

Editorial

In 2010, The World Health Organization (WHO) endorsed an automated molecular test machine named GeneXpert which could detect tuberculosis as well as rifampicin resistance tuberculosis as the preferred diagnostic method for individuals presumed to have multi-drug resistant TB (MDR-TB) or HIV-associated TB. Initially it was recommended to diagnose HIV associated TB or presumptive MDR-TB. Three years later the recommendation was extended conditionally and availability of resources to cover initial diagnostic testing for all adults presumed to have TB.

Globally, in 2017, tuberculosis is one of the top ten causes of death with an estimated 1.3 million deaths among HIV-negative people and there were additional 300 000 deaths from TB among HIV-positive people. The only recommended rapid test to diagnose the TB disease is the GeneXpertMTB/RIF assay. It can provide results within two hours, and was initially recommended for diagnosis of pulmonary TB in adults. Since 2013, recommendation has been updated to use the tool in diagnosing TB and rifampicin resistance in pulmonary, extra pulmonary and pediatric TB. The test has better accuracy than sputum smear microscopy.

Although GeneXpert machines can be placed from a peripheral clinic to a reference laboratory, the selection of the site must take in consideration of the workload, efficiency of referral networks, infrastructure human resources and cost effectiveness. Several studies assessing the cost of TB and drug-resistant TB diagnosis by GeneXpert globally reports that it costs lower than the conventional methods of diagnosing TB.

In this issue “Challenges in the diagnosis of drug-resistant tuberculosis by GeneXpert MTB/RIF assay in Nepal-2017” has emphasized the importance of GeneXpert MTB/RIF assay as a tool in the diagnosis of drug-resistant TB in Nepal. The study revealed the challenges, limitation and its optimal utilization. It emphasized the training support for operations, wider dissemination of the updated diagnostic algorithms among the clinicians and need of identification of a focal point in the central TB reference laboratory for maintenance, cartridge supply and machine calibration. The study identified lack of human resource and inadequate diagnostic algorithm as the main challenges. There is also the difficulty in operation of the machine due to frequent power failure, temperature differences and none/less availability of the cartridges and lack of expertise to store and dispose them. The most important issue identified is the lack of decentralized availability of the GeneXpert machine across the country.

It is assumed that the numbers of missing cases are not negligible and late/non detection of TB increases the risk of transmitting the disease, eventually distress and economic hardship for nation and oneself also. Progress in controlling TB and mitigating its consequences can be expedited through early diagnosis and treatment. Hence, several studies have revealed that the GeneXpert MTB/RIF assay has increased case-finding of TB and MDR TB. However, the performance of the existing diagnostic centres needs to be improved, strengthened and accelerated throughout the countries in the region. Subsequently, there is an urgent need to be addressed and identified challenges to optimize the future scale-up of GeneXpert centres to meet the target of End TB by 2030.

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