Abstract

Background: the risk factors associated to metabolic syndrome (MS) have been extensively studied in adults, but in children and adolescents it is poorly explored. Objective: To identify the prevalence of MS and associated factors in children and adolescents. Methods: A cross-sectional study with 540 children and adolescents from 7 to 14 years of age. The socioeconomic, demographic and lifestyle data and the family history of chronic diseases were reported by the individual and/or guardian and recorded in a structured questionnaire. Biochemical tests (fasting blood glucose, triacylglycerols, reduced high-density lipoprotein, very-low-density lipoprotein, homocysteine and cysteine), an anthropometric assessment and a blood pressure measurement were performed. MS was defined according to the criteria of The National Cholesterol Education Program Adult Treatment Panel III adapted by Ferranti. A Poisson regression was used to identify the factors statistically associated with MS. Results: The MS prevalence was 12.8%, in which the most frequent component was a decreased high-density lipoprotein level (58.2%), followed by hypertriglyceridemia (41.8%), elevated blood pressure (29.1%), increased waist circumference (26.7%) and hyperglycemia (7.2%). Associations between metabolic syndrome and overweight [prevalence ratio (PR): 2.2 (1.22-3.95)], father education [PR: 2.19 (1.10-4.37)], serum very low-density lipoprotein concentration [PR: 1.08 (1.04-1.11)] and concomitantly increased serum homocysteine and cysteine concentrations [PR: 2.58 (1.32-5.04)] were observed. Conclusions: The MS prevalence is high in children and adolescents and it is increased in patients with overweight, higher father education, increased serum very-low-density lipoprotein concentrations and a concomitant serum homocysteine and cysteine high levels.

Keywords