Bayesian Estimation of Cure Rate from Survival Data of HIV/AIDS Patients Under Antiretroviral Therapy.

K. A. Adeleke

adedayobright@gmail.com

Department of Mathematics, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria.

Abstract: *In this paper, we consider modeling a right censored time to event data under the purview of CD4 cell count (HID/AIDS disease marker) using Bayesian methods of statistical inference to estimate the cured or long-term survivors. The number of competing cause (CD4) follows a Compound Poisson distribution for the number of competing cause (CD4) and a logistic link for reparametrization of cured fraction through the covariate. A MCMC method is develop to analyze the proposed model. We examine the performances of the proposed models and method via simulation and apply them to analyze the HIV/AIDS data set from ART centers, LUTH, Lagos, Nigeria.*

Keywords: *Cure rate model, Bayesian methods, HIV/AIDS, Compound Poisson distribution, Negative Binomial distribution.*