J Infect Dis Ther 2017, 5:6(Suppl)
DOI: 10.4172/2332-0877-C1-033

Status of Xpert MTB/RIF Assay Implementation in Ethiopia

Ayinalem Alemu*[1], Ephrem Tesfaye[1], Zelalem Yaregal[1], Misikir Amare[1], Zekarias Dagne[1], Desalegn Addise[1], Mengistu Tadesse[1], Waganeh Sinshaw[1], Bazezew Yenew[1], Helina Mollalign[1], Getu Diriba[1], Muluwork Getahun[1] and **Abebaw Kebede[1]**
[1]National Tuberculosis Reference Laboratory, Ethiopian Public Health Institute

Background: In 2010, WHO has endorsed Xpert MTB/RIF Assay for the diagnosis of tuberculosis (TB) and rifampicin resistance tuberculosis (RR-TB). Following this recommendation, Xpert MTB/RIF Assay has been implemented in Ethiopia since 2012. Monitoring and evaluation of Xpert MTB/RIF Assay implementation is necessary to ensure the effective and efficient use of resources and to guide the future scale-up.

Objective: To assess the implementation Xpert MTB/RIF for the diagnosis of TB and RR-TB in Ethiopia.

Methodology: Data was collected and analyzed from 87 GeneXpert sites from May to June 2016. A structured questionnaire was used to collect information on staff profile and trainings taken. Data was extracted from GeneXpert machine since the date of installation from 70 GeneXpert sites. Records were reviewed from laboratory register book and from archived laboratory request formats by using a comprehensive assessment tool to evaluate the laboratory personnel competency and clinician's adherence to the national algorithm.

Result: A total of 80,683 specimens were examined by using Xpert MTB/RIF Assay starting from the date of installation up to June 2016 in 70 GeneXpert sites. Mycobacterium tuberculosis was detected in 12,422 (15.4%) of specimens. From all TB detected results 83.75% (10,403), 12.68% (1,591) and 3.45% (428) were susceptible, resistance and indeterminate to Rifampicin respectively. The error rate was 14.1%. There were 285 Xpert MTB/RIF Assay trained laboratory professionals at 87 GeneXpert sites. An average of 3 trained laboratory professionals were working in each facility. At least one trained laboratory professional was found in each facility, but untrained laboratory professionals were performing Xpert MTB/RIF Assay in 67 facilities. National Tuberculosis Program approved Xpert MTB/RIF Assay testing algorithm was not followed in 36% of sites. Most of the clinicians did not properly fill request papers. Standardized request formats and laboratory log books were not available in 15% and 8% of facilities, respectively. Xpert MTB/RIF Assay results were correctly recorded on the laboratory log book in 87% of sites. Critical result (RR-TB) communication was not appropriate in 25.6% of facilities. Xpert MTB/RIF Assay test results were not archived regularly in 47% of laboratories.

Conclusion: Detection rate of TB with the Xpert MTB/RIF Assay was low. This may be due to inappropriate eligibility screening of the patients. Xpert MTB/RIF Assay showed an advantage for detecting RR-TB cases in peripheral laboratory level, which is important for early detection of drug resistant cases as well as early treatment initiation. Error rate was high in comparing with the expected standard (≤3%). There was 100% Xpert MTB/RIF Assay training coverage; however, in majority of the sites untrained laboratory professionals were performing Xpert MTB/RIF testing. This may probably have negative impact on test results.

ayinalemal@gmail.com