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A sociodemographic approach to congenital heart defects: epidemiology and mortality in Panama.

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Introduction: It is estimated that 26.6% to 48% of children with birth defects die because of a congenital heart defect (CHD). Globally, the prevalence of CHD remains stable around 8 to 9 cases per 1000 live births, but it is known that the burden of CHD falls heavier in countries with higher fertility rates. In our region, large epidemiologic studies are needed to contribute to a wider understanding of CHD. Our main goal is to describe the main sociodemographic and clinical features of patients with CHD in a third world scenario and establish differences in mortality according to these attributes.

Methods: We conducted a retrospective observational study in children with CHD born between 2010 and 2014. A national database was used for data collection deriving from all the institutions with a pediatric cardiologist in Panama. An approximate of 2500 children were born with CHD during this time and our final sample size was 954. Exclusion criteria were preterm patients with a single patent ductus arteriosus, bicuspid aortic valve and Marfan syndrome.

Results:

The most common defects found were patent ductus arteriosus in 362 cases (37.9%), followed by ventricular septal defect in 360 patients (37.7%) and atrial septal defect in 184 (19.3%). Total anomalous pulmonary venous drainage was the most common critical CHD, reported in 94 cases (10%). Maternal indigenous ethnicity showed to be a risk factor for this development of this latter pathology (OR = 4; 95% CI 2.64-6.07). A total of 284 (30%) of the patients died during this period. A survival analysis was performed between the indigenous and the non indigenous patients, and mortality was significantly higher in the first group (HR = 1.4; 95% CI 1.1-1.8).

Conclusions:

Mortality seems to be higher in the more vulnerable groups. Poverty and lack of access to health service might play a critical role in the course of the disease in children from ethnic minorities. Further studies are needed for a more complex understanding of sociodemographic aspects of CHD and how they impact health outcomes and mortality.