EDITORIAL

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Pediatric Tuberculosis: Key Updates from WHO Consolidated Guidelines 2022 and National TB Control Program, Pakistan Guidelines 2024

Tuberculosis (TB) remains one of the leading infectious diseases globally, with an alarming burden among children, particularly in low and middle-income countries. The World Health Organization (WHO), in 2022, has issued consolidated guidelines on Tuberculosis, introducing several important changes. National TB Control Program (NTP), Pakistan has also released its revised guidelines in 2024.

The WHO guidelines introduced several significant revisions in Pediatric TB diagnosis, treatment regimens, and preventive care. One of the most significant updates is the increased emphasis on diagnostic tools, particularly in high-burden settings. The guidelines stress the need for molecular tests like Xpert MTB/RIF Ultra as the initial diagnostic tool for TB in children. The recommendation on the use of Xpert Ultra to detect rifampicin resistance in stool and gastric aspirate was extrapolated from existing recommendations on its use in other sample types. Considerations regarding the acceptability and feasibility of implementation of both stool and gastric aspirate specimens need to be taken into account.[1] The NTP guidelines have adopted these recommendations regarding the use of molecular diagnostics, including the rollout of the Xpert MTB/RIF Ultra in key health centres.[2] NTP also endorses WHO recommendations for the use of computer aided diagnosis (CAD) software program in place of human readers for interpretation of digital CXR in screening and triage for TB disease. The current recommendations are specific to adults and adolescents aged 15 years and older and apply only to interpretation of antero-posterior or posteroanterior views of digital plain CXR for pulmonary TB.[1,2]

WHO guidelines have made key recommendations on the use of shorter treatment regimens (4-month treatment regimen (2HRZ(E)/2HR) in children and adolescents between 3 months and 16 years of age with non-severe TB and without suspicion or evidence of MDR/RR-TB.[1] However, NTP guidelines recommend that WHO-recommended short 4-month TB treatment for non-severe PTB and peripheral lymph node for children under 16 years should not be used in routine program setting and should be only implemented under specialized Pediatric care.[2] Furthermore, WHO recommended that in children and adolescents with bacteriologically confirmed or clinically diagnosed TB meningitis (without suspicion or evidence of MDR/RR-TB), a 6-month intensive regimen (6HRZEto) may be used as an alternative option to the 12-month regimen (2HRZE/10HR).[1] However, due to lack of robust evidence, NTP has not yet endorsed it and recommends that children and adolescents with suspected or confirmed tuberculous meningitis should be treated with a four-drug regimen (HRZE) for 2 months, followed by a two-drug regimen (HR) for 10 months, the total duration of treatment being 12 months.[2]

Another significant update is the inclusion of preventive therapy for children who are at high risk of developing TB, particularly those in close contact with active TB patients. The WHO-recommended TB preventive treatment options, adopted by NTP as well, include 6 or 9 months of daily Isoniazid, 3 months of weekly rifapentine plus Isoniazid (3HP), and 3 months of daily Isoniazid plus Rifampicin (3HR). Alternative regimens include 1-month of daily rifapentine plus Isoniazid (1HP) and 4 months of daily Rifampicin (4R). There is general consensus that the benefits of all the treatment options being recommended outweigh the potential harm. All WHO recommended regimens could

be used in any setting, regardless of TB burden, provided that the health infrastructure can ensure the treatment is given correctly without creating inequities, and that active TB can be excluded reliably before the initiation of treatment.[1,2]

The recent updates on Pediatric TB have the potential to transform the landscape of TB care for children, particularly in high-burden settings such as Pakistan. The adoption of WHO guidelines by the NTP is a step forward towards addressing the high burden of Pediatric TB in the country. As the NTP Pakistan continues to strengthen its TB control efforts, it is important that global and local stakeholders collaborate to ensure that all children receive timely, accurate, and comprehensive TB care.

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