Clinical Epidemiology of Atrioventricular Septal Defects among Children at Windhoek Central Hospital, Namibia, 2015-2020

P1-E4

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The incidence of AVSD at Windhoek Central Hospital (WCH) was 0.22 per 1000 live births, it is close to the global AVSD incidence. Children with Down Syndrome (DS) were 4.2 times the risk of having AVSD compared to children without DS.

BACKGROUND

- Atrioventricular Septal Defects (AVSD) are a spectrum of congenital heart malformations characterized by:
  - Varying degrees of incomplete development of the septal tissue surrounding AV valves & to the valves themselves
- Associated with high morbidity and mortality
  - Global incidence 0.24 – 0.31 per 1000 live births
  - Account for 7.4% of all cardiac malformations globally
- Early diagnosis is essential for appropriate medical treatment & prompt surgical intervention
- Despite an alarming surge of AVSD cases at WCH, there is paucity of published data
- Study aimed to assess the clinical epidemiological burden of AVSDs among children at WCH

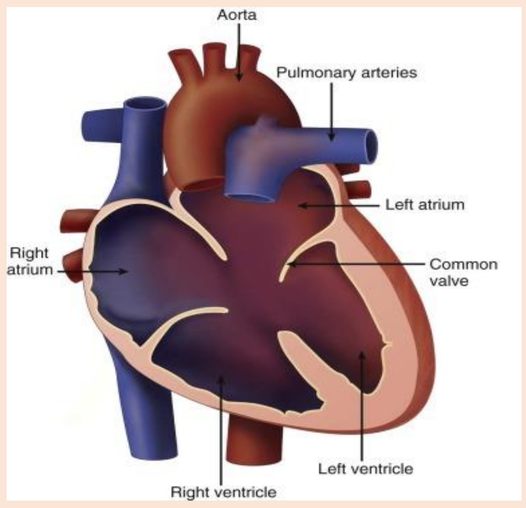

Figure 1. AVSD

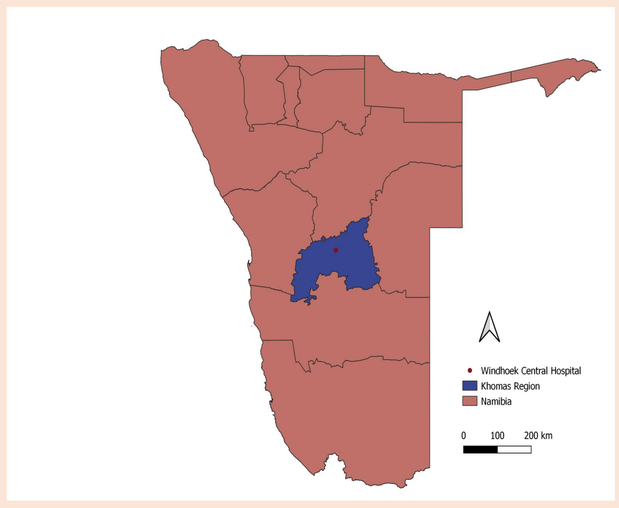

Figure 2. WCH

METHODS

- Retrospective cohort study
- Data obtained from WCH Paediatric Cardiology patient records
- Inclusion criteria: Children aged between 0 -12 years diagnosed with AVSD at WCH Paediatric Cardiology clinic between 2015 - 2020
- Exclusion criteria: AVSD cases diagnosed outside WCH, those aged > 12 years and those whose diagnosis was amended to a different defect
- Diagnosis criteria: Clinical and echocardiographic assessment; other cardiac imaging
- Descriptive statistics were performed

RESULTS

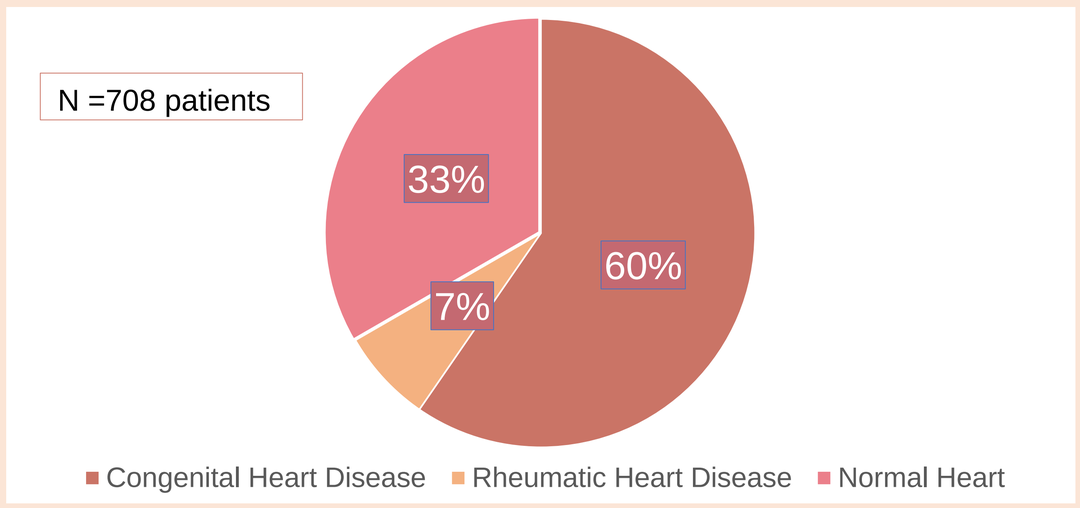

Figure 3. Patients seen at WCH Paediatric Cardiology Clinic between 2015 -2020

- Total of 91 children born with AVSD were captured in the study
- The incidence of AVSD was 0.22 per 1000 children
- Male: female ratio was 1:1.3
- Mean age at diagnosis was 16.4 months ± 4.7
- DS accounted for 51.6% (47) of all AVSD cases
- Only 1/8 of cases received corrective cardiac surgey

RESULTS CONTINUED

- About 15.4% AVSD cases were diagnosed late
  - Already established irreversible pulmonary hypertension
  - Among these 4.4% demised

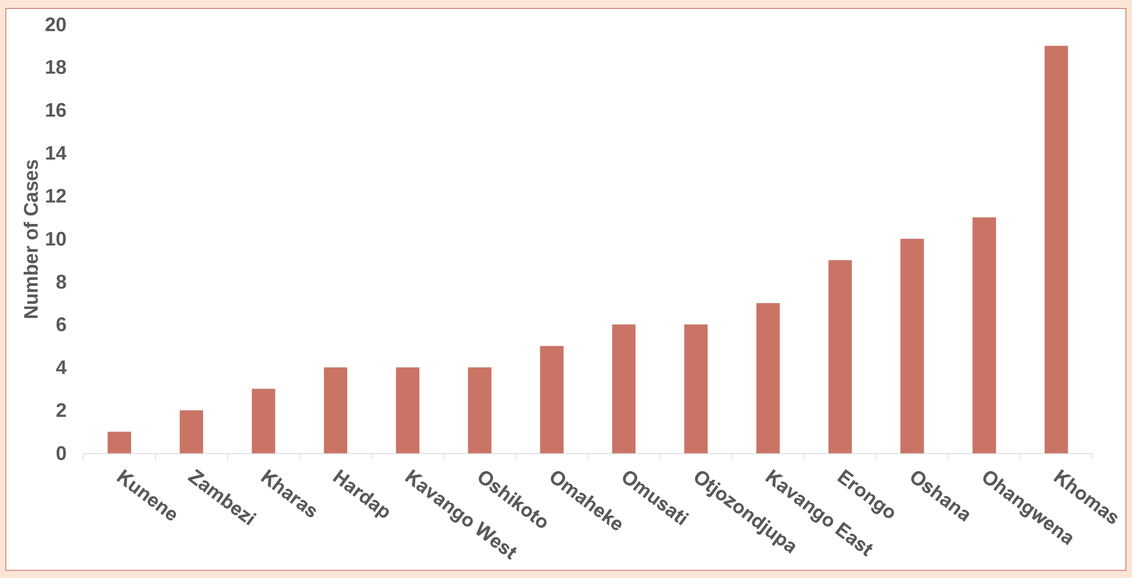

Figure 4. AVSD Cases per Region

Table 1. AVSD Risk Factors in Patients with CHD at WCH Paediatric Cardiology Clinic, 2015 – 2020

Variable	Category	AVSD (%)	No AVSD (%)	p-value
Prematurity:	Premature	18 (15.5)	98 (84.5)	
	Non-Premature	73 (24.1)	230 (75.9)	0.05
Down Syndrome:	Down Syndrome	47 (55.3)	38 (44.7)	
	Non-Down Syndrome	44 (13.2)	290 (85.8)	< 0.001

CONCLUSION

- The incidence of AVSD in Namibia is close to the global AVSD incidence
- DS is the most common syndrome
- Public Health Actions:
  - Increased awareness campaigns on CHD (media platforms, sports)
  - Widened the CHD outreach program to 2 different regions
  - Proposed rotation of medical officers and interns in cardiac unit for exposure and practical training to build capacity
- Established collaborations with institutions of higher learning & other international entities for specialized training of health professionals
- There is need to conduct further research on the epidemiology of other types of CHD, their risk factors and possible causes

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