

Obesity among risk factors for delayed lactation in women with gestational diabetes

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Pre-pregnancy obesity and older maternal age are among the risk factors for delayed lactation for women with gestational diabetes mellitus, according to a Kaiser Permanente study in *The American Journal of Clinical Nutrition*.

The study analyzed 883 racially and ethnically diverse women to assess the incidence of delayed milk production among women with a history of GDM, or diabetes during pregnancy, and to determine whether pre-pregnancy weight was an independent risk factor even after the severity of their GDM was taken into account. The women were enrolled between September 2008 and March 2011 in the Study of Women, Infant Feeding and Type 2 Diabetes (SWIFT), an ongoing study of Kaiser Permanente Northern California members who experienced a diagnosis of gestational diabetes.

Delayed onset of [lactation](#) was reported by 33 percent of the women, and was associated with pre-pregnancy obesity, older maternal age and insulin treatment for GDM (which is indicative of greater severity of gestational diabetes).

"Given the potential for breastfeeding to mitigate the higher risk that women with GDM face for developing type-2 diabetes, skilled lactation support is particularly important for obese women with GDM," said lead author Susana L. Matias, PhD, a postdoctoral researcher at the Kaiser Permanente Division of Research and the University of California, Davis, Department of Nutrition.

Among the study group, the average pre-pregnancy body mass index was 29.3, falling within the "overweight" category. GDM is associated with higher pre-pregnancy weight. However, even in this population, being in the heaviest BMI category (i.e., "obese") increased the risk for delayed onset of lactation. Insulin resistance, also associated with obesity, may be

another possible mechanism linking obesity and delayed onset of lactation.

Gestational diabetes mellitus, defined as glucose intolerance with first onset during pregnancy, occurs in 7 percent of all U.S. pregnancies, and affects over 200,000 women annually. A history of GDM confers up to a seven-fold higher risk of diabetes, and almost 50 percent of women with a GDM pregnancy will be diagnosed with type 2 diabetes within five to eight years after pregnancy.

Identification of risk factors for delayed milk production could help target breastfeeding support services and enable women with GDM to experience the benefits of lactation for their own future health and that of their offspring.

Lactation is characterized by increased glucose utilization and decomposition of fat through the processes for milk production, as well as higher maternal basal metabolic rates and mobilization of fat stores. Lactating women manifest lower blood glucose and insulin concentrations, and emerging evidence indicates that lactation may decrease insulin resistance.

Timely onset of milk production following delivery is important for successful breastfeeding and newborn health. Delayed onset of milk production is usually defined as not occurring until after 72 hours (or three days) postpartum, and its incidence in the U.S. is high, ranging from 23 percent to 44 percent.

"It's important that women with GDM receive preventive support to resolve infant feeding problems early," said senior author Erica P. Gunderson, PhD, MS, MPH, RD, a senior research scientist at the Division of Research and principal investigator of the SWIFT Study. "These risk profiles could be used to develop a screening tool for health care providers to assist mothers and their infants who may benefit from enhanced skilled breastfeeding support."

Other studies by the Kaiser Permanente Division of Research have shown that breastfeeding with little or no formula supplementation is associated with lower fasting blood glucose and lower insulin levels in women at 6-9 weeks postpartum. The studies have also shown that exclusive or mostly breastfeeding groups had lower prevalence of pre-[diabetes](#) than formula-feeding groups, even among obese [women](#).

Provided by Kaiser Permanente

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