عنوان مقاله:

Modeling Time to Death of Patients with Multidrug-Resistant Tuberculosis at Saint Peter's Specialized Hospital

محل انتشار:

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خلاصه مقاله:

Background: Currently, the worldwide prevalence and incidence of multidrug-resistanttuberculosis (MDR-TB) is drastically increasing. The main objective of this study was modeling thetime-to-death of patients with MDR-TB at St. Peter's Specialized Hospital, Addis Ababa, Ethiopia,by using various parametric shared frailty models.Study Design: A retrospective study design was used.Methods: The study population was TB patients with MDR at St. Peter's Specialized Hospital fromJanuary ۲۰۱۶ through December ۲۰۱۹. Exponential, Weibull, and log-normal were used asbaseline hazard functions with the gamma and inverse Gaussian frailty distributions. All the modelswere compared based on Akaike's Information Criteria.Results: The overall median time to death was ۱۱ months and ۱۲۳ (۳۳.۵%) patients died. Patientswho lived in rural areas had shorter survival time than those who lived in urban areas with anaccelerated factor of ۰.۱۳۵ (P=۰.۰۰۲). Patients with a history of anti-TB drug consumption had ashort survival time than those without such a history with an accelerated factor of ۰.۰۲ (P=۰.۰۰۱).The variability (heterogeneity) of time to death of patients in the region for the selected model(Weibull-inverse Gaussian shared frailty model) was θ=۰.۱۴۴ (P=۰.۰۲۷).Conclusion: The MDR-TB patients with weight gain, khat and alcohol consumption, clinicalcomplication of pneumothorax and pneumonia, extrapulmonary TB, and history of anti-TB drugconsumption as well as those who lived in rural areas had a shorter survival time, compared toothers. There was a significant heterogeneity effect in the St. Peter's Specialized Hospital. The bestmodel for predicting the time to death of MDR-TB patients was Weibull-inverse Gaussian sharedfrailty model.

کلمات کلیدی:

Hospital, Multidrug-Resistance Tuberculosis, Retrospective, Shared frailty, Time-to-Death