

Effect of Six Minute Walk Test on Physiological Variables among Normal Weight and Overweight Children - A Quasi-Experimental Study

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Abstract

Obesity is when a person is carrying too much body fat for their height and sex. Without lifestyle changes to increase the amount of physical activity done on a daily basis, or reduce the amount of calories consumed, people can become obese. Childhood obesity is also a global problem. Obesity and overweight, in addition to their related diseases, are largely preventable by early identification and treatment. The intention of this study is to compare the effects of six minute walk test on physiological variables among normal weight versus overweight children. The study was conducted in three different schools. 150 children who satisfied with inclusion criteria of the study were selected from three schools via stratified random sampling. The subjects were divided into 2 groups - Group I with normal weight children and Group II with overweight children. Each group contained 75 subjects. The six-minute walk test (6MWT) was administered to all the children. The participant's Physiological Variables (BP, HR, RR, and RPE) were recorded, before and instantaneously following the test. The findings revealed that the resting SBP, DBP, HR and RR were observed to be significantly higher ($p < 0.0001$) in Overweight children than Normal Weight children. There are differences observed in the physiological variables with 6MWT in overweight children when compared with normal weight children {NW: SBP – 10.67%, DBP – 0.84%, HR – 13.74%, RR – 44.30%; OW: SBP – 7.43%, DBP – 2.54%, HR – 15.67%, RR – 36.77%}. Six-minute walk distance (6MWD) was 6.16 % higher in NW than OW children. These differences were statistically significant (p value = < 0.0001 , NW: 509.96M, OW: 479.46m).