

PA-088

# DO XPert MTB/RIF CYCLE THRESHOLD VALUES PROVIDE INFORMATION ABOUT PATIENT DELAYS FOR TUBERCULOSIS DIAGNOSIS?

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**Background** Early diagnosis and initiation to appropriate treatment is vital for tuberculosis (TB) control. The Xpert MTB/RIF (Xpert) assay offers rapid TB diagnosis and quantitative estimation of bacterial burden through Cycle threshold (Ct) values. We assessed whether the Xpert Ct value is associated with delayed TB diagnosis as a potential monitoring tool for TB control programme performance.

**Methods** This analysis was nested in a prospective study under the routine TB surveillance procedures of the National TB Control Program in Manhica district, Maputo province, Mozambique. Presumptive TB patients were tested using smear microscopy and Xpert. We explored the association between Xpert Ct values and self-reported delay of Xpert-positive TB patients as recorded at the time of diagnosis enrolment. Patients with >60 days of TB symptoms were considered to have long delays.

**Results** Of 1483 TB presumptive cases, 580 were diagnosed as TB of whom 505 (87.0%) were due to pulmonary TB and 302 (94.1%) were Xpert positive. Ct values (range, 9.7–46.4) showed a multimodal distribution. The median (IQR) delay was 30 (30–45) days. Ct values showed no correlation with delay ( $R^2=0.001$ ,  $p=0.621$ ), nor any association with long delays: adjusted odds ratios (AOR) (95% CI) comparing to >28 cycles 0.99 (0.50–1.96;  $p=0.987$ ) for 23–28 cycles, 0.93 (0.50–1.74;  $p=0.828$ ) for 16–22 cycles; and 1.05 (0.47–2.36;  $p=0.897$ ) for <16 cycles. Being HIV-negative (AOR [95% CI]), 2.05 (1.19–3.51,  $p=0.009$ ) and rural residence 1.74 (1.08–2.81,  $p=0.023$ ), were independent predictors of long delays.

**Conclusions** Xpert Ct values were not associated with patient delay for TB diagnosis and cannot be used as an indicator of TB control program performance.