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Improved Cardiovascular Outcomes in Pregnant Women Seen in a Safety Net Hospital

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Abstract Form

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Abstract

Background:

The rate of morbidity and mortality due to cardiovascular disease in pregnant women is on the rise in the United States. Studies have shown this is largely due to preventable factors at the provider level. This has led to the emergence of multidisciplinary cardio-obstetrics teams similar to the joint Maternal Fetal Medicine-Cardiology clinic at Harbor-UCLA Medical Center.

Objective:

Characterize race, ethnicity, socioeconomic status, maternal antepartum cardiovascular and obstetric comorbidities, and maternal and neonatal outcomes in patients followed in this clinic. Determine if the presence of a delivery plan developed by the multidisciplinary team influences care during labor and delivery.

We hypothesize that this population will have a higher incidence of maternal and neonatal outcomes, lower socioeconomic status, and higher number of Black and Latina patients. We also hypothesize that the delivery plan, when present, will impact provider choices at the time of delivery.

Methods:

This is a retrospective, single center study of the cardio obstetric clinic at a safety-net hospital that cared for 50 women from January 2019 to May 2022. Baseline characteristics (demographics, comorbidities, medications), birth plans, and CARPREG score were collected from initial clinic encounter. Outcome measures included cardiovascular and obstetric complications occurring from time of first encounter (if pregnant) or onset of pregnancy until six months postpartum, maternal and neonatal ICU admissions, and maternal readmissions. If delivery occurred at the participating center, labor and delivery course was analyzed to determine influence of delivery plan on provider decisions.

Results:

After exclusions, 26 women were included in the study analysis. 62% of women were primigravid, with most referred in the first and second trimester (35%, 31%). The most common cardiovascular disease among our women was congenital heart disease (50%), followed by cardiomyopathy (31%), arrhythmias (8%), and pulmonary hypertension (4%). While only 12% identified as Latino race, 62% of women identified as Mexican, 15% Central American, and 8% Latin American. All women had Medicaid as their primary healthcare insurance. 58% of women had CARPREG II scores <3 and the median CARPREG II scores was 3 (IQR 0.25-4.75). Among our 21 pregnancies, 15 (71%) had birth plans developed by our cardio-obstetric team. This plan was fully executed at time of delivery in 93% cases. Only 4 out of 49 patients had cardiac complications, all of which were heart failure exacerbations, with no arrhythmias, cardiac deaths or cardiac arrests. No women required peripartum ICU admission. 30-day readmission rate was 12% and 90-day readmission rate 0. There was a high rate (67%) of cesarean deliveries, of which 3 occurred due to maternal complication and 4 were due to fetal complication. 8 (42%) neonates required ICU admission for reasons including: prematurity (62%), respiratory distress (62%), small for gestational age (5%), and congenital heart defect (5).

Conclusion:

Women seen in the Cardio-Obstetric clinic at Harbor-UCLA Medical Center, a safety-net hospital, are largely of Mexican and Central American ethnicity. All women had Medicaid health insurance, which highlights the low socioeconomic status of the population. Unexpectedly, CARPREG score were low with a median score of 3. In 93% of cases, the delivery plan developed by our multidisciplinary team influenced provider choices at the time of delivery. Contrary to our hypothesis, our women had a low rate of complications with only 15% experiencing heart failure exacerbations. As predicted, neonatal complications were high, at 67%.