

Mixture statistical modeling for predicting mortality human immunodeficiency virus (HIV) and tuberculosis(TB) infection patients

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Abstract : The purpose of this study was to identify comparable manner between negative binomial death rate (NBDR) and zero inflated negative binomial death rate (ZINBDR) with died patients with (HIV + T B+) and (HIV + T B-). HIV and TB is a serious world wide problem in the developing country. Data were analyzed with applying NBDR and ZINBDR to make comparison which a favorable model is better to used. The ZINBDR model is able to account for the disproportionately large number of zero within the data and is shown to be a consistently better fit than the NBDR model. Hence, as a results ZINBDR model is a superior fit to the data than the NBDR model and provides additional information regarding the died mechanisms HIV+TB. The ZINBDR model is shown to be a use tool for analysis death rate according age categorical.

Keywords : zero inflated negative binomial death rate, HIV and TB, AIC and BIC, death rate

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