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Title: Sleep duration and cardiovascular risk in children and adolescents with overweight/obesity

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Body: Background: Short sleep duration is associated with hypercholesterolemia and insulin resistance, being suggested as predisposing factor for obesity, cardiovascular disease and sleep disorders. Objective: To evaluate the association of sleep duration with cardiovascular risk factors in children and adolescents who are overweight or obese. Methods: The sample consisted of 140 subjects who are overweight (Body Mass Index - BMI < P97) or obese (BMI ≥ P97), aged five to 18 years of a reference center in Brazil. A sociodemographic questionnaire and Quality Index of the Pittsburgh Sleep were applied. Were also measured weight, height, waist circumference, lipid profile, glucose, insulin, index of glucose homeostasis (HOMA-IR), glycated hemoglobin, C-reactive protein, leptin and blood pressure. The duration of sleep was classified as short sleep duration (SSD) < 8 hours and adequate sleep duration (ASD) ≥ 8. Statistical analysis used the SPSS 17 and conducted using the chi-square test for trend, analysis of variance, Pearson correlation and multiple logistic regressions, the significance level was 5%. Results: Mean sleep duration was 8.54±1.74 hours. The ASD was found in 61.4% and the SSD was found in 38.6% of the sample. The SSD was more frequent in females, adolescents and obese subjects. The SSD was associated with higher mean age (P=0.002), BMI (P=0.000), waist circumference (P=0.000), insulin (P=0.021), HOMA-IR (P=0.012) and leptin (P=0.018). Conclusions: The SSD is associated with cardiovascular risk factors becoming indispensable to evaluate sleep habits in children and adolescents who are overweight or obese and propose guidelines regarding sleep hygiene.