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SPECIFICS OF PREGNANCY AND CHILDBIRTH IN OVERWEIGHT WOMEN

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Abstract: Overweight and obesity are increasingly prevalent among women of reproductive age and represent significant clinical challenges during pregnancy and childbirth. Excess maternal weight is associated with numerous complications, including gestational diabetes mellitus, hypertensive disorders, labor dystocia, cesarean section, macrosomia, and neonatal morbidity. This article explores the physiological, obstetric, and perinatal implications of maternal overweight, the underlying pathophysiological mechanisms, and current best practices in antenatal management, intrapartum care, and postpartum follow-up. By addressing these issues holistically, clinicians can better individualize care, mitigate risks, and support healthy maternal and neonatal outcomes.
Keywords: maternal obesity, pregnancy complications, gestational diabetes, cesarean delivery, perinatal risks, antenatal care, labor management.

INTRODUCTION

Maternal overweight and obesity have become major public health concerns worldwide, with rates rising steadily due to sedentary lifestyles, poor nutrition, and socioeconomic factors. Defined as a body mass index (BMI) of 25.0–29.9 kg/m² for overweight and ≥30.0 kg/m² for obesity, excess weight before or during pregnancy is a well-documented risk factor for adverse maternal and neonatal outcomes. For obstetric care providers, managing the pregnancy and delivery of overweight women requires a proactive, multidisciplinary approach grounded in early identification, risk stratification, and targeted intervention.

Unlike in normal-weight pregnancies, overweight women often experience altered physiology, reduced placental efficiency, increased inflammatory markers, and insulin resistance, all of which contribute to a heightened risk profile. Understanding the specificities of pregnancy and childbirth in this population is essential to optimizing care plans and preventing complications.

MATERIALS AND METHODS

In overweight women, baseline metabolic and cardiovascular alterations become further exaggerated during pregnancy. Increased adipose tissue contributes to systemic inflammation, hormonal imbalance, and insulin resistance. This pathophysiological environment predisposes these women to gestational diabetes mellitus (GDM), preeclampsia, and thrombophilic states [1]. Furthermore, excess fat accumulation in the abdomen and pelvic area complicates uterine contractility, cervical effacement, and fetal descent during labor. Higher leptin levels may interfere with myometrial sensitivity to oxytocin, leading to prolonged or dysfunctional labor. Additionally, obese women often have altered respiratory mechanics and cardiac output, which complicates anesthetic management and increases the risk of maternal hypoxia during delivery.

RESULTS AND DISCUSSION

Effective management begins in early pregnancy or ideally preconception. Overweight women should receive counseling on nutritional optimization, physical activity, and weight gain targets according to Institute of Medicine (IOM) guidelines. For example, the recommended gestational weight gain for overweight women is 15–25 pounds (7–11.5 kg), and for obese women, 11–20 pounds (5–9 kg).

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Beyond the well-documented metabolic and mechanical complications, the clinical management of overweight and obese pregnant women must also consider less frequently addressed yet equally important domains: pharmacokinetics, mental health implications, surgical planning logistics, and postpartum recovery patterns [2].

Obesity significantly alters the absorption, distribution, metabolism, and excretion of many drugs commonly used during pregnancy and childbirth. For instance, lipophilic medications such as anesthetics, antihypertensives, and insulin analogs may demonstrate prolonged half-lives or reduced efficacy due to sequestration in adipose tissue or altered plasma protein binding.

Overweight women are disproportionately affected by antenatal and postpartum depression, body image distress, and stigmatization in healthcare settings. These psychosocial stressors can negatively influence prenatal care attendance, labor experiences, and maternal-infant bonding.

Psychological evaluations and support should be integrated into routine prenatal care for overweight women. Screening tools such as the Edinburgh Postnatal Depression Scale (EPDS) should be employed more proactively, and referrals to perinatal mental health specialists must be normalized and destigmatized [3].

Group-based antenatal care models, such as CenteringPregnancy, which promote peer support and education, have shown promise in improving maternal self-efficacy and satisfaction among high-BMI populations.

Wound closure techniques, such as subcutaneous drain placement or negative-pressure wound therapy, may be considered to reduce surgical site infection rates. The importance of preoperative weight documentation, early mobilization, and DVT prophylaxis must be emphasized across the care continuum.

The postpartum period presents a critical opportunity for metabolic resetting and risk modification. Overweight women who experienced gestational diabetes or preeclampsia are at significantly increased risk for type 2 diabetes mellitus, hypertension, and cardiovascular disease later in life.

Breastfeeding, which has demonstrated protective effects against future metabolic disease in both mother and infant, should be actively supported through lactation consultants, as initiation and duration rates are often lower in this group.

Ultimately, transitioning from high-risk pregnancy to chronic disease prevention requires a longitudinal model of care, ideally involving family medicine or internal medicine specialists in collaboration with obstetricians [4].

CONCLUSION

The management of pregnancy and childbirth in overweight women requires tailored strategies that address the increased physiological and obstetric risks associated with excess maternal weight. From preconception counseling to postpartum surveillance, every stage of care demands a multidisciplinary, evidence-based approach. With the global rise in obesity, optimizing outcomes in this high-risk population is an urgent priority in modern obstetrics. Clinicians must not only mitigate risks but also empower women through education, support, and respectful care that avoids stigma and promotes long-term maternal and neonatal health.

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