

Factors associated with low birth weight babies in Jaffna, Sri Lanka

D. J. Nimantha and N. Varathan*

Department of Mathematics and Statistics, University of Jaffna, Jaffna, Sri Lanka

**Email: varathan10@gmail.com*

Low birth weight (LBW) is a major public health problem in many countries including Sri Lanka. It is a leading cause of prenatal and neonatal deaths resulting in severe short term and long term effect on babies. The World Health Organization specify LBW as a condition where the weight at birth of an infant is less than 2500 grams. Recent statistics from the Family Health Bureau website shows, in year 2016, about 11.2% of infants were born with low birth weight in Sri Lanka and nearly 9.25% infants were born with low birth weight in Jaffna district. This study aims to identify the significant factors associated with the low birth weight infants in Jaffna. The required data was obtained from the Jaffna Teaching Hospital during the period of January 1, 2016, to December 31, 2016, which consists the information of 420 low birth weight infants. The multiple linear regression technique was used to model the data and stepwise regression was applied to identify the best fitting model by means of Mean Square Error (MSE), Akaike Information Criteria (AIC) and Bayesian Information Criteria. Results from this study reveal that significant association among gestational age, maternal weight, fetal number, pregnancy experience, previous LBW history, and maternal body mass index (BMI) with low birth weight. Further, no significant association was found among baby's gender and mode of delivery with LBW in this study. The findings of this study may be useful to reduce the LBW by improving the knowledge of expecting mothers and practice for a healthy pregnancy in future.

Keywords: Gestational age, Low birth weight, Maternal weight, Maternal body mass index