

META-ANALYSIS: EFFECT OF ANEMIA IN PREGNANT WOMEN ON THE RISK OF INFANTS LOW BIRTH WEIGHT

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ABSTRACT

Background: Maternal nutritional deficiency during pregnancy affects the developmental process of the fetus, which subsequently influences the birth weight of the newborn. The fetus is highly dependent on maternal nutritional intake since malnutrition during pregnancy leads to different adverse birth outcomes like low birth weight (LBW). The purpose of this study was to examine the effect of anemia in pregnant women on the risk of infants low birth weight.

Subjects and Method: This systematic review and meta-analysis were conducted based on PRISMA diagram. The article search was conducted based on the eligibility criteria using the PICO model, i.e Population: pregnant women, Intervention: anemia, Comparison: without anemia, and Outcome: low birth weight. 4 electronic databases (Pubmed, Google Scholar, Research Gate, Science Direct, and Springe Link) were explored. The inclusion criteria were full text, cohort studies, published 2015 to 2021, and reported adjusted Odds Ratio. Meta-analysis was conducted using Review Manager 5.3.

Results: 10 cohort studies involved 92,281 pregnant women from Taiwan, Japan, India, Bangladesh, Iran, United States, United Kingdom were selected for meta-analysis. This study showed that anemia in pregnant women increased the risk of low birth weight (aOR= 1.35; 95% CI= 0.98 to 1.60; p<0.001), with I²= 88%.

Conclusion: Anemia in pregnant women increases the risk of low birth weight.

Keywords: anemia, pregnancy, low birth weight, meta-analysis

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