

NUTRITIONAL AND CARDIOVASCULAR PROFILES AMONG CHILDREN WITH AND WITHOUT CONGENITAL HEART DISEASES IN IBADAN, NIGERIA

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INTRODUCTION

Among the many adverse sequelae of congenital heart disease (CHD), malnutrition stands out as one of the major concerns as a result of its grave consequences in children. This study was undertaken to compare the nutritional status, some electrocardiographic and echocardiographic parameters between children with CHD and their apparently healthy controls.

METHODS

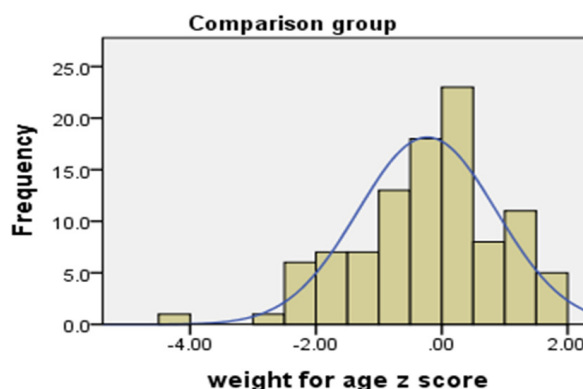
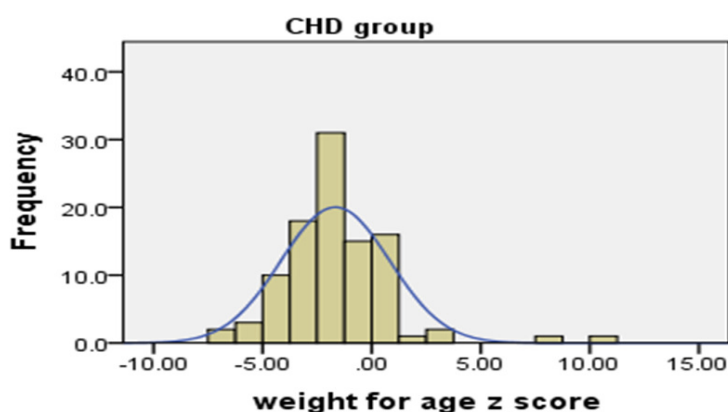
Electrocardiography, echocardiography and nutritional status parameters were measured in consecutive 100 children with known CHDs and 100 age, sex and social class matched apparently healthy controls. Parental ages were obtained and mid-parental heights were determined. Associations were tested using student t test, Chi square test and Mann-Whitney U while partial correlation was used to determine relationship between nutritional indices and electrocardiographic as well as echocardiographic parameters. Conditional logistic regression was used to determine the nutritional indices that are significant predictors of malnutrition. The level of significance was set at $p < 0.05$.

RESULTS

Variable	Subjects (%)	Comparison group (%)	P value
Mother's age (years)			
≤35	69	83	0.06
36-45	29	15	
≥46	2	2	
Total	100	100	
Father's age (years)			
≤35	28	48	0.01
36-45	59	46	
≥46	13	6	
Total	100	100	
Mid parental height (cm)			
≤160	16	5	<0.01
161-170	83	82	
≥171	1	13	
Total	100	100	

Comparison of the parental ages and mid parental heights of the two groups. The CHD group also significantly had higher p wave amplitude ($1.85 \pm 0.96\text{mm}$ versus $1.46 \pm 0.47\text{mm}$), QRS axis ($112.63 \pm 89.60^\circ$ versus $58.40 \pm 32.39^\circ$) and fractional shortening ($41.94 \pm 13.21\%$ versus $37.97 \pm 11.25\%$). There was no strong correlation between nutritional indices and ECG or left ventricular function parameters from echocardiography in both study groups.

RESULTS



There were 54 males with CHD and the age range was 1-96 months. The commonest acyanotic CHD was ventricular septal defect (49.0%) while the commonest cyanotic CHD was Fallot's tetralogy (10%). Children with CHD compared with the comparison group had significantly lower mean z scores for weight for height (-1.28 ± 2.01 versus -0.05 ± 1.70), height for age (-1.67 ± 2.49 versus -0.41 ± 2.64) and weight for age (-1.15 ± 3.50 versus -0.23 ± 1.00). The mid upper arm circumference, triceps and subscapular skinfold thickness were also lower than that found in the comparison group. The comparison group was 4 times likely to have normal weight for age compared with the CHD group (OR= 4.04, 95% CI= 1.96-8.37). There was no significant difference in the duration of breastfeeding in both study groups and the weaning diets and frequency of feeding were similar.

CONCLUSION

Malnutrition can be quite severe in children with CHD if unattended to. Early corrective intervention is necessary to prevent short-term and long-term sequelae of malnutrition in these children.

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