Topographical Differences of Infant Mortality in Nepal: Demographic and Health Survey 2011

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Objective: Infant mortality is a major problem in Nepal, particularly for residents in remote rural areas. Lack of roads and absence of hospitals and health facilities in these areas contribute to the problem. The objectives of this study were to assess infant mortality rate in the three ecological zones of Nepal (Mountain, Hill, and Terai) and to examine the effect of distance to health facility on the association between ecological zone and infant mortality.

Methods: The Nepal Demographic and Health Survey (NDHS), conducted in 2011, was used to calculate infant mortality rates for the Mountain, Hill and Terai zones of Nepal. Logistic regression was used to assess odds ratio for the association between ecological zones and infant mortality by distance to health facility and potential confounders, including maternal age at first birth, education level, total children ever born, birth interval, and infant size at birth.

Results: Infant mortality was higher in the Mountain zone compared to the Terai zone (RR=1.4, p<0.05) and Hill zone (RR=1.2, p=0.299). The elevated risk of infant mortality in the Mountain zone compared to Terai zone was observed only among mothers who perceived distance to health facility as a major problem (RR=1.6, p<0.05). There was no difference in the infant mortality rates in the three ecologic zones among births to women who did not perceive distance as a big problem. In addition, a greater percent of women in the Mountain zone reported that distance to health facilities was a big problem (70.8%) compared to 60.0% in the Hill zone and 45.6% in the Terai zone.

Conclusions: The excess risk of infant mortality in the Mountain zone of Nepal is due to both 1) the higher risk of infant mortality in Mountain zone vs. Hill and Terai zones among those births where distance to health facilities was perceived to be a big problem, and 2) the higher proportion of births in the Mountain zone where distance to health facilities is perceived to be a big problem. These findings highlight the importance of accessibility of health services, particularly in the Mountain zone of Nepal. Going forward it will be important to develop intervention strategies and programs that will target remote populations.

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This study was supported by the US Department of Health and Human Services, Health Resources and Services Administration’s Maternal and Child Health Bureau (Title V, Social Security Act), grant #T76MC00011.