

Healthy lifestyle could prevent nearly half of all diabetic pregnancies

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Nearly half of all cases of diabetes during pregnancy, known as gestational diabetes, could be prevented if young women eat well, exercise regularly and stop smoking before and during pregnancy, finds a study published in the *BMJ* today.

Gestational diabetes is a common [pregnancy](#) complication that has long-term adverse health implications for both mothers and babies.

Several modifiable risk factors before pregnancy have been identified over the past decade. These include maintaining a healthy weight, consuming a [healthy diet](#), [regular physical activity](#), and not smoking.

So a team of researchers based in the United States set out to examine the effect of these "low risk" lifestyle factors on the risk of [gestational diabetes](#) – and measure the portion of the condition that may be preventable through adhering to them.

The findings are based on comprehensive monitoring of more than 14,000 healthy [women](#) in the United States who were taking part in the Nurses' Health Study II between 1989 and 2001.

Information on weight, diet, level of physical activity and [smoking status](#) was collated and cases of gestational diabetes were validated by medical records in a previous study.

A mathematical formula - the population attributable risk percent

(PAR%) – was used to estimate the proportion of gestational diabetes that hypothetically would not have occurred if all pregnancies were in the low risk group.

Gestational diabetes was reported in 823 pregnancies. The strongest individual risk factor for gestational diabetes was pre-existing overweight or obesity - having a body mass index (BMI) above 25 before pregnancy. Women with a BMI above 33 were over four times more likely to develop gestational diabetes than women who had a normal BMI before pregnancy.

Women who had a combination of three low risk factors (not smoking, engaging in regular [physical activity](#), and being a [healthy weight](#)) were 41% less likely to develop gestational diabetes compared with other pregnant women.

This figure rose to 52% if they began their pregnancy at normal weight. Importantly though, not smoking, eating well, and exercising were associated with substantial benefit even for women who were overweight or obese before pregnancy.

Compared with women who did not meet any of the low risk lifestyle factors, those meeting all four criteria had an 83% lower risk of developing gestational diabetes.

The population attributable risk percentage of the four risk factors in combination (smoking, inactivity, overweight, and poor diet) was 47.5% - indicating an estimated 48% of all gestational diabetes pregnancies could have been avoided if women adhered to all four pre-pregnancy lifestyle factors.

Although it is always challenging to change behavior/lifestyle, the time before and during pregnancy "could represent an opportunity to change

diet and lifestyle as these women might be particularly motivated to adhere to advice to improve pregnancy and/or birth outcomes," they conclude.

This study provides us with valuable information, says Associate Professor Sara Meltzer at McGill University, in an accompanying editorial.

The next big question is do we encourage all women planning pregnancy to adopt these healthier lifestyles or do we limit our attempts to those presently at higher risk, she asks?

Lifestyle modification is notoriously difficult, but not impossible, she writes. But when combined with aggressive screening, diagnosis, and treatment, "perhaps we can help to slow or even reverse current trends in obesity, metabolic disease, and cardiovascular risk that continue to rise steadily as part of a 'diabetes begets diabetes' cycle."

Although successful modification of diet, exercise, body weight, and smoking habits are not easy for anyone, these findings "should give health professionals and women planning a pregnancy the encouragement they need to try even harder," she concludes.

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