Epidemiology

PO - (8417) - RISING TRENDS IN TB MORTALITY AMID DECLINE IN CASES NOTIFIED IN A RURAL COUNTY IN KENYA: COHORT STUDY

Abdullahi, Osman (Kenya)\(^1\); Ngari, Moses (Kenya)\(^2\); Sanga, Deche (Kenya)\(^3\); Katana, Geoffrey (Kenya)\(^4\); Willetts, Annie (Kenya)\(^1\)

1 - Pwani University, Department of Public Health, Kilifi, Kenya; 2 - KEMRI Wellcome Trust Research Programme, Kilifi; 3 - Kilifi County TB Control Program, Kilifi, Kenya; 4 - Kilifi County Department of Public Health, Kilifi, Kenya

**Background:** Despite introduction of rapid and accurate diagnostic tool and aggressive treatment for Tuberculosis (TB), it’s still a global health problem. In 2016, globally, 1.7 million people died of TB, 95% from poor-resources countries. This study aimed to estimate changing trends in all-cause mortality rate and identify features associated with mortality among suspected TB patients on treatment.

**Methods:** A cohort study of patients registered in TB surveillance system from 2012 to 2016 and followed-up for six months during ant-TB treatment. The outcome was all-cause mortality within six months of TB treatment. The exposures examined were demographic and clinical features at the time of starting anti-TB treatment.

**Results:** 10,717 participants, median (IQR) age 33 (24-45) years and 3,163 (30%) HIV infected were included in the analyses. During follow-up of 5175.5 person-years (PY), 585/10,717 (5.5%) participants died; mortality rate 12.2 (95% CI 11.3, 13.3) deaths per 100PY. The yearly mortality rate increased from 7.79 (95% CI 6.35, 9.54) in 2012 to 17.73 (95% CI 14.93, 21.06) in 2016 per 100PY (\(P_{trend}<0.001\)) but the number of suspected TB notification declined from 2610 (24%) in 2012 to 1689 (16%) in 2016 (\(P_{trend}=0.02\)). 77% of all deaths occurred by month three. Mortality among HIV infected participants was higher, 325/3163 (10.3%) than HIV non-infected participants, 251/7413 (3.4%) \(P<0.001\). Old age, being a female, type of TB diagnosis used, Body Mass index (BMI)<18.5, HIV status and year of diagnosis were associated with mortality in the multivariate regression model.

**Conclusion:** This large population level TB study identifies an alarming trend to die within months of starting treatment. These early deaths could be due to late diagnosis and multi-drug resistant. The study warrants further investigation to go beyond already established indicators which remained constant, including HIV co-infection, to explore host, disease or health system factors that may explain the observed trend.