



PRAMS

Ohio PRAMS Fact Sheet: Gestational Diabetes Mellitus

Background

Gestational diabetes mellitus, or GDM, occurs when a woman's blood glucose becomes abnormally elevated during pregnancy. Insulin is a hormone that carries glucose from the bloodstream to muscle or fat cells, where it can be used for energy. In women with GDM, insulin resistance develops around mid-pregnancy and leads to hyperglycemia¹. For most women, glucose levels return to normal after delivery. However, those who have been diagnosed with GDM are at an increased risk of developing Type II diabetes later in life – between 15 and 50 percent will be diagnosed with diabetes in the years following the GDM-affected pregnancy².

GDM is thought to occur in 2 to 10 percent of pregnancies in the United States². GDM is associated with adverse outcomes for both mother and fetus. Women with GDM are at an increased risk for

preeclampsia and are more likely to have a cesarean section³. The fetus is more likely to have excessive growth that can cause birth trauma and is at a higher lifetime risk of obesity and glucose intolerance³.

While risk factors for GDM are not entirely known, women with certain characteristics do seem to have an increased likelihood of developing the disease. Smoking cigarettes before pregnancy, having a close relative with a history of diabetes, increasing maternal age, those who are overweight or obese, and those who are of nonwhite ethnicity all are associated with a higher risk of GDM⁴.

Screening all pregnant women for GDM is universally recommended. Studies have shown that diagnosing and treating GDM significantly decreases the risk of fetal morbidity and mortality³. Women should also have their blood glucose tested regularly after delivery to monitor glucose metabolism and to detect diabetes².

Ohio Pregnancy Risk Assessment Monitoring System

Data Highlights:

- > **Approximately 10 percent of surveyed Ohio mothers reported having GDM during pregnancy.**
- > **Older mothers had a slightly higher risk of reporting GDM during pregnancy than young mothers.**
- > **Mothers who graduated from college had a lower risk of GDM during pregnancy than women with less than a college education.**
- > **Those who with pre-pregnancy BMI classified as obese were more likely to report having GDM than women with lower BMI values.**
- > **Race, type of county, and amount of weight gained during pregnancy did not have significant differences among Ohio mothers from this sample.**

* Sample size insufficient for meaningful analysis

** 95 percent confidence interval

Source: 2006-2008 Ohio Pregnancy Risk Assessment Monitoring System, Center for Public Health Statistics and Informatics, Ohio Department of Health, 2010.

Prevalence of GDM in Ohio, 2006-2008

	Percent with GDM	95% CI**
Overall (n)	10.1 (441)	8.9-11.4
Age		
18-24	8.2	6.4-10.3
25 - 34	10.1	8.6-12.0
35-44	15.4	11.9-19.7
45+	*	*
Race		
Non-Hispanic White	10.3	9.0-11.9
Non-Hispanic Black	9.6	7.9-11.7
Hispanic	*	*
Non-Hispanic Other	*	*
Education		
Less than HS	10.2	7.1-14.4
HS grad	11.8	9.5-14.6
Some college	11.6	9.5-14.0
College grad	6.4	4.8-8.4
County type		
Urban	10.1	8.8-11.6
Rural	10.1	7.7-13.2
Pre-pregnancy BMI		
Underweight (BMI<18.5)	*	*
Normal weight (18.5-24.9)	7.1	5.6-8.8
Overweight (25.0-29.9)	9.5	7.3-12.3
Obese (30.0+)	19.4	16.2-23.0
Weight gain during pregnancy		
Adequate	10.2	7.9-13.0
Insufficient	11.8	9.5-14.5
Too much	9.1	7.5-10.9

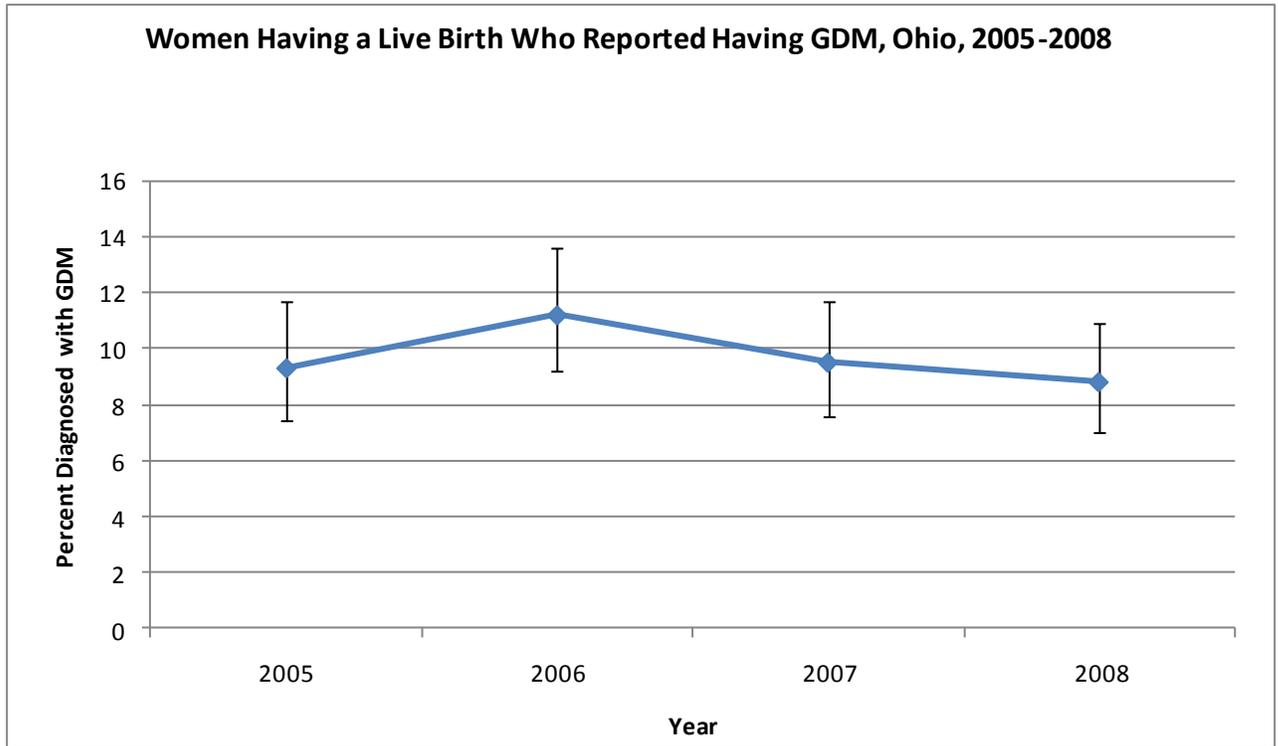




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Gestational Diabetes Mellitus

Women Having a Live Birth Who Reported Having GDM, Ohio, 2005-2008



Bars represent 95 percent confidence intervals.

Source: Ohio Pregnancy Risk Assessment Monitoring System, Center for Public Health Statistics and Informatics, Ohio Department of Health, 2010.

- *Healthy People* provides 10 year national objectives for improving the health of all Americans. The *Healthy People 2010* Objective 5-8 states, “Decrease the proportion of pregnant women with gestational diabetes.”
- The prevalence of GDM decreased slightly among pregnant women in Ohio from 2006 to 2008. However, the percentage of women who reported having GDM in 2008 was only 0.5 percent less than in 2005, so the overall trend did not change substantially in those years.
- Obesity is generally believed to increase the risk of GDM. As the proportion of overweight and obese women in the United States increases, the challenge of decreasing GDM among pregnant women becomes greater.
- Women of reproductive age who have a higher than normal BMI should be encouraged to incorporate a healthful diet and regular exercise into their routine to reduce their risk of GDM and eventually diabetes.
- All pregnant women should be screened for GDM since proper treatment decreases the risk of adverse outcomes for both mother and fetus.
- Healthy eating habits, regular physical activity, and maintaining a healthy weight have all been shown to delay or prevent women with GDM from progressing to diabetes later in life².
- For more information about women and diabetes in Ohio, visit the Healthy Ohio website: <http://www.odh.ohio.gov/odhPrograms/hpr/diabetes/diabl.aspx>.

References:

¹Buchanan TA, Kjos SL, Xiang A, Watanabe, R. What is Gestational Diabetes? *Diabetes Care*. July 2007; Volume 30,Supplement 2: S105-S111.

²Centers for Disease Control and Prevention. Maternal and Infant Health Research: Pregnancy Complications. May 13, 2009. Accessed Online 11/15/2010. Available at: <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PregComplications.htm#gestational>.

³Metzger BE, Kitzmiller, JL, et al. Summary and Recommendations of the Fifth International Workshop-Conference on Gestational Diabetes Mellitus. *Diabetes Care*. July 2007; Volume 30,Supplement 2: S251-S260.

⁴Solomon, CG, Willett, WC, et al. A Prospective Study of Pregravid Determinants of Gestational Diabetes Mellitus. *JAMA*. October 1, 1997; Volume 278, No. 13: 1078-1083.

