

Tuberculosis (TB) is caused by *Mycobacterium tuberculosis* (MTB), it is a bacterial disease that is infectious which is spread by infectious droplet nuclei. It remains one of the top 10 causes of death in lower-income and lower-middle-income countries. In this study, a comparative analysis of stool samples from 101 adult (91 pre-confirmed pulmonary Tb patients) and 99 children (presumptive TB patients). Their stool samples were collected, processed and analyzed using Xpert MTB/RIF Ultra technique and AFB microscopy. While using Xpert MTB/RIF Ultra assay as our “reference standard”, a sensitivity of 96%, Specificity of 83%, Positive Predictive Value (PPV) of 87%, and Negative Predictive Value (NNP) of 87% was observed with stool Xpert MTB/RIF Ultra technique. Also Ziehl Neelsen’s Stain Microscopy has a Sensitivity of 76%, Specificity of 23%, PPV of 100% and NNP of 49% while Fluorescence Stain Microscopy reveal a Sensitivity of 82%, Specificity of 75%, PPV of 92%, and NNP of 75% in stool sample. This study has shown that Xpert MTB/RIF Ultra assay in stool samples serves as an alternative to sputum in the diagnosis accuracy and precision.

Furthermore, Fluorescence Stain Microscopy has shown to be more efficient than Ziehl Nelsen’s stain Microscopy.