A two-sample parametric test for partly interva-censored data with nonproportional hazard

ABSTRACT

In clinical trials and engineering studies that are followed by periodic follow-ups, it is predominantly to have partly interval-censored failure time data. Partly interval-censored failure time data is composed of exact observations and interval-censored observations. This paper discusses two-sample parametric comparison of reliability function in the existence of partly interval-censored failure time data. We have constructed a score test and likelihood ratio test for this kind of failure time data under piecewise exponential distribution by using multiple imputation technique. Simulation study is established to assess the proposed test, which indicates that the presented procedure works well. Finally, an example is given for illustration purposes.