTP must take responsibility to ensure that children diagnosed have access to child friendly TB formulations and are followed up until treatment is successfully completed. More importantly, health services cannot address the problem in isolation. Social services and the economy of the country must be aligned to address poverty to make a real impact on the prevalence of adult and childhood TB.

All services need to unite to address the problem of childhood TB: we owe this to our children.

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