Guest Editorial

We cannot win a gunfight with knives. And yet, we, global tuberculosis (TB) community, have been waging a battle against a tough foe with sticks and stones.[1] We still rely on tools (e.g., BCG, smear microscopy, tuberculin, chest X-rays) that were designed a century ago. And we have paid a heavy price. In 2017, there were 10 million estimated new TB cases, with over 1.6 million deaths.[2] TB is now the leading infectious killer of humanity.

Children with TB have always received low priority by national TB programs, even though over 1 million children develop TB every year (which is about 10% of the global TB incident cases).[2] Children are estimated to account for 15% of total deaths, higher than their share of estimated cases, suggesting poorer access to diagnosis and treatment.[2]

In many high burden countries, pediatric TB is poorly managed with huge gaps in the cascade of care.[3] Indeed, poor quality TB care is one of the main reasons why TB kills so many adults and children.[4,5] Many countries, including India, still rely on tools such as smear microscopy for diagnosis, even when such tools perform poorly in children.[6] Although rapid molecular diagnostics like Xpert MTB/RIF (GeneXpert) can dramatically improve case detection because of their higher sensitivity,[7] many countries are yet to make them universally accessible to children.[6]

Children in contact with active TB have high rates of infection and disease,[8] and yet only a small proportion are subject to contact investigation and initiated on preventive therapy for TB infection.[9] And access to new TB drugs like bedaquiline is abysmally low in children with drug-resistant TB (DR-TB).1 Children are rarely included in new TB drug and diagnostic trials, and that often means they are the last to benefit from new tools.[10]

Thankfully, the global health community is finally showing ambition and commitment. The first-ever UN General Assembly high-level meeting on TB on 26 September 2018 endorsed an ambitious and powerful political declaration which commits to successfully treating 40 million people with TB from 2018 to 2022, including 3.5 million children, and 1.5 million people with drugresistant TB, including 115,000 children.[11] The UN declaration also commits to offering preventive therapy to at least 30 million people, including 4 million children under 5 years of age.[11]

It is wonderful to see children explicitly mentioned in the UN targets and that reflects positively on all the research and advocacy around childhood TB. But treating 3.5 million children with TB and offering preventive therapy to 4 million children will require huge investments by countries, and an aggressive scale-up of the best tools and policies we have today.

Children are most vulnerable to TB, and therefore must have access to all the best tools we have today. Recently, WHO published a report on the best practices in child and adolescent TB care.[12] All countries have a moral and ethical imperative to urgently implement these best practices.

For diagnosis, all children with suspected TB must have access to molecular tests such as Xpert MTB/RIF. The benefits of this are particularly evident in the Indian context where upfront testing with Xpert MTB/RIF not only detected more pediatric TB cases (including extrapulmonary disease) but also detected a substantial number of children with DR-TB.[13–15] In India, access to free and rapid Xpert testing for all presumptive pediatric TB patients has had multiple positive effects on pediatricians' diagnosis and treatment of TB, including positive effects on speed of diagnosis, reduced empirical treatment, and greater awareness of DR-TB among TB treatment naive children.[16]

For treatment, all children must have access to child-friendly, fixed-dose combinations in tasty, dispersible formulations (to avoid the need for crushing or chopping tablets). Such formulations are now available and increasingly used in many countries.[17]

For MDR-TB management, all children must have access to Xpert MTB/RIF, line probe assays as well as liquid cultures and drug-susceptibility testing. Once DR-TB is confirmed, children must have access to all the drugs that are now rated as group A in the recently updated 2018 WHO guidelines for DR-TB.[18] These include fluoroquinolones (levofloxacin and moxifloxacin), bedaquiline and linezolid.[18]

For preventive therapy, all children in contact with adults with TB must be screened for active and latent TB. Child contacts who have evidence of TB infection (i.e., positive by tuberculin skin test or interferon-gamma release assays) must be put on preventive therapy to prevent the development of active TB. Thankfully, we now have highly effective short regimens such as 4 months of rifampicin, or 3 isoniazid and rifapentine, once weekly for 3 months. These regimens are well tolerated by children and as effective as the conventional, longer regimens (i.e., 6–9 months of isoniazid).[19,20]

While national TB programs have a major role to play in ensuring the above best practices, pediatricians and pediatric professional societies can actively join the fight against childhood TB by demanding that children have access to all the best tools and practices. Indeed, pediatricians should be early adopters of the best tools because no child needs to die of TB, and children have no time to lose.

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