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Logistic Regression Model versus Additive Model for Recurrent Event Data

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Abstract : Recurrent infant diarrhea is studied using daily data collected in Salvador, Brazil over one year and three months. A logistic regression model is fitted instead of Aalen's additive model using the same covariates that were used in the analysis with the additive model. The model gives reasonably similar results to that using additive regression model. In addition, the problem with the estimated conditional probabilities not being constrained between zero and one in additive model is solved here. Also martingale residuals that have been used to judge the goodness of fit for the additive model are shown to be useful for judging the goodness of fit of the logistic model.

Keywords : additive model, cumulative probabilities, infant diarrhoea, recurrent event
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