

Excess maternal weight before and during pregnancy can result in larger babies

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Excess weight in pregnant women, both before pregnancy and gained during pregnancy, is the main predictor of whether mothers will have larger than average babies, which can result in increased risk of cesarean section or trauma during delivery, states a study published in *CMAJ (Canadian Medical Association Journal)*.

Women with diabetes in pregnancy or gestational diabetes are at increased risk of having a large-for-gestational-age baby. Called macrosomia, it is defined as an infant whose weight is above the 90th percentile of Canadian fetal growth curves, or more than 4 kg. Current clinical practice focuses on managing glucose levels in women with these conditions to reduce the risk of having larger babies. Recent studies have shown a link between maternal glucose levels in women without gestational diabetes and the risk of having a larger baby.

Proposed new criteria suggest lowering the glucose levels for diagnosing gestational diabetes to help identify women who might be at risk of having a large-for-gestational-age baby.

To determine the effects of a variety of maternal factors such as obesity, glucose levels and lipid levels on infant [birth weight](#), researchers from Mount Sinai Hospital, The Hospital for [Sick Children](#) (SickKids), University of Toronto, and St. Michael's Hospital, Toronto, conducted a study with 472 women - 368 with normal glucose tolerance and 104 with impaired glucose tolerance.

They found that [excess weight](#) before pregnancy and the amount of weight gain during pregnancy were the strongest metabolic predictors of whether a woman would have a large-for-gestational-age baby. Elevated [glucose levels](#) had a relatively modest impact as did lipid levels.

"Gestational impaired glucose tolerance was not a significant independent predictor of having a large-

for-gestational-age infant," writes Dr. Ravi Retnakaran, Mount Sinai Hospital, with coauthors. "Similarly, none of the lipid measures was independently associated with birth weight or large-for-gestational-age infant. These data suggest that maternal weight and its associated circulating factors have a greater impact on infant birth weight than do mild glucose intolerance and [lipid levels](#) in women without gestational diabetes."

"In the context of the current obesity epidemic, these data support the importance of targeting healthy body weight in young women as a strategy for reducing the risk of excessive [fetal growth](#) and infant macrosomia," conclude the authors. "Furthermore, these findings suggest that, in the care of overweight or obese women in pregnancy, closer monitoring of weight gain during pregnancy may be warranted."

In a related commentary, Dr. Edmond Ryan, University of Alberta, writes, "Recently proposed criteria [from the International Association of Diabetes in Pregnancy Study Groups] for gestational diabetes will result in the condition being diagnosed in nearly a fifth of all pregnancies"; . Retnakaran and colleagues report that, among women who did not have gestational diabetes according to current diagnostic criteria, impaired glucose tolerance was not a significant independent predictor of having a large-for-gestational-age infant."

Dr. Ryan cautions that, "With the stroke of a consensus pen, nearly one-fifth of [pregnant women](#) - more than double the current incidence in Canada - would be labelled as having [gestational diabetes](#) if the criteria of the International Association of Diabetes in Pregnancy Study Groups were to be adopted." He suggests that targeting weight issues may be a more efficient use of health care resources.

More information:

Research:

www.cmaj.ca/lookup/doi/10.1503/cmaj.111154

Commentary:

www.cmaj.ca/lookup/doi/10.1503/cmaj.120682

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