

Nonparametric Estimation of Bivariate Survivor Function Under Right Truncation with Application to Estimate Age-at-Onset Anticipation

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Abstract

In a clinical study, investigators are concerned with estimation of the distribution of the onset ages of a generic disorder in successive generations. However the data is subject to right-truncation, i.e. only parent-child pairs with onset ages prior to the ages of interview were included in the sample. A simple nonparametric estimation of the underlying bivariate distribution of the onset ages of parent-child pair was proposed and its asymptotic properties were derived. An application to estimate Age-at-Onset anticipation of the panic-disorder was discussed.