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Compliance with blood glucose testing and gestational weight gain in patients with gestational diabetes: A secondary analysis

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Excessive gestational weight gain (GWG) and obesity are associated with increased morbidity. We aimed to compare adverse birth outcomes in obese vs. non-obese women with gestational diabetes mellitus (GDM) and GWG adherence with Institute of Medicine (IOM) recommendations in women compliant vs. non-compliant with blood glucose (BG) testing. We conducted a secondary analysis of a randomized controlled trial at five tertiary medical centers from 5/2013-5/2016 evaluating the frequency of BG testing (everyday vs. every other day) among women with GDM. Abnormal BG values included fasting ≥ 95 mg/dl or 2-hr postprandial ≥ 120 mg/dl. Women's weights were categorized based on the international BMI classification. Compliance with BG testing was defined as 90% of expected BG values. GWG was assessed for adherence to IOM recommendations. Primary maternal outcomes included primary cesarean section, labor dystocia, shoulder dystocia, and delivery due to uncontrolled diabetes. Primary neonatal outcomes included NICU admission, neonatal hypoglycemia, macrosomia, hyperbilirubinemia or respiratory distress syndrome. Composite outcomes were evaluated. Fisher exact or Chi-square tests were used as appropriate. Two hundred and eighty-seven women were included in this analysis. Maternal and neonatal adverse outcomes did not differ between BG testing groups when stratified by non-obese vs. obese. Pooled BG testing groups demonstrated macrosomia ($p=0.0157$) and the neonatal outcome composite ($p=0.0042$) were significantly more common in obese vs. non-obese women. When stratified by obesity class, maternal and neonatal outcomes did not differ between testing groups. GWG was more likely to be within IOM guidelines in compliant vs. noncompliant women ($p=0.0283$). Pooled BG testing groups stratified by obesity showed no difference in GWG between non-obese vs. obese women in the compliant vs. non-compliant groups. Our results support obesity as an additional risk factor for adverse pregnancy outcomes in women with GDM and suggest improved adherence with IOM GWG guidelines amongst compliant patients.

Biography

Jenani Jayakumaran has completed her graduation in Reproductive Biology at Johns Hopkins Bloomberg School of Public Health. Following her time in Baltimore, she moved to Philadelphia to attend Drexel University College of Medicine. She is currently a second year OB/GYN Resident at Rutgers-Robert Wood Johnson Medical School. She plans to pursue a Fellowship in Maternal Fetal Medicine. Her interests include preterm labor and gestational diabetes.

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