

EP16.52 Outcomes of pregnancy in patients with cardiac disease according to the modified WHO classification: systematic review and meta-analysis

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Objectives

To investigate the rate of obstetric and maternal outcomes in individuals with congenital or acquired cardiac disease according to the modified World Health Organization (mWHO) classification.

Methods

Medline, Cinahl, Cochrane Library and Scopus databases were searched electronically up to August 2025. We included prospective and retrospective studies on pregnancy outcomes in individuals with cardiac disease, reported according to the mWHO classification. A random-effects model with REML estimation was used to pool proportions, accounting for between-study heterogeneity.

Results

32 studies were included in the meta-analysis, encompassing 95.400 pregnancies in individuals with cardiac disease. The rate of cardiac adverse event progressively increased from 2.9% (95% CI 1.5-4.4) in mWHO I to 50.8% (95% CI 40.9-60.7) in mWHO IV. Similar trends were observed for admission to ICU and maternal death, which reached 7.3% (95% CI 3.4-11.1) in mWHO IV. Among obstetric outcomes, the rates of hypertensive disorders were found higher in the lower-risk groups, decreasing from 10.6% (95% CI 6.1-15.0) in mWHO I, to 2.0% (95% CI 0.7-4.6) in mWHO IV. Other outcomes, including stillbirth, preterm birth and small for gestational age were more frequent in higher-risk groups. Similar trends were observed for neonatal outcomes, with higher rates of admission to neonatal intensive care unit in mWHO IV (47.8%, 95% CI 14.4-81.2) than in mWHO I (7.4%, 95% CI 2.9-11.9), and higher rates of congenital heart disease in the newborn (13.5%, 95% CI 4.3-22.7) in mWHO IV, compared to mWHO I (2.8%, 95% CI 0.7-6.3).

Conclusion

Pregnancy in individuals with cardiac disease is associated with a high burden of maternal, obstetric, and neonatal complications that increases across mWHO classes. The mWHO classification identifies individuals at progressively higher risk of both cardiovascular and perinatal adverse outcomes, supporting its role in clinical risk stratification and counseling