

In pregnancy, diabetes-obesity combo a major red flag

July 25 2011

Type 2 diabetes and obesity in pregnancy is a daunting duo, according to new research published this month in *The Journal of Maternal-Fetal and Neonatal Medicine*. The study shows that both conditions independently contribute to higher risks, opening the door to a wide range of pregnancy, delivery and newborn complications.

Study authors say the findings are important because obesity and [type 2 diabetes](#) are skyrocketing in women of childbearing age. A study in [The Journal of the American Medical Association](#) reports that between 2007 and 2008 the [prevalence of obesity](#) among [adult women](#) in the United States was more than 35 percent. A report from the [Centers for Disease Control and Prevention](#) states that approximately 11 percent of women above the age of 20 had [diabetes](#) in 2010.

Loralei Thornburg, M.D., senior study author and a high-risk [pregnancy](#) expert at the University of Rochester Medical Center, emphasizes that the research is needed now more than ever. "We've never seen the degree of obesity and type 2 diabetes in women that we are seeing right now, because for a very long time diabetes was a disease of an older population, so we rarely dealt with it in prenatal care. We hope this new knowledge will help physicians better understand and care for this rapidly expanding group of high-risk women."

While numerous studies have established that obesity, in the absence of diabetes, is associated with problems in pregnancy – preterm birth, birth trauma, blood loss and a prolonged hospital stay, to name a few – less is

known about type 2 diabetes and what causes difficulties when the two conditions coexist. Researchers from Rochester wanted to determine if obesity alone accounts for the increased risks in this "dual-diagnosis" group, or if diabetes plays a role as well.

To determine the influence of obesity and type 2 diabetes when the conditions coexist in pregnancy, Thornburg and lead study author Kristin Knight, M.D., used clinical records and the hospital's birth certificate database to identify 213 pairs of women who delivered babies at the Medical Center between 2000 and 2008. Each pair included a diabetic and a non-diabetic patient with approximately the same pre-pregnancy body mass index (BMI). The majority of women in the study were overweight, obese or morbidly obese.

"We matched the pairs pound for pound, because if obesity was the main problem, we'd see similar outcomes between women, whether they had diabetes or not. But if we saw different outcomes between pairs, we'd know the diabetes was impacting outcomes as well," said Thornburg.

Using mathematical models and controlling for outside factors, such as age and tobacco use, researchers found that the patients with type 2 diabetes had overall worse pregnancy, delivery and newborn outcomes than their BMI-matched counterparts. Specifically, diabetic patients had higher rates of preeclampsia, cesarean delivery, shoulder dystocia, preterm delivery, large for gestational age infant, fetal anomaly and admission to the neonatal intensive care unit.

"Women and their physicians need to be aware that each condition on its own increases risk in pregnancy, so when they coexist the situation is even more worrisome," said Knight, a maternal fetal medicine fellow at Rochester. "Pregnancy is a time of great change, and fortunately many women are very open to making modifications during this period in their life. Anything a woman can do to improve her condition, from

controlling blood sugar and exercising, to eating nutritious foods and maintaining an optimal weight, will help her deliver a healthier baby."

Knight originally focused her research on the effects of type 1 and type 2 diabetes on pregnancy. In a previous study, she found that [women](#) with type 2 diabetes, most of whom were also obese, had poorer outcomes. Consequently, her research turned to obese, type 2 diabetics and their experiences in pregnancy.

"If a woman enters pregnancy obese, but hasn't developed type 2 diabetes, she is in a better place than if she had both," concluded Thornburg.

Provided by University of Rochester Medical Center

Citation: In pregnancy, diabetes-obesity combo a major red flag (2011, July 25) retrieved 3 May 2024 from <https://medicalxpress.com/news/2011-07-pregnancy-diabetes-obesity-combo-major-red.html>

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