

Stress during pregnancy can affect child's diet

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Mothers' exposure to stress during pregnancy could have long-term detrimental effects on their children's diets, and thereby on health conditions related to diet—such as increased levels of obesity and

obesity-related diseases—according to new research from Michele Belot, professor in the Cornell University Department of Economics.

"Being exposed to stressful events when pregnant seems to impact the dietary preferences and diet of the children in a negative way, and for reasons that are actually aside from what the mother is eating herself," says Belot, who has a joint appointment in the School of Industrial and Labor Relations and College of Arts and Sciences. "So that means that we need to think about how to help pregnant women manage stress in a way that could be beneficial for the mother and also for the child."

In their paper published in *Nutrition*, Belot and her co-authors found that higher than average stress during pregnancy is linked with significantly less healthy food preferences for their children, as well as a weaker preference for sour and bitter foods.

"Stress during pregnancy could have long-term detrimental effects on the next generation in terms of a less healthy diet and subsequent health implications associated with these effects, such as higher rates of obesity and obesity-related diseases," wrote the authors, which include Nicoli Vitt (University of Bristol), Martina Vecchi (Penn State) and Jonathan James (University of Bath). "As a consequence, we advocate for more research into understanding the sources of maternal stress and the extent to which these can be altered. Prenatal care and preconception counseling could be critical to develop preventive strategies to improve public health."

For the study, the researchers selected 213 mothers of low socioeconomic status living in the area of Colchester, United Kingdom, with children aged between 2 and 12 years old. Their stress levels during pregnancy were assessed using retrospective self-reporting. Specifically, they asked whether mothers experienced one or more of the following life events during the pregnancy with their child: death of close family

member or close friend, changes or difficulties in their relationship, legal issues, changes or difficulties in their family life, health issues, changes or difficulties in their or their spouse's employment, financial issues, changes in their habits, other potentially stressful events.

For each stressor, mothers were asked to rank how stressful the event was on a scale of one to 10.

The researchers then examined the healthiness of the diet for each participant's youngest child. They also studied the child's preferences for the five basic tastes—sour, salty, umami, bitter and sweet.

Their results found "a sizable negative association between in utero exposure to stress and the healthiness of food preferences and diet of the child." More specifically, they found in utero exposure to stress to be negatively associated with the child's liking of sour and [bitter foods](#).

This effect does not appear to be channeled through the mother's own [diet](#) either during or after the pregnancy.

"I'm a great proponent of policies geared towards supporting people with well-being and mental health programs to try and reduce the [stress](#) that people are facing on a daily basis," says Belot. "Stress is not good for many reasons, and it's something I've now written a few papers about.

"Pregnant mothers from low socioeconomic backgrounds might not have a stable workplace providing wonderful mental health and well-being programs. So, it might be beneficial to run them through community based programs. In the UK there are already many community and local organizations that do try to support low-income families, so adding mental health and well-being programs could be really beneficial. We should really try to have more ways to help mothers and to support mothers during their [pregnancy](#)."

More information: Nicolai Vitt et al, Maternal stress during pregnancy and children's diet: Evidence from a population of low socioeconomic status, *Nutrition* (2021). [DOI: 10.1016/j.nut.2021.111423](https://doi.org/10.1016/j.nut.2021.111423)

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