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Statistical methodologies for handling ordinal longitudinal responses with monotone dropout patterns using multiple imputation

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Missing data are common challenge in any longitudinal clinical trials. Multiple imputation is one of the modern methods of handling incomplete data. This approach is applicable to different missing data patterns but sometimes faced with complexity of the type of variables to be imputed and the mechanism underlying the missing values. In this study, we compare the performance of three methods under multiple imputation, namely expectation maximization, fully conditional specification and multivariate normal imputation in the presence of ordinal responses with monotone dropout. We proposed and demonstrated the usefulness of the ordinal negative binomial distribution for ordinal data generation through simulation studies and implementation. However, the real dataset application and simulation studies reveal that the three methods perform equivalently well, thus any of the methods can be recommended for use.

Biography

Aluko O S is pursuing his PhD at the University of KwaZulu-Natal, South Africa. Three of his papers are in review under reputable journals and the fourth paper is about to be sent to another journal for publication. As a matter of fact, he use and write codes in both R and SAS softwares conveniently.

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