

Magnitude of mycobacterium tuberculosis infection and Its resistance to rifampicin using xpert-MTB/RIF assay among presumptive tuberculosis patients at motta



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Abstract

Mycobacterium Tuberculosis (MTB) and its drug resistance form are the devastating infectious diseases in the world. It is the major cause of morbidity and mortality in low-income countries with Ethiopia carrying a heavy burden. Data on the magnitude of MTB and rifampicin resistance using Xpert- MTB/RIF assay is limited in the study area. Therefore, this study aimed to assess the prevalence of Mycobacterium tuberculosis and rifampicin resistance among presumptive TB patients using GeneXpert at Motta General Hospital, North West Ethiopia. A retrospective cross-sectional study was conducted from 1st October to 30 November 2020 among patients tested for GeneXpert at Motta General Hospital, Northwest Ethiopia. A total of 4109 specimens were tested using the GeneXpert automated system. Of these, the majority 2148 (52.3%) of participants were males and 1961 (47.7%) were females. Similarly, about 1553 (37.8%) were in the age range of 25-44 years followed by 1347 (32.8%) in 45-64 years. Moreover, about 2486 (60.5%) participants were from rural. The overall prevalence of M. tuberculosis was 346 (8.4%) among these, the majority 222 (5.4%) had unknown HIV status, 48 (1.2%) were HIV positive, and 314 (7.6%) was new MTB cases. The overall prevalence of rifampicin resistance was 15 (4.3%) and 8(1.7%) were intermediate. Among rifampicin resistance, 10 (2.9%) were males, 8(2.3%) lived in rural, 9 (2.6%) had unknown HIV status, 13 (3.8%) were new TB patients, and 13 (3.8%) had pulmonary tuberculosis. The prevalence of M. tuberculosis was 8.4% and relatively higher rate of rifampicin-resistant M. tuberculosis was found.

Biography

Tesfaye Andualem Demissie has completed his MSc in Medical Microbiology at the age of 24 from University of Gondar Ethiopia. He is a researcher and a University lecturer in Debre Tabor University. He was a coordinator of Microbiology, Parasitology and immunology. And he is now also a clinical coordinator in Debre Tabor University teaching Hospital. He has published more than 10 papers in scientific journals.