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

Ms. Rafaela 980 Pedrosa rafaela_pedrosa@yahoo.com.br 1, Mrs. Aline 981 Sena ft.alinesena@hotmail.com 2, Ms. Anajás 982 Cardoso jajas-cardoso@hotmail.com 2, Prof. Dr Danielle 983 Carvalho daniellefranklin6@gmail.com 2, Prof. Dr Jovany 984 Medeiros jovany.medeiros@gmail.com MD 2, Ms. Nathalia 985 Gonzaga nathalia@gonzaga@gmail.com 2 and Prof. Dr Carla 986 Medeiros carlamunizmedeiros@hotmail.com MD 2. 1 Department of Physiotherapy, Federal University of Rio Grande do Norte, Natal, Rio Grande do Norte, Brazil, 59072-970 and 2 Department of Nursing, State University of Paraíba, Campina Grande, Paraíba, Brazil, 58109-790.

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.