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Evaluation of the Sleep Quality, Sleep Duration and Resting Metabolic Rate: A Pilot Study

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People spend one third of their lives when sleeping. It is suggested that the decrease in the time spent for sleeping associated with prevalence of obesity and diabetes. Restriction of sleep duration has been shown to alter the metabolic hormones that play a role in regulation of some neuroendocrine and energy balances. This is a pilot study was conducted with participation of 18 individuals between 19-23 years age. Sleeping quality of the individuals were assessed through the Pittsburgh sleeping quality index (PSQI) and resting metabolic rate (RMR) was measured with Cosmed, Fitmate-PRO. According to PSQI, 7 individuals have good sleep quality (PSQI ≤ 5) and 11 individuals have poor sleep quality (PSQI > 5). Mean age of the individuals with good sleep quality 20.3 ± 1.11 and 20.5 ± 1.50 individuals with poor good sleep quality, there were no statistical differences between groups ($p > 0.05$). Mean body mass index (BMI) and body fat ratio of the individuals with good sleep quality were 21.9 ± 3.37 ; $22.8\% \pm 4.49$ respectively, individuals with poor sleeping quality were found as 21.4 ± 2.64 ; $17.8\% \pm 6.17$ respectively. Resting metabolic rate of the individuals with good sleeping quality was found as 1655.1 ± 177.42 kcal, and resting metabolic rate of the individuals with poor sleeping quality was found as 1712.5 ± 349.59 kcal. Average RMR of the individuals with poor sleeping quality was found higher than individuals with good sleeping quality by 3,4% but there is no statistically significant difference between the groups ($p > 0,05$). The mean sleep duration of the individuals with good sleep quality were found as $7,2 \pm 0,48$ hours and individuals with poor sleeping quality were found as $5,4 \pm 1,21$ hours. The mean sleep duration time was found higher individuals with good sleeping quality (33.3%) than the individuals with poor sleeping quality. There were negative correlation between PSQI scores and sleep duration ($r: -0.644$, $p < 0.05$). In conclusion sleep quality and duration may affect the arrangement of energy balance. However mechanism of this affect should be scrutinized.

Biography:

Nilüfer Acar Tek has completed her PhD from Hacettepe University in 2008. She received the title of associate professor in 2013. She works as Assoc. Prof. Dr. at Gazi University, Faculty of Health Science, Department of Nutrition and Dietetics in Ankara/Turkey. She has published more than 100 articles, 15 books on public health nutrition and clinical nutrition and dietetics.

Osman Bozkurt graduated from Haliç University in 2013. He started master's degree at Gazi University, Turkey. His master education is still ongoing. He works as a research assistant at Gazi University.