



Bayesian Analysis of Partial Linear Model for Skewed Longitudinal Data

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Unlike majority of current statistical models and methods focusing on mean response for highly skewed longitudinal data, we present a novel model for such data accommodating a partially linear median regression function, a skewed error distribution and within subject association structures. We provide theoretical justifications for our methods including asymptotic properties of the posterior and associated semiparametric Bayesian estimators. We also provide simulation studies to investigate the finite sample properties of our methods. Several advantages of our method compared to existing methods are demonstrated via analysis of a cardio-toxicity study of children of HIV infected mothers.

Keywords: Dirichlet Process, median regression, semiparametric, skewed error.