Preeclampsia During Pregnancy and Low Birth Weight in Indonesia: A Meta-analysis

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Abstract

Preeclampsia is a pregnancy disorder characterized by hypertension, edema, and proteinuria. Preeclampsia is still one of the main causes of maternal death in Indonesia. Preeclampsia causes fetal growth to be stunted due to unbalanced nutrition. Preeclampsia can cause insufficient blood to reach the placenta, so the intake of nutrients and oxygen to the fetus is reduced, affecting its weight. The long-term impact is that the infant is low-birth-weight. The study aims to determine the estimated combined effect of the relationship between preeclampsia in pregnant women and the incidence of LBW. This study uses a meta-analysis method, articles taken from Google Scholar with criteria published in 2012-2024, full text with a case-control study, cross-sectional, and multivariate analysis, and increasing odds ratio (OR). Articles were collected using the PRISMA diagram and analyzed using the Review Manager 5.4 application with a random effect analysis model. This study analyzed 36 results with a cross-sectional (OR 95% CI: 2.16: 1.51-3.08) and 22 results with a control case design (OR 95% CI: 3.15: 1.76-5.64) showed that there was a significant association between preeclampsia in pregnant women with the incidence of low-birth-weight infants (p-value 0,00001<0.05). Pregnant women with high levels of preeclampsia are at higher risk of giving birth to infants with low birth weight (OR 95% CI: 4,66: 1,76-12,31, p-value<0,00001).

Keywords

Low-birth-weight (LBW), Meta Analysis, Odd Ratio, Preeclampsia, Random Effect