

Low birth weight linked to higher incidence of type 2 diabetes in African American women

August 21 2014

African American women born at a low or very low birth weight may be at a higher risk for developing type 2 diabetes. The findings, which appear in *Diabetes Care*, may explain in part the higher occurrence of type 2 diabetes in African American populations, which has a high prevalence of low birth weight.

Researchers from Boston University's Slone Epidemiology Center followed more than 21,000 women enrolled in the Black Women's Health Study over the course of 16 years, analyzing characteristics such as birth weight, current age, family history of diabetes, [body mass index](#), physical activity and socioeconomic status.

The study results indicate that women with low birth weight had a 13 percent higher chance of developing type 2 diabetes than those with normal birth weight, and those with very low birth weight had a 40 percent higher chance of developing the disease. Low birth weight was defined as less than 2.5 kg, and very low birth weight as less than 1.5 kg. It appeared that body size did not play a role in this relationship as there was a clear association between birth weight and diabetes even for women who were not obese.

Although previous studies have shown that birth characteristics such as birth weight can have a major impact on adult health, this is the first large-scale study to demonstrate this effect in an African American

population.

"African American women are at increased risk of developing type 2 diabetes, and also have higher rates of [low birth weight](#) than white women," said Edward Ruiz-Narváez, ScD, assistant professor of epidemiology at Boston University School of Public Health. "Our study shows a clear relationship between birth weight and diabetes that highlights the importance of further research for this at-risk group."

According to the researchers, there are two leading hypotheses for the phenomenon. The first, known as the "thrifty phenotype hypothesis," states that once the newborn body perceives that it lacks nutrition, it reprograms itself to absorb more nutrition, causing an imbalance in metabolism that eventually leads to type 2 [diabetes](#). The second, known as the "fetal insulin hypothesis," states that genes that are responsible for impaired insulin secretion also have a negative effect on [birth weight](#). Some of these genes have been discovered in recent studies, supporting the latter hypothesis.

Provided by Boston University Medical Center

Citation: Low birth weight linked to higher incidence of type 2 diabetes in African American women (2014, August 21) retrieved 10 April 2024 from <https://medicalxpress.com/news/2014-08-birth-weight-linked-higher-incidence.html>

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