142. Maternal and Neonatal Outcomes Among Pregnant Women With Heart Disease in the Philippines: A Retrospective Cross-Sectional Study From 2015-2019

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Body

Background: Several studies link cardiovascular disease (CVD) to maternal and fetal morbidity and mortality among affected women and their unborn children. This study describes the profile of maternal, obstetric, and neonatal outcomes among pregnant women with CVD in a tertiary hospital in the Philippines. It identifies the clinical and sociodemographic variables associated with these outcomes.

Methods: A single-center, retrospective analysis of pregnant women admitted for delivery at the Philippine General Hospital from 2015 to 2019 was performed. Of these patients, pregnant women with CVD were identified as the cohort for this study. Data on clinical and sociodemographic factors, maternal major adverse cardiovascular events, neonatal adverse clinical events, and obstetric complications were collected. Logistic regression analysis was performed to determine the odds ratio for the risk factors for small-for-gestational-age (SGA) babies and preterm birth.

Results: Among 30,053 delivery admissions in the Philippine General Hospital from 2015 to 2019, 293 (0.98%) pregnant women had CVD. Of the CVDs present in this cohort, congenital heart diseases (n = 119, 40.6%) were the most common, followed by rheumatic heart disease (n = 109, 37.2%). The majority (83.6%) of the women included in the study were delivered by spontaneous vaginal delivery and assisted vaginal delivery by vacuum or forceps; however, a significant portion of these women had undergone cesarean section. Almost all of the study cohort delivered live births, with most neonates having 37-38 weeks gestational age. However, a significant portion, a third of the neonates, was classified as low birth weight. Almost one out every five neonates born from gravidocardiac mothers end up getting admitted to the neonatal intensive care unit. Conditions associated with preterm birth were low educational attainment, previous history of early neonatal death, low ejection fraction, and abnormal left ventricular geometry. The conditions associated with SGA babies were high gravidity and parity, a history of abortion/stillbirth, a history of previous cesarean section delivery, low ejection fraction, a history of multiple gestations, and higher BMI.

Conclusion: In this cohort study, CVD in pregnancy is associated with increased preterm birth and SGA babies. We identified certain maternal conditions and sociodemographic factors associated with these outcomes. Despite having CVD, our study cohort had no mortality from the pregnancy.

Maternal Outcomes of Pregnant Women with Cardiovascular Disease from 2010 to 2019

Maternal Obstetric Outcomes	Frequency n=293	Relative Frequency (%)
Adverse Maternal Outcomes	0	0
Maternal mortality	0	0
Maternal cardiac arrest	0	0
Shock/ need for vasopressors	0	0
Acute respiratory failure/ intubation	2	0.7%
Acute renal failure or need for renal replacement therapy	0	0
ICU Admission	2	0.7%
Specific Major Adverse Cardiac Outcomes		
Worsening/Decompensated heart failure	2	0.7%
Acute pulmonary edema	0	0
Venous thromboembolism (DVT, PE)	3	1.0%
Acute myocardial infarction	0	0
Near-fatal/ symptomatic arrhythmia	4	1.4%
Stroke/ cerebrovascular events	1	0.3%
Aortic dissection	0	0

Neonatal Outcomes of Pregnant Women with Cardiovascular Disease from 2010 to 2019

Neonatal Outcomes	Frequency n=293	Relative Frequency (%)
Live Births	291	99.3%
Still Births/ Abortions	0	0
Unknown	2	0.7%
Birth Weight Classification (WHO)		
Extremely Low Birth Weight (<1000g)	0	0
Very Low Birth Weight (<1500g)	5	1.7%
Low Birth Weight (1500-2500g)	92	31.4%
Normal (2500-4000g)	193	65.9%
Macrosomia (>4000g)	2	0.7%
Unknown	1	0.3%
Adverse Neonatal Outcomes		
Neonatal Prematurity	47	16.0%
Neonatal ICU Admission	51	17.4%
Neonatal Intubation/ Acute Respiratory Failure	0	0
Early Neonatal Death	2	0.7%

DVT – deep venous thrombosis, ICU – intensive care unit, PE – pulmonary embolism, WHO –World Health Organization

Clinical Implications: My study will help enable cardiovascular clinicians to know the epidemiology of heart problems among pregnant women in a third world country like the Philippines. My study will show the huge health care disparity among this group of population.