

SEMIPARAMETRIC ADDITIVE HAZARDS
MODELS WITH MISSING COVARIATES

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Abstract

In this paper, we have applied case cohort study design to semiparametric additive hazard models to study the effect of covariates on failure times. We have considered the phase one covariates to have both time varying and constant effect on failure time while phase two covariates have constant effect. We have applied Augmented Inverse Probability Weighted (AIPW) method to estimate the model parameters and compared the result with widely adopted Inverse Probability Weighted (IPW) method. Our simulation study shows that AIPW estimation is more consistent than IPW estimation method. The method is applied to analyze the RV144 vaccine trial data to assess whether immune response has effect on HIV-1 infection.