

EFFECT OF CALCIUM SUPPLEMENTATION ON INCREASING IN INFANTS BODY WEIGHT: A META-ANALYSIS

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ABSTRACT

Background: Maternal nutritional status is closely associated with the infants health. Previous study reviewed the association of birth outcomes with maternal nutritional requirements during pregnancy, such as fatty acids, protein, folate, vitamin C, vitamin D, iron, calcium, magnesium, and zinc, and revealed that an adequate maternal nutrition reduces the risk of adverse birth outcomes. The purpose of this study was to examine effect of calcium supplementation on increasing in infants body weight.

Subjects and Method: This was a systematic review and meta-analysis with the following PICO: Population= infants with low birth weight, Intervention: calcium supplementation, Comparison: placebo, Outcome: body weight. The articles used in this study were obtained from three databases, i.e Google Scholar, Pubmed, Science Direct and Springerlink. Keywords to search for articles "calcium supplementation" OR "calcium" AND "pre-eclampsia" OR "eclampsia" AND "pregnant woman" AND "pregnancy". The articles included are full-text, English and Indonesian, randomized controlled trial from 2015 to 2020, and reporting Mean and SD values. The selection of articles is done by using PRISMA flow diagram. Articles were analyzed using the Review Manager 5.3 application.

Results: A total of 7 randomized controlled trials from India, Nepal, Pakistan, Bangladesh, and Malaysia, selected for meta-analysis. This study showed that calcium supplementation increased infants body weight 0.38 units and it was statistically significant (SMD= 0.38; 95% CI= 0.23 to 0.52; $p < 0.001$).

Conclusion: Calcium supplementation increases the body weight in infants.

Keywords: calcium, body weight, infants, meta-analysis.

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