The impact of censored survival data on Bayesian inference is assessed when estimating Bayesian Weibull mixture models through a simulation study and an application to microarray data. The simulation study was carried out with different parameter configurations of the mixture model, that is, two well-separated components and two strongly overlapping components for data generation each with five different levels of censoring. The Bayesian approach via Markov Chain Monte Carlo was used to estimate the parameters of Weibull mixture model. The issue of label switching and model evaluation are also considered.

2010 Mathematics Subject Classification: 62N01, 62N02, 62F15.

Keywords: Bayesian modelling, Censored data, Markov Chain Monte Carlo, mixture model, Survival analysis, Weibull distribution.

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