

Relationship between maternal obesity and prenatal, metabolic syndrome, obstetrical and perinatal complications of pregnancy in Indiana, 2008-2010

Shinga Feresu

The Feresu Research and Training Institute, Zimbabwe, Email- sferesu@gmail.com

Abstract

Background: Obesity is a serious medical condition affecting more than 30 % of Indiana, and 25 % of United States pregnant women. Obesity is related to maternal complications and significantly impacts the health of pregnant women. **Objective:** The objective of this study was to describe the relationship between maternal complications and pre-pregnancy maternal weight. **Methods:** Using logistic regression models, we analyzed 2008 to 2010 birth certificate data, for 255,773 live births abstracted from the Indiana Vital Statistics registry. We examined the risk of reproductive factors, obstetrical complications and perinatal (intrapartum) complications for underweight, healthy weight, overweight and obese women for this population. **Results:** Women who received prenatal care were more likely to be obese [Adjusted Odds Ratio (AOR)=1.82 (1.56-2.13)], women with parity of zero (0) were less likely to be obese [AOR=0.89, 95% CI (0.86-0.91)]. Women giving birth to twins [AOR=1.25, 95% CI (1.17-1.33)], women delivering by Caesarean section [AOR=2.31, 95% CI (2.26-2.37)] and women who previously had a Caesarean section [AOR=1.95, 95% CI (1.88-2.02)] were more likely to be obese. Obesity was significantly associated with obstetrical conditions of the metabolic syndrome, including pre-pregnancy diabetes, gestational diabetes,

pre-pregnancy hypertension, pregnancy-induced hypertension and eclampsia [AOR=5.12, 95% CI (4.47-5.85); AOR=3.87, 95% CI (3.68-4.08); AOR=7.66, 95% CI (6.77-8.65); AOR=3.23, 95% CI (3.07-3.39) and AOR=1.77, 95% CI (1.31-2.40), respectively. Maternal obesity modestly increased the risk of induction, epidural, post-delivery bleeding and prolonged labor [AOR=1.26, 95% CI (1.23-1.29); AOR=1.15, 95% CI (1.13-1.18); AOR=1.20, 95% CI (1.12-1.28) and AOR=1.44, 95% CI (1.30-1.61)], respectively. **Conclusions:** Our results suggest that maternal obesity in Indiana, like other populations in the USA, is associated with high risks of maternal complications for pregnant women. Pre-pregnancy obesity prevention efforts should focus on targeting children, adolescent and young women, if the goal to reduce the risk of maternal complications related to obesity, is to be reached.

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