Influence of nutritional status on postural balance in children: A pilot study [Influencia del estado nutricional sobre el equilibrio postural en niños: Un estudio piloto]

Guzmán-Muñoz E.

Valdés-Badilla P.

Concha-Cisternas Y.

Méndez-Rebolledo G.

Sazo-Rodríguez S.

Introduction: Increased body mass index may affect the performance of functional tasks, such as balance, increasing the risk of falls and injuries; however, evidences are limited in children. The aim of this study was to determine the influence of nutritional status on postural balance in children between 6 and 9 years old. Material and Methods: Cross-sectional descriptive study. 71 children between 6 and 9 years old were evaluated. Weight and height were measured. Balance was measured with eyes-open (EO) and eyes-closed (EC) on a force platform. The following variables were obtained of the center of pressure (CP): area, mean velocity, mediolateral velocity and antero-posterior velocity. Lineal regression was used to explore the association between the CP variables and overweight and obesity versus normal weight adjusted by sex. Results: The children with excess body mass presented higher values in the CP variables such as mean velocity EO (?=0.018; p=0.005), mediolateral velocity EO (?=0.122; p=0.005), anteroposterior velocity EO (?=0.041; < 0.001), mean velocity EC (?=0.009, p < 0.001), mediolateral velocity EC (?= 0.067, p < 0.001) and anteroposterior velocity EC (?=0.409; p < 0.001). These last two variables adjusted by sex. In addition, significant correlations were observed between increased BMI and poor postural balance (p < 0.05). Conclusions: Overweight and obese children between 6 and 9 years old have a lower postural balance than normal weight. With eyes closed, the sex variable also influences postural control.

Child

Nutritional status

Obesity

Overweight

Postural balance

antero posterior velocity

Article

body equilibrium

body mass

body weight

child

childhood obesity

controlled study

cross-sectional study

dietetics

female

human

major clinical study

male

mean velocity

mediolateral velocity

nutrition

nutritional status

scientific literature

sex

Spain

velocity