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Survival status and predictors of mortality among patients with tuberculosis in Hosanna, Southern Ethiopia: Retrospective cohort study

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Background & Aim: Tuberculosis (TB) is a chronic infectious disease contributed to morbidity and mortality of 9.6 and 1.5 million people worldwide respectively. Despite increased burden of death, time to death and its predictors among patients with TB has not researched in the study area. The aim of the study is to determine survival status and identify predictors of mortality among patients with TB in Hosanna, Southern Ethiopia, from 2010-2015.

Methods: Retrospective cohort design was employed among patients treated for TB in Nigist Eleni Mohammed Memorial Hospital and Hosanna Health center located in Hosanna, Southern Ethiopia. Statistically determined and randomly selected 423 subjects were included in this study. Person-days' time scale was used to measure survival time from treatment initiation until death or censoring occurred. Kaplan-Meier curves and log-rank test were used to assess survival time. Cox regression model was used to identify predictors of death. The 95% confidence interval (CI) of hazard ratio (HR) with corresponding P-value <0.05 were set to declare significance. Data was entered to Epi-Data 3.1 and exported to STATA 12.0 for analysis.

Result: Total of 423 TB patients were followed for 70608 Person-days. The mean survival time of the cohort was 269.8 Person-days. Out of the cohort 379(89.6%) patients survived to the entire months follow up period. There were 44(10.4%) known deaths recorded in the follow up period. Incidence of death was 6.23 per 10,000 Person-days, 95% CI: 4.6, 8.3. Majority, 27(61.4%) of deaths occurred within 30 days. Survival time significantly vary across status of TB/HIV co-infection (P<0.001), history of previous treatment (P=0.02) and residence (P<0.001). TB/HIV co-infection, AHR=4.6, 95% CI: 2.41, 8.93, (P<0.001); previous history of treatment, AHR=4.8, 95% CI: 1.26, 18.59, (P<0.001), residence, AHR=3.1, 95% CI: 1.61, 6.21, (P<0.001) and weight change, AHR=0.814 95% CI: 0.77, 0.85, (P<0.001) were important predictors of death.

Conclusion: Low survival time and higher incidence of death noted in this study. The finding imply urgent need of intervention enhance survival and reduce death among patients with tuberculosis during treatment.