

Relationship between body adiposity and horizontal jump in school children and adolescents [Relación entre adiposidad corporal y salto horizontal en niños y adolescentes escolares]

Sepúlveda Cáceres X.

Méndez Cornejo J.

Duarte Farfán C.

Herrera M.

Gómez-Campos R.

Lazari E.

Cossio-Bolaños M.A.

A high level of physical fitness in childhood and adolescence is associated with more favorable physical and mental health outcomes. Objective: To compare body adiposity and horizontal jump performance with international studies and to analyze the relationship between body adiposity and horizontal jump performance indicators in children and adolescents. Patients and Method: Descriptive study conducted on 812 adolescents from Talca (Chile), with an age range between 10.0 and 16.9 years. Weight, height, waist circumference (WC) and Horizontal jump (HJ) were evaluated after warm-up for 10 to 15 minutes to evaluate the explosive strength of the lower extremities according to the protocol of Castro-Piñero et al. Adiposity and HJ were compared with national and international studies. The data normality was verified by the Kolmogorov-Smirnov test. Smoothed percentile curves (p_{50}) were created for BMI, WC, and HJ for each gender according to the LMS method. Results: Adolescents showed differences in body adiposity and HJ performance with international studies. In both genders, negative and significant correlations were found between the BMI and the HJ (men $r = -0.104$ and women $r = -0.149$) and between the WC and the HJ (men $r = -0.100$ and women $r = -0.131$). The adolescents who were classified in tertile 1 (good) and tertile 2 (satisfactory) had lower body adiposity (BMI and WC) and better HJ performance than those in tertile 3 (poor). Conclusion: Higher body adiposity and lower HJ performance were observed

compared to international studies. In addition, a negative relationship between body adiposity and HJ was found. These findings suggest that the progressive increase of adiposity as age increases negatively affects the strength performance of the lower extremities of the studied children and adolescents. © 2019, Sociedad Chilena de Pediatría. All rights reserved.

Adiposity

Adolescents

Muscular strength

Physical fitness

adolescent

age

Argentina

Article

body fat

body height

body mass

body weight

Brazil

child

exercise

female

fitness

human

joint mobility

jumping

lower limb

Macedonian (people)

male

obesity

school child

waist circumference

case control study

childhood obesity

pathophysiology

physiology

Adiposity

Adolescent

Case-Control Studies

Child

Female

Humans

Male

Pediatric Obesity

Physical Fitness