

# High maternal BMI during pregnancy unlikely to cause fatness in childhood and adolescence

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There is little evidence to support any long-term impact of maternal body mass index (BMI) in pregnancy on a child's risk of fatness in

childhood and adolescence, according to a new study published in *PLOS Medicine* by Rebecca Richmond of the University of Bristol, UK, and colleagues.

Research has shown that a mother's BMI during [pregnancy](#) is associated with greater birth size of her offspring. However, whether this association continues through childhood and is mediated by processes that occur during gestation—such as effects of circulating glucose and lipids levels—had been unclear. In the new study, the researchers used body mass and genetic information on 6,057 mother-offspring pairs from two prospective birth cohort studies. In one cohort, the offspring's BMI was measured around age 6; in the other it was taken multiple times between ages 7 and 18.

While the researchers found associations between maternal BMI before pregnancy and offspring BMI at all ages, these associations were largely explained by transmission of genes associated with fatness. When a weighted genetic risk score was integrated into the analysis, the remaining association between pre-pregnancy BMI of a mother and her offspring's childhood BMI was nearly null. The study had limited power for some sensitivity tests, relied on self-reported pre-pregnancy BMI, and did not include any study of weight gain during pregnancy.

"These findings suggest that [public health interventions](#) directed at all family members and at different stages of the life course are likely to be important and are potentially more likely to halt the obesity epidemic than a focus on maternal overweight and obesity status in pregnancy," the authors say.

**More information:** Richmond RC, Timpson NJ, Felix JF, Palmer T, Gaillard R, McMahon G, et al. (2017) Using Genetic Variation to Explore the Causal Effect of Maternal Pregnancy Adiposity on Future Offspring Adiposity: A Mendelian Randomisation Study. *PLoS Med*

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