Diabetes and Pregnancy: The Not-So-Sweet Story

By Patricia Markland Cole, MPH, MotherToBaby Massachusetts

November is Diabetes Awareness Month and both of my parents in recent years have been diagnosed with Type 2 diabetes (a preventable form of diabetes where the body can no longer control the amount of sugar in the blood), so it's a particularly relatable month for me. Because "the apple does not fall far from the tree" the discussion with my doctor has started to change – Now I am at risk., Therefore, if I become pregnant, a family history of diabetes would put me at increased risk of developing diabetes during pregnancy (called gestational diabetes mellitus, or GDM). I have to think more about living a healthy lifestyle to lower my risk.

Here's what we know about GDM:

- GDM is still a common public health problem and could impact 1 in 10 women. It has been considered a national health priority.
- GDM poses an elevated chance for pregnancy complications such as:
    - Preeclampsia (high blood pressure, swelling and protein in the urine)
    - Preterm birth (birth before 37 weeks of pregnancy)
    - C-sections
    - Development of Type 2 Diabetes (35-70% of women who had GDM will develop Type 2 Diabetes 10 to 15 years after pregnancy; 15-25% will develop it within 1 to 2 years after pregnancy)
    - Renal disease (problems with kidney function)
    - Cardiovascular Disease (problem with the heart and blood flow)
- GDM also poses increased short- and long-term risks for the infant, including:
    - Increasing the chance of complications at birth
    - Difficulty breathing
    - Large in birth size and weight (over 10 pounds)
    - Increased chance of developing Type 2 diabetes
    - Childhood Obesity

There are quite a few risk factors for GDM that cannot be changed such as age, family history of diabetes, and race; those over age 35, those with a family history of diabetes, and non-whites are at higher risk. However, some risk factors are changeable like weight, diet and exercise. The funny or peculiar thing about diabetes and pregnancy is that while there are many reports of how beneficial diet, exercise and maintaining a healthy weight are in reducing general health risks, the studies that specifically examined the effectiveness of reducing the rate of GDM during pregnancy through lifestyle changes versus routine or standard care have been mixed. Sometimes the results showed that it did reduce the rate of GDM, but other times it did not. Surprising, right? Here are some of those mixed results:

For women who did not have the typical risk factors, researchers studying diet and exercise interventions did not always find a difference in the rate of GDM between comparison groups. It has been stated that the risk of GDM was four to eight times higher in women who were overweight or obese. However, methods to reduce excessive weight gain during pregnancy found no significant change in GDM and increased physical activity had only a small effect. However not all of the results were mixed; some studies actually had strong results for other health benefits. For example, one study showed a 50% reduction in the rate of Type 2 diabetes diagnosis for women who had been previously diagnosed with GDM when lifestyle changes were introduced, while another study found a 95% reduced risk for gestational hypertension and a 90% reduction in preeclampsia for pregnant women with obesity. Why such mixed results? Some fault study design flaws. For example, the studies were different in the methods used to screen and

diagnose GDM, the duration and time the study was conducted and the differences among the women that participated, just to name a few.

SO…Can gestational diabetes be prevented?
According to the author of one research article I read: "The answer remains optimistic." Do not let the mixed results give you a reason to not be the healthiest you can before going into pregnancy. There is overwhelming proof that a healthy weight, physical activity and a healthy diet are important to one's overall health and can reduce your chance of developing sickness and disease. The earlier that one starts living a healthy lifestyle, the more there can be an impact in reducing the rates for GDM and its associated risks for childhood obesity and Type 2 diabetes. Surprisingly, many women in the studies were not asked about their diets during pregnancy. It will take a multi-level approach and better study designs to come to some better conclusions. I am sure that once research designs and methods are tweaked, we'll have a much better idea of how GDM can be prevented or reduced because there will be more proof in the pudding … and how sweet that will be!

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