Obesity in Pregnancy

Optimizing Outcomes for Mom and Baby

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KEYWORDS

• Obesity • Pregnancy • Preconception • Intergenerational obesity

KEY POINTS

- Weight and obesity-related comorbidities should be optimized in women with obesity before conception.
- Special considerations in pregnant women with obesity include optimization of gestational weight gain, prevention and management of gestational diabetes and hypertensive disorders of pregnancy, and being aware of risks to fetal health.
- Labor and delivery in women with obesity carries an increased risk of surgical and anesthetic complications.
- Postpartum considerations in women with obesity include prevention of complications, reduction of postpartum weight retention, and breastfeeding promotion.
- There is emerging evidence of adverse metabolic effects on the offspring of women with obesity.

INTRODUCTION

The high rates of obesity in women of childbearing age has made obesity the most common medical problem in pregnancy. According to the 2013 to 2014 Nutrition Examination Survey data, 37% of women between 20 and 39 years of age have obesity and rates continue to increase.[1] The rates vary dramatically by ethnic group, from 10% of Asian women, 33% of non-Hispanic white women, 43% of Hispanic women, and 57% of non-Hispanic black women.[1] Women with obesity are at a much higher rate of poor obstetric outcomes across the continuum of reduced fertility, pregnancy complications, and postpartum adverse events, of which some, but not all, are preventable

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through targeted medical care. The lack of good evidence for intervention has resulted in differences across national clinical practice guidelines.[2]

In addition to being more at risk, women with obesity may experience discrimination and humiliation at a time that should be joyful. In a study of obstetrics providers, 31% identified that they had made derogatory comments about obese women to colleagues and 66% thought more derogatory comments are made about women with obesity than those without obesity.[3] Providers who care for women with obesity who are of childbearing age need to identify strategies and tools that promote open, nonjudgmental communication about the risks in pregnancy and provide safer care through adequate resources, specialized equipment, and structured protocols.[4–7]

GOALS AND STRATEGIES

Preconception

Improve fertility

Obesity in women is associated with subfertility and with a longer time to achieve pregnancy.[8–10] Although partially explained by the higher prevalence of the polycystic ovarian syndrome (PCOS),[11] which is characterized by anovulation and hyperandrogenism,[12] the association between infertility and obesity exists even in women with ovulatory menstrual cycles.[8–10] In addition, women with obesity have higher miscarriage rates[13]; those using assisted reproductive technologies (ART), such as in vitro fertilization, seem to have decreased pregnancy and live birth rates compared with those with a normal body mass index (BMI).[14] Thus, obesity is associated with numerous factors that decrease the likelihood of achieving and maintaining a pregnancy.

There is a paucity of rigorous studies evaluating interventions to improve fertility in women with obesity. Observational evidence suggests that lifestyle interventions may improve pregnancy and live birth rates before undergoing ART.[15] One multicenter randomized controlled trial (RCT) evaluated the effect of a 6-month lifestyle intervention followed by 18 months of infertility treatment in infertile women with a BMI greater than 29, compared with a control group receiving 24 months of prompt infertility treatment.[16] The control group had a higher frequency of the primary outcome, a vaginal term birth of a healthy singleton, than the intervention group (35.2% vs 27.1%), although women in the intervention group were more likely to achieve conception without infertility treatments. In contrast, in women with obesity and PCOS, post hoc data aggregation from 2 separate RCTs suggest that lifestyle intervention for weight loss before ovulation induction with clomiphene citrate increases live birth rates compared with immediate ovulation induction.[17] Observational studies suggest that bariatric surgery improves fertility in women with obesity[18]; however, infertility is not considered an indication for bariatric surgery.[19,20] Thus, infertility treatments are most effective at achieving a live birth in women with obesity; however, in younger women in whom there is less urgency to conceive, weight loss via lifestyle interventions is a reasonable first step for infertility management, as it is likely associated with other benefits.

Preconception weight loss

Guidelines advise weight loss before conception for women with obesity.[21,22] Most evidence supporting this recommendation comes from studies of women who have undergone bariatric surgery. Pregnant women who have previously undergone bariatric surgery are less likely to develop gestational diabetes mellitus (GDM), hypertensive disorders of pregnancy (HDP), postpartum hemorrhage, and fetal macrosomia,