



A Secondary Analysis of Maternal Factors Determining Low Birth Weight in Pakistan

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Dear Editor-in-Chief

Healthy infants have better chances of survival and prospects of appropriate physical and psychological development. Birth weight is globally used as an indicator of neonate's health status. According to World Health Organization, newborns with less than 2.5 kg are considered as having low birth weight (1). Empirical research reveals that maternal factors significantly determine the situation of infant's health during and after gestation. Pakistan ranks second among the countries with high percentage of low birth weights (2). Nevertheless, determinants of low birth weight are rarely studied in Pakistan.

We analyzed factors associated with low birth weight using data of 2593 mothers of reproductive age (15-49) sampled in MICS (Multiple Indicator Cluster Survey of Pakistan, 2011) conducted by Government of Punjab province with the support of United Nations Development Program (UNDP) and United Nations International Children's Emergency Fund (UNICEF). It is one of the largest surveys in the history of Pakistan with representative sample of 102,545 households in Punjab province with response rate of 97 percent. We carried out a secondary analysis to assess the association of maternal factors: intent of pregnancy (wanted at the time of conception, mistimed conception and unwanted), breast feeding, mode of delivery (abdominal/ vaginal), antenatal

care utilization (yes/ no), frequency of antenatal care utilization (less than or equals to four purposive visits, more than four times), antenatal checks (Blood pressure, Urine sample, Blood sample, weighted during pregnancy), mother's age, schooling and place of residence (urban, rural) with low weight birth. Statistical tests such as binary logistics regression analysis, independent sample t-test, ANOVA, chi square and multivariate analysis are performed using SPSS (21.0 Version).

Incidence of low birth weight is found to be 24.5%. Unintended pregnancy (OR=2.83; 95%CI=1.66-4.89), rural place of residence (OR=2.55; 95%CI=2.25-2.89), never attended school (OR=3.59; 95%CI=3.25-3.98), non-utilization of antenatal care (OR=1.46; 95%CI=.99-2.13) and not breastfeeding (OR=2.20, 95%CI=1.58-3.07) are significant risk factors associated with low birth weight. The younger mothers (15-29) have higher likelihood of low childbirth weight (OR=3.14; 95%CI=2.79-3.54). In multivariate analysis, adjusting variables for the wealth index, education and age of mothers; the rural place of residence (AOR=1.35; 95%CI=1.13-1.63) and abdominal delivery (AOR=1.24; 95%CI=1.04-1.49) are found significantly associated with low birth weight. Our results supported the association of maternal factors with infant's low birth weight in Pakistan (3-6). Efforts are needed to improve maternal lifestyle, nutrition and preferences

of using skilled antenatal care. To have population level effects, the basic knowledge of infant health risk factors should be provided to pregnant women. The interventions are needed to increase birth intervals and reducing unintended pregnancies by promoting the use of contraceptives. Innovative and comprehensive interventions at community and national level may improve infant birth weight in Pakistan.

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