

High sugar levels during pregnancy could lead to childhood obesity

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Credit: University of Tennessee at Knoxville

The children of women who have high glucose blood levels during pregnancy, even if their mothers are not diagnosed with gestational diabetes, are at an increased risk of developing obesity in childhood,

according to a new study published in *PLOS One*.

The study was coauthored by Samantha Ehrlich, professor of public health at the University of Tennessee, Knoxville and fellow researchers at Kaiser Permanente Northern California.

For the research, scientists analyzed the data of more than 40,000 [pregnant women](#) who delivered babies between 1995 and 2004 in the Kaiser Permanente Northern California health care system. They also considered the data of the children, whom they followed until 5 to 7 years of age.

In the United States, pregnant women get a [blood glucose](#) screening test between weeks 24 and 28. If the test shows elevated [blood](#) glucose levels, an additional test is then done to determine whether the woman has [gestational diabetes](#) mellitus, or GDM.

However, Ehrlich and team found that once elevated levels of blood glucose are found on the screening test, even if the blood glucose is not elevated enough for a diagnosis of gestational diabetes, the children are at higher risk of developing obesity between 5 to 7 years of age. In this scenario, the risk increases by 13 percent when compared to women with normal blood glucose levels on the screening test.

"And if the woman is indeed diagnosed with gestational diabetes, the risk of the child developing obesity increases by 52 percent," according to Ehrlich.

Additionally, researchers also found that if the mother has a normal body mass index (BMI), elevated blood [glucose](#) levels during pregnancy were no longer associated with the development of [childhood obesity](#).

"This information is important because it suggests that we may be able to

prevent childhood obesity in two ways: by helping mothers to achieve a normal BMI before they become pregnant, and by reducing hyperglycemia during the pregnancy," Ehrlich said.

More information: Samantha F. Ehrlich et al. Diagnostic thresholds for pregnancy hyperglycemia, maternal weight status and the risk of childhood obesity in a diverse Northern California cohort using health care delivery system data, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0216897](https://doi.org/10.1371/journal.pone.0216897)

Provided by University of Tennessee at Knoxville

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