

ABSTRACT

Globally, 10.6 million people were diagnosed with tuberculosis during the year 2021, which made a rise of 4.5% approximately 10.1 million differences in comparison with statistics of 2020. Previously in 2015, study showed approximately 100,000 people with resistance to rifampicin and more than half of all MDR-TB cases were also found to be resistant to PZA. Lately, studies revealed PZA resistance as more ubiquitous, with an estimated of one in six incident TB cases having PZA resistance.

Objective: To determine prevalence and the proportion of rifampicin resistance in pyrazinamide resistance among newly diagnosed TB patients attending Bombo General Military Hospital, Central Uganda

Results: There was a total of 166 sputum positive tuberculosis samples for this study of which more than a half 88/166 (53%) were from adults (30-49 years). The mean age of the study patients was 36 years with a range of 14 to 80 years. More than a half 91/166 (55%) were male. Majority 115 (70%) of the positive sputum samples were from the positive HIV status. The majority 160/166 (96%) of the newly diagnosed mycobacteria tuberculosis patients showed no detection of the rifampicin resistance while the rest 6/160 (4%) showed the indeterminate rifampicin resistance while using the GeneXpert machine. Further still, the *pncA* status gene show more than two thirds 114 (69%) of the patients were of a negative status indicating no resistance to the tuberculosis treatment. In all 52 (100%) the patients who the tuberculosis bacteria showed pyrazinamide resistance was detected. Looking at the HIV status of patients, pyrazinamide resistance was majorly detected in those who had a positive HIV status 29 (56%). However, those with unknown HIV status had also a considerable high pyrazinamide resistance detection (18 (34%). When we studied both resistances, it was observed that only one patient 1(2%) that showed also showed pyrazinamide resistance.