

A mother's ultra-processed food intake may be linked to obesity risk in her children

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A mother's consumption of ultra-processed foods appears to be linked to an increased risk of overweight or obesity in her offspring, irrespective of other lifestyle risk factors, suggests a U.S. study published by *The*

BMJ today.

The researchers say further study is needed to confirm these findings and to understand the factors that might be responsible.

But they suggest that mothers might benefit from limiting their intake of ultra-processed foods, that [dietary guidelines](#) should be refined, and financial and social barriers removed to improve nutrition for women of childbearing age and reduce childhood obesity.

According to the World Health Organization, 39 million children were overweight or obese in 2020, leading to increased risks of heart disease, diabetes, cancers, and early death.

Ultra-processed foods, such as packaged baked goods and snacks, fizzy drinks and sugary cereals are commonly found in modern Western style diets and are associated with [weight gain](#) in adults. But it's unclear whether there's a link between a mother's consumption of ultra-processed foods and her offspring's body weight.

To explore this further, the researchers drew on data for 19,958 children born to 14,553 mothers (45% boys, aged 7-17 years at study enrollment) from the Nurses' Health Study II (NHS II) and the Growing Up Today Study (GUTS I and II) in the United States.

The NHS II is an [ongoing study](#) tracking the health and lifestyles of 116,429 U.S. female registered nurses aged 25-42 in 1989. From 1991, participants reported what they ate and drank, using validated food frequency questionnaires every four years.

The GUTS I study began in 1996 when 16,882 children (aged 8-15 years) of NHS II participants completed an initial health and lifestyle questionnaire and were monitored every year between 1997 and 2001,

and every two years thereafter.

In 2004, 10,918 children (aged 7-17 years) of NHS II participants joined the extended GUTS II study and were followed up in 2006, 2008, and 2011, and every two years thereafter.

A range of other potentially influential factors, known to be strongly correlated with [childhood obesity](#), were also taken into account. These included mother's weight (BMI), [physical activity](#), smoking, living status (with partner or not), and partner's education, as well as children's ultra-processed food consumption, physical activity, and sedentary time.

Overall, 2,471 (12%) children developed overweight or obesity during an average follow-up period of 4 years.

The results show that a mother's ultra-processed food consumption was associated with an increased risk of overweight or obesity in her offspring. For example, a 26% higher risk was seen in the group with the highest maternal ultra-processed food consumption (12.1 servings/day) versus the lowest consumption group (3.4 servings/day).

In a separate analysis of 2,790 mothers and 2,925 children with information on diet from 3 months pre-conception to delivery (peri-pregnancy), the researchers found that peri-pregnancy ultra-processed food intake was not significantly associated with an increased risk of offspring overweight or obesity.

This is an [observational study](#), so can't establish cause; and the researchers acknowledge that some of the observed risk may be due to other unmeasured factors, and that self-reported diet and weight measures might be subject to misreporting.

Other important limitations include the fact that some offspring

participants were lost to follow-up, which resulted in a few of the analyses being underpowered, particularly those related to peripregnancy intake, and that mothers were predominantly white and from similar social and economic backgrounds, so the results may not apply to other groups.

Nevertheless, the study used data from several large ongoing studies with detailed dietary assessments over a relatively long period, and further analysis produced consistent associations, suggesting that the results are robust.

The researchers suggest no clear mechanism underlying these associations and say the area warrants further investigation.

Nevertheless, these data "support the importance of refining dietary recommendations and the development of programs to improve nutrition for women of reproductive age to promote offspring health," they conclude.

More information: Maternal consumption of ultra-processed foods and subsequent risk of offspring overweight or obesity: results from three prospective cohort studies, *The BMJ* (2022). [DOI: 10.1136/bmj-2022-071767](https://doi.org/10.1136/bmj-2022-071767)

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