

In-depth analysis is needed to determine the pathways through which different BRAC inputs lead to an increased calorie consumption.

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Effect of Birth Weight, Intrauterine Growth Retardation and Prematurity on Infant Survival: a Prospective Study in the Slums of Dhaka City

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Objective: Study the effect of low birth weight (LBW), intrauterine growth retardation (IUGR), and prematurity on infant survival and on risk of deaths due to acute respiratory infections (ARI) and diarrhoea.

Methodology: A cohort of 1,677 infants born in a sample of slums in Dhaka city was enrolled and studied prospectively. One-hundred eighty deaths were reported to occur by 12 months of age. Cause of death was assigned based on data collected with a structured verbal autopsy questionnaire. Baseline data, and birth weights and lengths were measured at enrolment. Proportional hazards regression analysis was used for estimating the effect of the key explanatory variables while controlling for the effect of other variables.

Results: Overall, 21.7% of the deaths were due to ARI, 14.4% due to diarrhoea, and 5.6% due to both the causes. The proportional hazards regression analysis identified LBW, IUGR, and prematurity as important determinants of infant mortality. Preterm-IUGR infants were most at risk, especially for deaths due to ARI (RR=6.03). Diarrhoea deaths were 2.83 times more likely among the symmetric-IUGR infants compared to the non-IUGR infants. Compared to the normal-birth-weight infants, the LBW infants were at a greater risk of death due to all causes (RR=2.08), ARI (RR=2.52), and diarrhoea (RR=2.79). Although both prematurity and IUGR were associated with the increased risk of death, the timing of the effect varied with IUGR contributing to greater postneonatal mortality.

Conclusion: The results of the study show that size and maturity at birth are two important determinants of infant survival. The high prevalence of LBW and IUGR and the associated increased risk of deaths due to ARI and diarrhoea partially explain why these are still common causes of infant deaths in Bangladesh. Substantial improvements in infant survival, especially in the postneonatal period, can be expected with improved foetal growth and birth weight in this population.

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