Maternal Risk Factors Associated with Low Birth Weight Neonates in Pokhara, Nepal: A Hospital Based Case Control Study

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Abstract : Background: Low Birth weight (LBW) is defined as the weight at birth less than 2500 grams, irrespective of the period of their gestation. LBW is an important indicator of general health status of population and is considered as the single most important predictors of infant mortality especially of deaths within the first month of life that is birth weight determines the chances of newborn survival. Objective of this study was to identify the maternal risk factors associated with low birth weight neonates. Materials and Methods: A hospital based case-control study was conducted in maternity ward of Manipal Teaching Hospital, Pokhara, Nepal from 23 September 2014 to 12 November 2014. During study period 59 cases were obtained and twice number of control group were selected with frequency matching of the mother`s age with ± 3 years and total controls were 118. Interview schedule was used for data collection along with record review. Data were entered in Epi-data program and analysis was done with help of SPSS software program. Results: From bivariate logistic regression analysis, eighteen variables were found significantly associated with LBW and these were place of residence, family monthly income, education, previous still birth, previous LBW, history of STD, history of vaginal bleeding, anemia, ANC visits, less than four ANC visits, de-worming status, counseling during pregnancy, CVD, physical workload, stress, extra meal during pregnancy, smoking and alcohol consumption status. However after adjusting confounding variables, only six variables were found significantly associated with LBW. Mothers who had family monthly income up to ten thousand rupees were 4.83 times more likely to deliver LBW with CI (1.5-40.645) and p value 0.014 compared to mothers whose family income NRs.20,001-60,000. Mothers who had previous still birth were 2.01 times more likely to deliver LBW with CI (0.69-5.87) and p value 0.02 compared to mothers who did not has previous still birth. Mothers who had previous LBW were 5.472 times more likely to deliver LBW with CI (1.2-24.93) and p value 0.028 compared to mothers who did not has previous LBW. Mothers who had anemia during pregnancy were 3.36 times more likely to deliver LBW with CI (0.77-14.57) and p value 0.014 compared to mothers who did not has anemia. Mothers who delivered female newborn were 2.96 times more likely to have LBW with 95% CI (1.27-7.28) and p value 0.01 compared to mothers who deliver male newborn. Mothers who did not get extra meal during pregnancy were 6.04 times more likely to deliver LBW with CI (1.11-32.7) and p value 0.037 compared to mothers who getting the extra meal during pregnancy. Mothers who consumed alcohol during pregnancy were 4.83 times more likely to deliver LBW with CI (1.57-14.83) and p value 0.006 compared to mothers who did not consumed alcohol during pregnancy. Conclusions: To reduce low birth weight baby through economic empowerment of family and individual women. Prevention and control of anemia during pregnancy is one of the another strategy to control the LBW baby and mothers should take full dose of iron supplements with screening of haemoglobin level. Extra nutritional food should be provided to women during pregnancy. Health promotion program will be focused on avoidance of alcohol and strengthen of health services that leads increasing use of maternity services.

Keywords : low birth weight, case-control, risk factors, hospital based study

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