

Cardiorespiratory fitness as a mediator of the influence of diet on obesity in children

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The association between diet and obesity has been widely studied and it continues to be controversial; however, the extent to which cardiorespiratory fitness (CRF) acts as a confounder or mediator in this relation has not been analyzed. The aim of this study is to examine if the relation between diet and obesity is mediated by CRF. In this cross-sectional study, fat mass (by electronic bioimpedance) was measured in 320 schoolchildren, aged 9?11 years. Diet was measured through two computerised 24-h dietary recalls and CRF was assessed by the 20-m shuttle run test. Simple mediation analyses were fitted. CRF acts as a partial mediator in the negative relationship between dietary factors (energy intake/weight, carbohydrate intake/weight, protein intake/weight, and fat intake/weight) and fat mass. The percentage of mediation ranged from 24.3 to 33.2%. Thus, Spanish schoolchildren with higher levels of energy and macronutrients intake had lower adiposity levels, especially when they had good levels of CRF. © 2018 by the authors. Licensee MDPI, Basel, Switzerland.

Children

CRF

Energy intake

Fat intake

Mediation

Obesity

Article

body composition

body mass

caloric intake

carbohydrate intake

cardiorespiratory fitness

child

controlled study

cross-sectional study

diet

dual energy X ray absorptiometry

fat intake

fat mass

female

food intake

human

impedance

macronutrient

male

obesity

oxygen consumption

protein intake

randomized controlled trial

school child

sexual maturation

waist circumference

age

childhood obesity

epidemiology

exercise test

metabolism

pathophysiology

randomized controlled trial (topic)

risk factor

Spain

Adiposity

Age Factors

Cardiorespiratory Fitness

Child

Confounding Factors (Epidemiology)

Cross-Sectional Studies

Diet

Dietary Fats

Electric Impedance

Energy Intake

Exercise Test

Female

Humans

Male

Pediatric Obesity

Randomized Controlled Trials as Topic

Risk Factors

Spain