

Systematic review shows risk of a child developing overweight or obesity is more than trebled by maternal obesity prior

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New research presented at this year's European Congress on Obesity (ECO) in Glasgow, Scotland (28 April-1 May) reveals that the risk of a child becoming overweight or obese is more than trebled by maternal obesity prior to getting pregnant. The study is by Dr. Nicola Heslehurst, Institute of Health & Society, Newcastle University, UK, and colleagues.

Efforts to prevent [childhood obesity](#) are recognised as being vital for public health, [global health](#), and [clinical practice](#), with a particular emphasis on early-life intervention. In order to inform clinical practice and [public health](#) policy, there needs to be an understanding of how the body mass index (BMI) of a mother can impact the risk of obesity faced by the child. This in turn can provide estimates of the potential health gains from channelling resources into early interventions focused on mothers to be.

The authors used five databases of scientific papers as their sources of data for the study (MEDLINE, Child Development & Adolescent Studies, CINAHL, Embase, PsycInfo), and looked for research into the association between maternal and child BMI or equivalent z-score (a numerical measure of how a value relates to the mean for that sample). Mothers were grouped using BMI categories: obese (BMI of 30 kg/m² or higher), and overweight (BMI between 25 and 30). Children were grouped using BMI or z-score percentile categories: obese (>95th percentile), overweight or obese (>85th percentile) and overweight

(85-95th percentile). Statistical analyses were then performed to explore the relationship between maternal weight and that of their child.

The researchers found that when a mother had obesity prior to becoming pregnant, the odds of her child also developing obesity was 3.64 times greater than for a mother whose weight was in the 'recommended' BMI range (18.5-25). When mothers had an overweight BMI, the odds of the child having obesity were 1.89 times higher.

When the team looked at children with either overweight or obesity (as a one combined group), they found that the odds of ending up in this group were 2.69 and 1.65 times higher when the mother had obesity or overweight respectively. For children in the overweight category, their odds of being so were 1.80 times higher if their mother had obesity, and 1.41 times higher if she had an overweight BMI prior to pregnancy.

The authors conclude: "This research has identified a more than three-times increased risk of child obesity when mothers have preconception obesity. This data provides substantial evidence for the need to develop interventions commencing prior to conception in order to support women of childbearing age with weight management and contribute towards prevention of intergenerational [obesity](#)."

Provided by European Association for the Study of Obesity

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