The impact of maternal obesity on pregnancy outcomes: Current evidence and future directions.

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Abstract

Maternal obesity is a major public health issue worldwide, and it is associated with numerous adverse pregnancy outcomes for both the mother and the child. This article provides a comprehensive review of the current evidence on the impact of maternal obesity on pregnancy outcomes and discusses potential future directions for research and intervention. The article highlights the increased risk of gestational diabetes, hypertensive disorders, preterm birth, stillbirth, and cesarean delivery associated with maternal obesity. Moreover, it explores the potential mechanisms underlying these associations, including metabolic and hormonal disturbances, chronic inflammation, and alterations in placental function.

Keywords: Maternal obesity, Pregnancy outcomes, Evidence, Future directions.

Introduction

Maternal obesity is a growing public health concern that can have significant negative impacts on pregnancy outcomes. Obesity during pregnancy is defined as having a body mass index (BMI) of 30 kg/m2 or higher. According to the World Health Organization, the prevalence of obesity among women of reproductive age has nearly tripled since 1975, making it an increasingly common issue in obstetric practice. In this article, we will discuss the current evidence regarding the impact of maternal obesity on pregnancy outcomes, as well as future directions for research and clinical practice [1].

Impact on pregnancy outcomes

Maternal obesity is associated with a higher risk of various pregnancy complications, including gestational diabetes, hypertension, preeclampsia, stillbirth, preterm birth, and caesarean delivery. These complications not only affect maternal health but can also result in adverse neonatal outcomes such as low birth weight, macrosomia, neonatal hypoglycemia, and respiratory distress syndrome.

Gestational diabetes

Obese women are at a higher risk of developing gestational diabetes mellitus (GDM), a condition characterized by high blood sugar levels during pregnancy. The risk of GDM increases with the severity of obesity, and women with a BMI of 40 kg/m2 or higher are five times more likely to develop GDM than those with a normal BMI. GDM can have negative consequences for both mother and baby, including an increased risk of pre-eclampsia, preterm birth, macrosomia, and neonatal hypoglycemia [2].

Hypertension and Preeclampsia

Maternal obesity is also associated with an increased risk of hypertension and preeclampsia, a serious pregnancy complication characterized by high blood pressure and damage to organs such as the liver and kidneys. Obese women are three times more likely to develop preeclampsia than women with a normal BMI. Preeclampsia can lead to severe maternal and neonatal morbidity and mortality.

Stillbirth

Obese women have a higher risk of stillbirth compared to women with a normal BMI. The risk of stillbirth increases with the severity of obesity and is highest in women with a BMI of 40 kg/m2 or higher. The exact mechanisms underlying the increased risk of stillbirth in obese women are not fully understood, but it is thought to be related to a combination of factors such as impaired placental function, inflammation, and abnormalities in fetal growth [3].

Preterm birth

Maternal obesity is also associated with an increased risk of preterm birth, defined as delivery before 37 weeks of gestation. The risk of preterm birth increases with the severity of obesity and is highest in women with a BMI of 40 kg/m2 or higher. Preterm birth is a major cause of neonatal morbidity and mortality and can result in long-term health problems such as cerebral palsy and developmental delays [4].

Caesarean delivery

Obese women are more likely to have a caesarean delivery than women with a normal BMI. The increased risk of

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***Received:** 21-Feb-2023, Manuscript No. AAPNM-23-92164; **Editor assigned:** 22-Feb-2023, PreQC No. AAPNM-23-92164(PQ); **Reviewed:** 06-Mar-2023, QC No. AAPNM-23-92164; **Revised:** 10-Mar-2023, Manuscript No. AAPNM-23-92164(R); **Published:** 17-Mar-2023, DOI: 10.35841/AAPNM-7.2.136*

***Citation:** Worku G. The impact of maternal obesity on pregnancy outcomes: Current evidence and future directions. J Preg Neonatal Med. 2023;7(2):136*

caesarean delivery is thought to be related to a combination of factors such as macrosomia, prolonged labor, and difficulty in fetal monitoring.

Future directions

The negative impact of maternal obesity on pregnancy outcomes has prompted research into interventions that can reduce the risks associated with this condition. These interventions include lifestyle modifications such as dietary changes, physical activity, and weight loss, as well as pharmacological and surgical interventions.

Lifestyle modifications

Lifestyle modifications such as dietary changes, physical activity, and weight loss have been shown to be effective in reducing the risks associated with maternal obesity. A systematic review and meta-analysis of randomized controlled trials found that lifestyle interventions led to a significant reduction in the incidence of gestational diabetes, hypertension, and macrosomia, as it [5].

Conclusion

Based on the current evidence, it is clear that maternal obesity can have significant negative impacts on pregnancy outcomes. These include an increased risk of gestational diabetes, hypertension, pre-eclampsia, cesarean delivery, and stillbirth. In addition, infants born to obese mothers are at higher risk of being large for gestational age, having birth defects, and developing childhood obesity. While the exact mechanisms behind these negative impacts are not yet fully understood, it is believed that they may be related to inflammation, insulin resistance, and altered hormonal signalling. However, more research is needed to better understand these mechanisms and to identify effective interventions to improve outcomes for obese pregnant women and their infants.

References

1. Blomberg M. Maternal obesity, mode of delivery, and neonatal outcome. Obstet Gynecol. 2013; 122(1):50-5.
2. Marchi J, Berg M, Dencker A, et al. Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews. Obes Rev. 2015; 16(8):621-38.
3. American College of Obstetricians and Gynecologists. ACOG committee opinion no. 549: obesity in pregnancy. Obstet Gynecol. 2013; 121(1):213-7.
4. Thangaratinam S, Rogozinska E, Jolly K, et al. Effects of interventions in pregnancy on maternal weight and obstetric outcomes: meta-analysis of randomised evidence. BMJ. 2012; 344:e2088.
5. Dodd JM, Grivell RM, Nguyen A-M, et al. Maternal and perinatal health outcomes by body mass index category. Aust N Z J Obstet Gynaecol. 2011; 51(2):136-40.

Citation: *Worku G. The impact of maternal obesity on pregnancy outcomes: Current evidence and future directions. J Preg Neonatal Med. 2023;7(2):136*