



Gestational Diabetes Mellitus (GDM)

What is Gestational Diabetes Mellitus?

In pregnancy, it is normal for the pregnant person to become more resistant to insulin. Insulin is like a key that opens the cell door to let glucose in. So if that key doesn't work as well as normal, then there is more glucose in the bloodstream for the baby. We want this to happen because the growing baby needs glucose (sugar) to grow and develop. This insulin resistance increases after 20 weeks gestation. GDM is defined as high blood sugar with the first recognition during pregnancy but resolves in the postpartum. According to the Canadian Diabetes Association, 3%-20% of pregnant people develop GDM depending on their risk factors. For midwifery clients in Ontario, the incidence of GDM was 2.5%. The rates of complication free births for clients with GDM was 93% which was the same rate as non-diabetic clients. The purpose of screening for GDM is because there is research that reports increased adverse outcomes (bad outcomes). But there is controversy between different international organizations regarding the diagnose of GDM (the cut off numbers), the right method to screen and the benefit of screening. This has led to different recommendations for guidelines and practices amongst care providers both nationally and internationally. This has also led to inconsistent research methods on this topic.

Adverse Outcomes

The point of screening for any condition is to try to decrease adverse outcomes by treating that condition. The adverse outcomes with GDM are related to how high the blood sugar level is, how well it is managed and coexisting issues that the pregnant person may have. If sugar levels are well controlled it appears to decrease these outcomes. Not all risk is equal. For example, a pregnant person who has uncontrolled blood sugar levels, smokes and has high blood pressure has a different risk of adverse outcomes than someone who has well controlled blood sugars and no other risk factors. The adverse outcomes that research studies report are:

- Stillbirth: This adverse outcome is very complicated. When researched there is often confounding factors such as issues with diagnosis of GDM vs. type 2 diabetes in pregnancy, obesity, increased maternal age. This outcome is higher in women who have pre-existing diabetes before pregnancy. A study from California reports the rate as 17.1 vs. 12.7/ 10 000 deliveries between the gestation of 36-42 weeks for GDM.
- Preeclampsia: very high blood pressure in pregnancy that starts to affect the pregnant person's body
- Large for gestational age babies: there are women who naturally grow big babies and have no issues birthing them. There are others who would not naturally grow a large baby and those babies have more issues being born vaginally. This increases the rate of needing assistance to be born with caesarean section, vacuum and forceps. This can cause both trauma for the baby and the mother's body. These babies have a higher risk of getting their shoulders stuck with a vaginal birth. This can cause nerve damage and if stuck too long the cord is pinched off and can cause a lack of oxygen. These babies can also have issues with maintaining their own blood sugars once they are born.
- Increase chance of mother having type II diabetes later in life (15-50% of women with GDM will develop type 2 diabetes later in life)
- If a baby has higher blood sugar and insulin levels while in the womb they may have an increased chance of developing obesity and diabetes later in life

Risk Factors

Unfortunately, there are not any specific signs or symptoms that can be used to diagnose GDM.

Some women have risk factors that make them more likely to develop GDM. These include:

- being 35 years of age or older
- having a pre pregnancy BMI of >30
- being a member of one of these ethnic backgrounds: Aboriginal, African, Asian, Hispanic, South Asian
- a family history of diabetes
- a previous diagnosis of GDM (recurrence rate in pregnancy is 30-84%)
- a history of delivering a 'large for gestational age' baby
- corticosteroid use
- a history of polycystic ovarian syndrome
- having *acanthosis nigricans* (a rare skin condition)

A large portion of the women who are diagnosed with GDM do not have significant risk factors.

Screening and Diagnosis

The SOGC recommends that all women be offered screening for GDM between 24-28 weeks GA. For women who have multiple risk factors, screening may be done earlier in pregnancy and repeated again in the second trimester, even if the first test is negative.

The screening test is controversial as its ability to correctly diagnose GDM is only 76.6% of the time, you may get different results on different days, may delay diagnosis as a second test may be needed and compared to the 'diagnostic test' it does not include a fasting blood sugar. Screening for GDM takes place at the lab where you will be asked to drink a liquid that contains 50 grams of glucose. After one hour (you must sit at the lab), your blood is drawn for a glucose level to see how your body copes with this amount of sugar. A negative screen requires no follow up, you are at low risk of having GDM. If your glucose level is very high it is diagnostic for GDM. If your screen is between 2 blood glucose levels "the grey zone" a second lab test will be recommended, this is the diagnostic test. This second test is like the first but involves fasting beforehand, fasting blood glucose bloodwork, drinking a 75 gram glucose drink, then bloodwork at 1 hour and 2 hours following the drink. If one of these blood tests is elevated, the pregnant person is diagnosed with GDM.

What does having GDM mean to me?

The goal of treatment after a diagnosis has been made is to help you manage your blood glucose and keep it within normal limits so that your baby grows normally and decreases your risk of those previously discussed adverse outcomes. An appointment with the diabetes clinic will be offered to you to provide education on how to monitor your blood sugar and diet planning. Alternatively, you may also wish to see a registered dietician at a different location. Most women are able to manage their blood glucose with careful diet planning and exercise. Some women will need extra insulin to manage their blood glucose, if this happens then your pregnancy needs to be managed by an obstetrician. All women at Prairie Midwives with GDM will be offered a consultation with an obstetrician to discuss risks and recommendations.

Your midwife will likely recommend more close monitoring of your baby as you continue your pregnancy (most likely serial ultrasounds after a diagnosis of GDM). Depending on your glucose management, additional health issues, risk factors and obstetrical consultation a recommendation for induction may be indicated prior to your due date.

If you are diagnosed with GDM you should have repeat testing between 6 weeks and 6 months to detect diabetes outside of pregnancy. Women with GDM can also decrease their risk of higher blood sugars postpartum and their baby's risk of childhood obesity by breastfeeding for at least 6 months after delivery.

It is your decision whether or not you want the screening done. It may be recommended by your midwives, especially if you have risk factors. We encourage you to discuss this topic with us.

References

Association of Ontario Midwives. Gestational Diabetes Literature Review.
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