Association between pre-pregnancy overweight and obesity and children's neurocognitive development: A systematic review and meta-analysis of observational studies
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Background: Obesity and overweight during pregnancy have been negatively associated with fetal and offspring neurodevelopment. The aim of this systematic review and metaanalysis was to assess the effect of the relationship between pre-pregnancy overweight and obesity with children's neurocognitive development.

Methods: We systematically searched MEDLINE, EMBASE, the Cochrane Library and the Web of Science databases from their inception through February 2017 for follow-up studies comparing the relationship between pre-pregnancy weight status and children's cognition. The Mantel-Haenszel fixed-effects method was used to calculate pooled effect size (ES) values and their corresponding 95% confidence intervals (CIs) comparing children's neurocognitive development between pre-pregnancy normal weight, as reference, with overweight and obesity categories.

Results: Fifteen articles were included in the systematic review, and nine of them in the meta-analysis. The pooled ES values for overweight and obese mothers were -0.02 (95% CI: -0.05 to 0.02) and -0.06 (95% CI: -0.09 to -0.03), respectively. The pooled ES for the relationship between pre-gestational excess weight (overweight and obesity) and children's neurocognitive development was -0.04 (95% CI: -0.06 to -0.02).

Conclusions: Pre-pregnancy obesity might have negative consequences on the neurocognitive development of offspring. © The Author 2017; Published by Oxford University Press on behalf of the International Epidemiological Association. All rights reserved.

Children
Cognition

Cognitive function

Neurocognitive development

Obesity

Pregnancy

child health

literature review

meta-analysis

nervous system disorder

obesity

observational method

pregnancy

Article

child development

Cochrane Library

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follow up

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Medline

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