THE RELATIONSHIP BETWEEN SLEEP TIME AND OBESITY

INTRODUCTION

Childhood obesity (CO) is an important risk factor for the development of many chronic metabolic diseases of the adult age. It is a known fact that sleep patterns affect the levels of leptin and ghrelin in the organism. Recent studies with Functional Magnetic Resonance Imaging (fMRI) have shown that insufficient sleep time leads to unhealthy food consumption in the brain.

AIM

The aim of this study is to investigate the association between sleep time in childhood and obesity. In line with this association, the effect of early sleep time on insulin resistance and lipid profile are the first questions that comes to mind. Accordingly, we investigate ‘whether sleeping early prevent obesity’.

METHOD

• The study included 115 obese children with a BMI ≥ 95th percentile.
• After detailed history, anthropometric evaluation and physical examination in 115 cases who applied to our Pediatric Endocrinology clinic, biochemical (fasting serum glucose, lipid profile) and hormone panels (fasting insulin) were searched.
• Clinical assessments included insulin resistance measured by HOMA-IR ([Fasting blood glucose (mmol/L) x serum fasting insulin (mIU/L)] / 22.5). Also we measured the triglyceride and HDL levels of each patients.
• Moreover, we divided our cases into two groups as sleepers between 21:00-21:30 and later sleepers.

CONCLUSIONS

• The mean weight and BMI SDS were 73.31 kg and 2.98, respectively, and the mean triglyceride and HDL levels of those who slept between 21:00 and 21:30 were 84.13 mg/dl and 49.67 mg/dl, respectively.
• Moreover, the mean triglyceride and HDL values of the patients who slept after 21:30 were 106.31 mg/dl and 44.34 mg/dl, respectively. Accordingly, the TG levels of patients who slept between 21:00-21:30 were lower than those who slept later (p = 0.019).
• In contrast, HDL levels of patients who slept between 21:00-21:30 were significantly higher than those who slept later (p = 0.019). While the average HOMA-IR index of sleepers between 21:00-21:30 was 4.78, the average HOMA-IR index of late sleepers was 5.21 (p = 0.527).
• The analysis shows that patients who sleep earlier (21:00-21:30) have lower HOMA-IR index and lower triglycerides and higher HDL levels. The results further show that early sleep reduces insulin resistance and prevents dyslipidemia.

REFERENCES


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