

5 Maternal outcomes by race during postpartum readmissions



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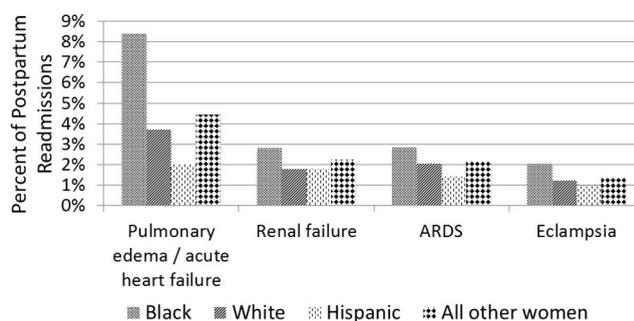
OBJECTIVE: With efforts focusing on reducing differentials in adverse maternal outcomes, we sought to determine the association of race with risk for serious complications during postpartum readmissions.

STUDY DESIGN: This retrospective cohort study utilized the Nationwide Inpatient Sample from the Healthcare Cost and Utilization Project from 2012 to 2014. Women ages 15 to 54 readmitted postpartum after a delivery hospitalization were identified by Centers for Disease Control and Prevention criteria. Race and ethnicity were characterized as white, black, Hispanic, Asian or Pacific islander, Native American, other, and unknown. Overall risk for readmission by race was determined. Risk for severe maternal morbidity (SMM) during readmissions by race was analyzed. Individual outcomes including pulmonary edema/acute heart failure and stroke were also analyzed by race. Log-linear regression models including demographics, hospital factors, and comorbid risk were used to analyze risk for SMM during postpartum readmissions.

RESULTS: Out of 2.4 million births, 41,546 women admitted postpartum from 2012 to 2014 were analyzed including 19,334 white, 9,403 black, and 6,682 Hispanic women. Compared to white women, black women were at 73% higher risk of postpartum readmission (95% confidence interval [CI] 69%-78%) while Hispanic women were at 21% lower risk of readmission (95% CI 18%-23%). In unadjusted analysis, compared to white women, black women admitted postpartum were at 27% higher risk of SMM (95% CI 24-29%) while Hispanic women were at 10% lower risk (95% CI 7-13%). In the adjusted model, black women were at 16% higher risk for SMM during readmission than white women (95% CI 10-22%). Differences in SMM risk between other racial groups and white women were not significant. In addition to overall morbidity, black women were at significantly higher risk for eclampsia, ARDS, and renal failure than other racial groups ($p < 0.05$ all) (Fig). Black women were at 126% higher risk for pulmonary edema/acute heart failure than white women (95% CI 117-136%).

CONCLUSION: Black women were more likely (i) to be readmitted postpartum, (ii) to suffer SMM during readmission, and (iii) to suffer life threatening complications such as pulmonary edema / acute heart failure. At-risk women including black women with cardiovascular risk factors may benefit from short-term postpartum follow up.

Figure. Risk for severe morbidity diagnoses during postpartum readmissions by race



Severe Maternal Morbidity (SMM) Diagnoses – indicator identified by the Center for Disease Control and Prevention (CDC) using ICD codes

6 Early gestational diabetes screening in obese women: a randomized controlled trial



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OBJECTIVE: Although ACOG recommends screening obese women early for gestational diabetes (GDM), no studies demonstrate an improvement in perinatal outcomes. We sought to determine whether early GDM screening improves pregnancy outcomes in obese women.

STUDY DESIGN: RCT of obese women (BMI ≥ 30 kg/m²) with non-anomalous, singleton gestations < 20 wks comparing early GDM screening (14-20 wks) to routine (24-28 wks). GDM screening was performed using a 50-g, 1-hr glucose challenge test followed by a 100-g, 3-hr glucose tolerance test if ≥ 135 mg/dL. GDM was diagnosed using Carpenter Coustan criteria. HbA1c was measured on all patients; the provider was notified and GDM diagnosed if ≥ 6.5 . Women not diagnosed at 14-20 wks were rescreened at 24-28 wks. Exclusion criteria were diabetes, major medical illness (cardiac, hemoglobinopathy, prednisone), bariatric surgery, and prior cesarean. The primary outcome was a composite of macrosomia (> 4000 g), primary cesarean, hypertensive disease of pregnancy (PIH), shoulder dystocia, neonatal hyperbilirubinemia, and neonatal hypoglycemia. We estimated a 50% incidence of the primary composite outcome; to detect a 50% reduction in the GDM patients ($\alpha = 0.05$, $\beta = 0.2$), 58 GDM patients per group were necessary. The total sample size of 950 estimated a 14% incidence of GDM in obese women. This sample would also have 80% power to detect a 10% absolute change in the primary outcome for the entire population.

RESULTS: Of 954 women enrolled, 912 (95.6%) had outcomes. Randomization groups were balanced at baseline for race, BMI, nulliparity, gestational age at randomization, and HbA1c. Of the 454 (49.7%) randomized to early screening, 69 (15.2%) were diagnosed with GDM: 29 (6.4%) < 20 wks and 40 (8.8%) > 24 wks. Of 458 randomized to routine screening, 56 (12.2%) had GDM. Early screening did not reduce the incidence of the primary outcome as it was nominally higher in the early group (59.0% vs 53.3%, $p = 0.08$, Table 1). PIH was not reduced in the early group (13.5% vs 9.6%,