



The Relationship of Socio-Economic Status and
**THE RELATIONSHIP OF SOCIO-ECONOMIC STATUS
 AND INFANT MORTALITY IN ULAANBAATAR CITY**

Program: **Epidemiology**

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ABSTRACT

Infant mortality rate (IMR) is an important indicator, reflecting the health status of a society and the degree of poverty.

Despite a well established health infrastructure and primary health care system IMR remains relatively high in Mongolia. IMR was 39.7 per thousand live births in Ulaanbaatar in 1995.

Since late 1980, Mongolia, like other former socialist countries, has been experiencing difficulties in economy. Mongolia was among the 10 countries of the world with the highest inflation rate. The decline in the gross domestic product (GDP) per capita to about 400 US\$ by 1994, which is corresponds to the level of 13 years previously, canceled out some of the gains made during former time and led to a rapid increase in poverty and socio-economic inequities among the population. In 1996, 33.1 percent of the rural population and 38.5 percent of urban population of Mongolia were living under the poverty line.

IMRs have been and continue to be high in economically deprived groups of all societies of the world. There was no systematic research on infant mortality carried out in Mongolia in relation to

family socio-economic status. Therefore, the aim of this study was to assess the strength of association between infant mortality and family socio-economic background in the Mongolian urban setting in the current period of drastic political and economical change. The specific objective of this study was to compare socio-economic background of families of dead infants with that of surviving infants in Ulaanbaatar.

A population-based matched case-control study, stratified into two strata - neonatal and postneonatal - was employed. Cases were the neonatal deaths (deaths occurring during first 27 days of life) and postneonatal deaths (deaths occurring from 28 days up to 1 year of age). Neonatal and postneonatal cases comprised from historical cases, which had occurred between 1st October 1995 and 31st March 1996, that is, prior to the study period, and concurrent cases, occurring between 1st April 1996 and 30th September 1996, that is during the study period in Ulaanbaatar. Infant deaths were initially identified from the Health Office of Ulaanbaatar. The name and address of neonatal and postneonatal cases were identified from the health center report. A control was selected randomly from the list of living infants with the same birth date as the dead infant in the same health center in a ratio 1:1. A total of 151 neonatal case-control sets and 122 postneonatal case-control sets was obtained. Information on demographic characteristics, economic status and living condition, obstetric history, neonatal characteristics and accessibility to health services was obtained by interview using a pre-tested questionnaire during visits to each household by a trained health worker. Neonatal characteristics were validated with the paediatric medical records. Economic information was used to construct a score for economic status of the family ranging from 0 to 11. Families were categorized into 3 economic groups of

approximately equal numbers - poor, middle and wealthy - having scores of 0-5, 6-9 and 10-11, respectively. Cross tabulation, Pearson chi-square test and nonparametric test were used to explore differences in the characteristics of cases and controls separately in the neonatal and postneonatal groups. Conditional logistic regression was used to obtain an appropriate odds ratio for each predictive variable and to control for confounding and interaction.

This study identified a strong association between family socio-economic status and infant mortality in Mongolian urban settings. Infants from the poor families had a 16 times greater risk of dying than those from wealthy families (95% CI for poor economic status was 2.47-10.01 and for wealthy economic status was 0.15-0.80). The strength of the association with economic status was significantly stronger in the postneonatal period than in the neonatal period in univariate analysis. This difference became less significant after adjustment for other factors in multivariate analysis. Father's education had a strong association with infant death independently from economic status. Not having prenatal care and non-availability of doctor's advice, indicating under utilization and poor accessibility of health care service, were independent risk factors of infant mortality.

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