The perception of obese and non-obese pregnant women of the impact of their weight on maternal and fetal outcomes

Anthony Ferrante, DO; Verónica Maria Pimentel, MD; Elina Kreditor, MS4; Rebecca Crowell, PhD
St. Francis Hospital and Medical Center Department of Maternal Fetal Medicine

Introduction

In the United States, 1/3 of women between 20-39 years old are obese, and 55% are obese or overweight. Obese women are at increased risk of cardiovascular complications, sleep apnea, gestational diabetes, gestational hypertension, preeclampsia, anemia, venous thromboembolism, miscarriage, and cesarean section. Fetal risk associated with obesity include congenital anomalies, growth restriction, macrosomia, and fetal demise and the offspring of pregnant women have an increased risk of developmental issues, obesity, and diabetes later in life. Screening ultrasound become more technically challenging for sonographers due to increased BMI. There are no studies evaluating patients understand the impact weight has on sonographic images to detect fetal anomalies.

OBJECTIVES

• To determine the perception and understanding of maternal weight during pregnancy among women presenting for routine ultrasound at an urban academic medical center.
• To assess the accuracy of perceived risk for poor pregnancy outcomes based on weight category.

Methods

• Cross-sectional survey of pregnant women who sought first-trimester screening ultrasound in an urban fetal diagnostic unit.
• Inclusion criteria: English-speaking, age 18 to 50 years, singleton pregnancy.
• BMI was calculated per World Health Organization definitions.
• Surveys contained 3 sections: 1) Demographics, pregnancy weight, perceived weight category, 2) knowledge of weight gain recommendations, intentions regarding eating and exercise during pregnancy, and 3) perception of impact of weight on maternal and fetal outcomes.
• Calculated a sample size of 345 women to detect a 15% absolute difference between obese and non-obese participants.
  • Expected 25% of obese women to accurately report their weight on its impact on pregnancy.
  • Assumed 30% of participants would be obese and 15% would not report their pre-pregnancy weight.
  • Used beta of 80%, and alpha of 5%.
  • Descriptive statistics and Chi-square analysis were performed.
  • The study was approved by the Trinity Health of New England Institutional Review Board

Results

• 40 participants declined to provide their pre-pregnancy weight and were excluded from analysis of the primary outcome.
• Of 307 (90.3%) that reported their weight, 232 (75.6%) identified their weight category based on perceived BMI.
• Normal weight patients were more likely to understand their weight category and recommended weight gain than overweight and obese
• Compared to obese patients, a significantly higher percentage of non-obese participants reported that their weight has no effect on the sonographer’s ability to find a fetal malformation (95.13% vs. 61.73%, p < 0.0001) and no effect on their risk of pregnancy-related problems (97.35% vs. 75.31%), p < 0.0001)
• 80.53% of non-obese participants and 45.68% of obese participants reported no increased risk for at least one maternal outcome (p < 0.0001).
• 88.05% of non-obese participants and 71.60% of obese participants reported no increased risk for at least one poor fetal outcome (p = 0.0006).
• Compared to non-obese patient, obese patients were more likely to report an increased risk of heart problems, diabetes, cesarean delivery and preeclampsia (p < 0.05) as well as an increased risk of fetal macrosomia and their child becoming obese (p < 0.05)

Discussion

• Understanding of appropriate weight gain in our participants was low and consistent with previous studies.
• Perception regarding the impact of obesity in pregnancy remains inaccurate among women in the obese category although they are at high risk of adverse maternal and fetal outcomes.
• Women with obesity were more likely to report that their weight could increase their risk for adverse pregnancy outcomes. Despite this, obese women underestimate their risks of specific pregnancy related adverse outcomes.
• There is a significant need for improvement of patient education regarding awareness of patient’s own weight status and the potential risks for poor pregnancy outcome associated with obesity.

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Acknowledgements

• Dorothy A. Wakefield, MS, Piatot, Center on Aging, UConn Health. Statistical compensation from Trinity Health Of New England.
• Mary Beth Janicki, MD, Department of Obstetrics and Gynecology, Trinity Health Of New England. No funding source or compensation.
• Elchida Talun, MD, Department of Obstetrics and Gynecology, Trinity Health Of New England. No funding source or compensation.
• Samantha Bogner, RDOHS, Department of Obstetrics and Gynecology, Trinity Health Of New England. No funding source or compensation.
• Katarzyna Kowalczy, RDM. Department of Obstetrics and Gynecology, Trinity Health Of New England. No funding source or compensation.