**Title:** Determinants of Low Birth Weight Among Newborns Delivered in Public Hospitals in Addis Ababa, Ethiopia: Case-Control Study

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**Background:** Birth weight predicts the infant's future health, growth, and viability. It is a good summary measure of many public health problems that include long-term maternal malnutrition, and poor health care during pregnancy. In developing countries, a birth weight below 2500 g is the leading cause of infant and child mortality. In Ethiopia, LBW had more than 13% prevalence. Determinants of low birth weight were yet to be completely understood. Therefore, this study investigates the predictors of low birth weight.

**Objective:** To identify determinants of low birth weight among newborns delivered at Addis Ababa public hospitals, 2019.

**Methods:** Institution-based unmatched case-control study was conducted among 279 (93 cases and 186 controls) newborns delivered from March 15 to April 30, 2019, in Addis Ababa public hospitals. Consecutive and systematic random sampling were employed to select cases and controls, respectively. Data were collected by interview using structured and pretested questionnaire. Finally, data were entered using Epi-data 4.2 and analysed using SPSS version 25. Factors having P-value < 0.25 in the bivariable logistic regression model were entered into a multivariable logistic regression model. Statistical significance was declared at P-value ≤ 0.05.
**Results:** From 279 selected participants, 270 new-borns (90 cases and 180 controls) participated. In logistic regression model, significant association was found with gestational hypertension [AOR 3.7 (95% CI 1.6– 8.7)], maternal height [AOR 5.7 (95% CI 1.7– 19.7)], incomplete antenatal visit [AOR 6.7 (95% CI 3.2– 15.3)], and low maternal educational status [AOR 3.8 (95% CI 1.3– 10.9)].

**Conclusion:** Predictors of low birth weight were maternal height < 155 cm, complications during pregnancy, gestational hypertension, and incomplete Antenatal visit, and low maternal education. Stakeholders would better work together to reduce low birth weight by preparing appropriate intervention and monitoring policy.

**Keywords:** low birth weight, determinants, case-control, Addis Ababa

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