Analysis of Longitudinal Binary Data with Nonignorable Dropout using Shared Parameter Models

Myungok Lee

LSUHSC School of Public Health

Biostatistics Program

Abstract

In longitudinal studies investigators frequently have to assess and address potential biases introduced by missing data. This paper proposes new methods for modeling longitudinal binary data with nonignorable dropout using maginalized transition models and shared parameter models. Random effects are introduced for both serial dependence of outcomes and nonignorable missingness. Fisher-scoring and Quasi-Newton algorithms are developed for parameter estimation. We use the Korean Genomic Epidemiology Study data to illustrate the models.