NONPARAMETRIC TREATMENTS COMPARISON FOR IMBALANCE PANEL COUNT DATA: SIMULATION AND APPLICATION

[1]NOOR AKMA IBRAHIM, [2]TAN PEI LING

[1]Laboratory of Computational Statistics and Operations Research
[2]Institute for Mathematical Research University Putra Malaysia
E-mail: nakma@upm.edu.my

Abstract - Diseases recurrent processes which occur in medical follow-up study usually involved continuous time and the patients are usually monitored at distinct and different time intervals. Majority of the existing methods in testing the treatments differences assumed identical observation processes which might provide misleading results for unequal observation processes. Thus a nonparametric test based on integrated weighted different between the mean cumulative functions which characterized both the recurrent processes and observation processes withcondition on treatment is proposed to allow for this imbalance case. The empirical power of the proposed test is investigated through simulation study. The results show that the proposed test has good power to detect treatments differences. The proposed test works well for practical situations as illustrated in the application on a real data set.

Keywords - Treatment Comparison; Nonparametric; Monte Carlo Simulation; Bladder Tumor