

# Benefits of quitting cigarettes during pregnancy exceed dangers of weight gain, shows study

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Quitting cigarettes during pregnancy may increase obesity-related complications for both parent and baby, but Rutgers Health researchers found that reductions in stillbirths and premature deliveries outweigh

these dangers and speculated that nutrition counseling could increase the benefits.

"Cigarettes are a powerful appetite suppressant, so quitters tend to gain considerable weight, particularly when they are still going through withdrawal," said Morgan Dunn, a final year obstetrics and gynecology resident at Rutgers Robert Wood Johnson Medical School and lead author of the study.

"The [health benefits](#) of quitting obviously exceed the dangers of extra weight for most people, but we wanted to see if that was true in pregnancy, where excessive [weight gain](#) poses significant dangers to both parent and child."

"We did find that quitting smoking during pregnancy was associated with significant extra weight gain above and beyond the weight gain others experienced during pregnancy, and we also found that quitting was associated with a significant increase in complications related to weight and blood pressure," said Dunn, who will be staying with the medical school for a three-year fellowship.

"However, the benefits in other areas more than made up for any problems related to weight gain, so we recommend that doctors advise patients to quit while offering nutrition counseling that might minimize the weight gain."

The [study](#), which appears in *Hypertension*, analyzed pregnancy records from more than 22 million pregnancies to compare outcomes among smokers, nonsmokers and those who quit smoking early in pregnancy.

Hypertensive disorders of pregnancy—a catch-all term for complications related to high blood pressure—occurred in 6.8 percent of non-smokers, 7 percent of steady smokers, and 8.6 percent of those who quit smoking

when they learned they were pregnant.

The risk was elevated even in quitters who didn't gain excessive weight during pregnancy, but greater weight gain and greater total body mass index both increased risks further still. More than 17 percent of quitters who exceeded weight-gain recommendations and became obese suffered hypertensive disorders.

Such complications can pose significant health risks in pregnancy, but quitting was associated with a more than 80 percent reduction in the rate of stillbirth, which was 0.4 percent in both nonsmokers and quitters and 2.3 percent in persistent smokers. Persistent smokers were also more likely to deliver before completing 37 weeks of pregnancy. The rate of preterm delivery was 14.3 percent for persistent smokers, 7.7 percent for nonsmokers, and 8.1 percent for quitters.

The study arose from a contrarian conjecture by its senior author, Todd Rosen, the director of Maternal-Fetal Medicine at Rutgers Robert Wood Johnson Medical School. Rosen has seen such a steady rise in weight-related complications in pregnancy that he thought the drawbacks of weight gain might exceed the many health benefits of quitting.

Rosen posited the theory to his colleague Cande Ananth, the [medical school](#)'s chief of the Division of Epidemiology and Biostatistics in the Department of Obstetrics, Gynecology, and Reproductive Sciences, who had both the relevant data and the analytic skills to help test it. Ananth's previous work has found that, after decades of decline, the incidence of stroke and [heart disease](#) is beginning to rise again in younger Americans, possibly because of rising obesity.

Still, even Ananth found Rosen's theory unlikely.

"Cande thought it obvious that the massive benefits of cessation would

dwarf any weight-related drawbacks, even if the major weight gains came during [pregnancy](#)," Rosen said. "The analysis proved him right, though we did find weight-related negatives that might be mitigated via support like nutrition counseling. The goal is for patients to get all the benefits and none of the drawbacks."

**More information:** Morgan C. Dunn et al, Maternal Smoking and Risk of Hypertensive Disorders of Pregnancy: Effect Modification by Body Mass Index and Gestational Weight Gain, *Hypertension* (2024). [DOI: 10.1161/HYPERTENSIONAHA.123.22025](https://doi.org/10.1161/HYPERTENSIONAHA.123.22025)

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