

Factors Affecting Under-Five Child Mortality in Tripura: A Survival Analysis Approach

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Abstract

Under-five mortality remains a global cause for concern despite the overall fall in trends, with some areas such as Tripura in India experiencing frightening rates of increase. Sensitizing the imperative for intervention in this frightening trend, the present study employs a Cox regression model to investigate under-five mortality in Tripura and identify its associated factors. Opening up a host of determinants such as recent births, education of the mother, household composition, and maternal age to scrutiny, the study offers revealing insights into the determinants of under-five mortality. Strong determinants that emerge from the Cox regression model include recent births in the last five years, number of living children in a family, birth order, birth interval, education of the mother, maternal age, residence in districts, family size, and mother's age at first birth. Of particular note is the role of maternal education, echoing findings from more general child health studies. The study points to the overriding importance of maternal education levels in child survival, emphasizing the imperative for investments in education to enhance maternal and child health outcomes. In addition, household composition such as family size and birth history appear as critical determinants, pointing to the imperative for intervention in more general socio-economic determinants of child health. Methodologically, the study identifies the log-logistic model as the optimal distribution of under-five mortality in Tripura, offering valuable evidence for future research and policy formulation. These findings have serious policy and intervention implications for public health in Tripura. Targeted interventions are necessary to increase maternal and child healthcare access, improve opportunities for female education, strengthen socio-economic support systems among vulnerable families, and improve healthy behavioral patterns among populations. Lastly, this analysis emphasizes the imperative of collective intervention to reverse the rising trends of under-five mortality in Tripura. By identifying key determinants and employing robust analytical methods, public health practitioners and policymakers can develop targeted interventions that address the root causes of child mortality, ultimately improving child health outcomes and community welfare in the region.

Keywords

Time-to-event, Cox regression model, Parametric model, Under-five child mortality, NFHS-5.