Perception of Quality of Life: A Comparison Between Children with Heart Disease and Chest Pain or Syncope

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Purpose: The primary aim of this study was to identify differences in patient-reported quality of life(QOL) in pediatric patients referred for an exercise stress test(EST). Specifically, relationships between QOL and severity of congenital heart disease(CHD), reported cardiac symptoms in non-CHD patients, markers of exercise capacity, and use of cardiac and psychiatric medications were evaluated.

Methods: The Pediatric Quality of Life Inventory Generic Core Scales and Cardiac Module were administered prior to beginning their exercise stress test. Patients rate their quality of life based on the following categories: About School, About My Feelings, Cognitive Problems, Communication, Health and Activities, Heart Problems/Treatment, How I Get Along With Others, Perceived Physical Appearance, Treatment Anxiety, and Treatment II (for the use of cardiac medications). QOL scores were compared between the following groups: CHD patients requiring cardiac surgery versus those without CHD referred for cardiac symptoms, use of cardiac medications versus non-use of cardiac medications, and use of psychiatric medications versus non-use of psychiatric medications. Appropriate statistics were performed by a biostatistician which included t-tests and univariate general linear models(GLM).

Results: There were 478 patients (56.1% male). Patients were 13.7±2.7 years old. Results from multivariable GLM models indicated that exercise duration is significantly associated with all quality of life categories except Treatment II ($p<0.008$, for all). Psychiatric medication usage is negatively associated with six quality of life categories ($p<0.033$, for all). Female patients had significantly lower scores in Communication, Health and Activities, Heart Problem/Treatment, Perceived Physical Appearance, and Treatment Anxiety categories than male patients ($p<0.005$, for all). Age at stress test is positively associated with both Treatment Anxiety and How I Get Along With Others scores ($p<0.0001$, both). There is a negative relationship between BMI and Perceived Physical Appearance and How I Get Along With Others ($p<0.005$, both). Presence of any heart disease is significantly associated with About My Feelings, Health and Activities, Heart Problems/Treatment and Treatment II ($p<0.015$, for all). Patients referred for chest pain reported lower QOL in Health and Activities($p=0.01$), Treatment II($p=0.02$) and Heart Problems/Treatment($p=0.04$) than those with CHD requiring surgical intervention. These patient groups reported similar QOL scores in all other categories. No differences were seen between CHD patients and those referred for syncope. This held true even when subgrouping CHD patient with severe CHD (single ventricle physiology and severe Ebstein's anomaly post-palliation).

Conclusions: The top five predictors of QOL in all patients referred for EST include: exercise duration, use of psychiatric medication, gender, BMI, and age. Patients referred for chest pain reported similar QOL to those with CHD requiring surgical intervention. Patients referred for syncope reported similar QOL to those with severe CHD.