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The Relationship between Nutritional Habits and Sleeping Patterns of Bursa Uludag University Medical Faculty Students

Demir AB^{1*}, Toprakci OF, Yildirim AA² and Çavuşoğlu R²

¹Faculty of Medicine, Department of Neurology, Bursa Uludag University, Bursa, Turkey

²Faculty of Medicine Term 3 Students, Bursa Uludag University, Bursa, Turkey

Introduction

Adequate and balanced nutrition is defined as the body's growth and renewal, necessary energy and nutrient intake and their use in a sufficient way [1]. Sleep is also an indispensable part of life like eating. There is increasing evidence that sleep affects eating behaviors [2]. Sleep influences eating patterns, but meal timing can also affect sleep [3]. Short sleep time, poor sleep quality, and later bedtime are all associated with increased food intake, inadequate nutrition, and excessive body weight [2]. Many studies show that there is a significant relationship between nutritional habits and sleep quality that significantly affects health status [1]. The aim of this study is to investigate the relationship between nutritional habits and sleep quality based on the results of the questionnaire and scale to be completed by Uludag University Medical Faculty students.

Aim

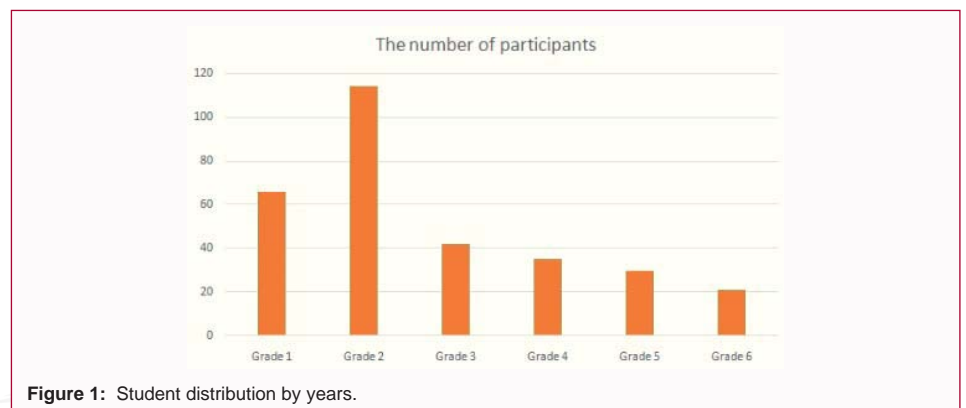
We expect to find a significant difference between the preclinical-clinical period students of Bursa Uludağ University Faculty of Medicine. The aim of this study is to investigate the relationship between nutritional habits and sleep quality of Bursa Uludağ University Medical Faculty students and to draw attention to the effect of nutrition on sleep quality.

Materials and Method

The questionnaires applied to this study were delivered to Bursa Uludag University Faculty of Medicine Class 1-6 students (N=2109) through Telegram term groups. This study was approved by Uludağ University Faculty of Medicine Clinical Research Ethics Committee on 25.12.2018 with decision number 2018-22/19. The validity and safety of the questionnaire were confirmed by Ağargün MY et al., (1996) and it consists of 20 questions about general information and 11 questions about detailed information, a total of 31 questions based on Pittsburgh Sleep Quality Index (PSQI). It takes approximately 10 minutes to complete the questionnaire. The survey was submitted online for 3 weeks via Google docs (google docs forms). After approval of the Informed Consent Form, the participants reached the questionnaire questions and the results were analyzed through Google docs.

Results

A total of 222 preclinical period students, 66 (21.4%) were term 1, 114 (37%) were term 2, and



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*Correspondence:

Aylin Bican Demir, Faculty of Medicine, Bursa Uludag University, Turkey.

Tel: 0-224-2951723

E-mail: aylinbican@mynet.com/
aylinbd@uludag.edu.tr

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Table 1: Average sleep times of students.

Average Sleep Time	Pre-clinic Students					Clinic Students				
	1-4 hours	4-6 hours	6-8 hours	8-10 hours	More than 10 hours	1-4 hours	4-6 hours	6-8 hours	8-10 hours	More than 10 hours
	1.16%	18.6%	62.79%	12.79%	1.16%	0.9%	15.76%	62.61%	20.27%	0.45%

Table 2: Distribution of students' daily habits.

	Pre-clinic Students		Clinic Students	
	Yes	No	Yes	No
Do you smoke?	14.9%	85.1%	19.8%	80.2%
Do you use alcohol?	22.5%	77.5%	29.1%	70.9%
Do you skip meals?	74.8%	25.2%	74.4%	25.6%
Do you use beverages containing caffeine? (coffee, energy drinks, tea, fizzy drinks)	91.9%	8.1%	95.3%	4.7%
Do you eat before you go to sleep	33.0%	67.0%	36.5%	63.5%
Do you have the habit of wake up and eat?	6.3%	93.7%	5.9%	94.1%

42 (13.6%) were term 3. A total of 86 clinical period students, 35 (11.4%) were term 4, 30 (9.7%) were term 5 and 21 (6.8%) were term 6 (Figure 1). A total of 308 Bursa Uludag University Medical Faculty students participated in the study instead of planned 2109 students. The average PSQI score of the students is 7.04. The mean PSQI of female students was 7.34; the mean PSQI of male students was found to be 6.57. The mean PSQI of the preclinical students was 6.95; the mean PSQI of clinical students was 7.07. 30.8% of the students were found to have good sleep quality.

Discussion

In a study conducted in China's medical school students, 27.9% of the students were found to have poor sleep quality [4]. In this study, the low sleep quality prevalence of students was found to be 27.8% [5]. In our study, this rate was 69.2%. In this study conducted in China, the mean PSQI score was 4.46 [6]. In our study, the mean PSQI score was 7.04. This comparison also shows us that sleep quality was lower in our study. In the study performed by Mayda et al., that includes 4th, 5th and 6th-grade medical students, the mean PSQI score of the students was found as 5.2±2.7 [6]. Compared to the PSQI average of the other clinical studies, it can be said that the clinical students in our study had a worse sleep quality with 7.07 mean PSQI score.

In our study, no significant result was found when the sleep quality of the preclinical and clinical students were compared ($p=0.219$) (Table 1). When the total sleep quality of male and female participants were compared, it was found that males had a better sleep quality than women ($p=0.006$).

83.7% of 308 participants (258 people) do not smoke. When the sleep quality of non-smokers was evaluated, it was found that 32.5% had good sleep quality; 67.5% had poor sleep quality. 16.3% of 308 people (50 people) are smokers. When the sleep quality of the smokers was evaluated, it was found that 78% had poor sleep quality (Table 2). Asghari et al.'s study showed that PSQI scores increased as the number of cigarettes smoked per day increased. In addition, the same study showed that smokers had a higher total PSQI score than non-smokers [7].

75.6% of 308 people (233 people) do not drink alcohol. When the sleep quality of non-alcohol users was evaluated, it was found that 67.4% had poor sleep quality. 24.4% of 308 people (75 people) drink alcohol. When the sleep quality of alcohol users was evaluated, 74.6% were found to have poor sleep quality ($p<0.001$) (Table 2). In a study

conducted at Dokuz Eylül University, it was found that alcohol users had worse sleep quality [8]. In a study by Lund et al., it was found that alcohol users had a worse sleep quality [9].

It was determined that 30.8% of those consuming beverages containing caffeine had good sleep quality and that 30.4% of those who did not consume caffeine drinks had good sleep quality (Table 2). However, we cannot come to a conclusion about the effects of caffeine since it is not known how much and how close to bedtime the caffeine was consumed.

The rate of people skipping meals is 74.67% and 27.3% of those had good sleep quality. 41% of those who did not skip meals had good sleep quality. In the research of Başkent University, the rate of good sleep quality was 28.1%; whereas it was found as 57.1% amongst participants who did not skip meals [1]. In the study of Qin LQ et al., it was found that the frequency of skipping breakfast was higher in people with short sleep time compared to those with normal sleep time [10].

It was determined that 20.7% of those who had the habit of eating before going to bed had good sleep quality whereas 36.1% of those who did not have the habit of eating before going to bed had good sleep quality (Table 2). In the study of Balci, it was found that eating before going to bed decreased sleep quality. It was reported that 27.3% of those who ate before bedtime; 49.4% of those who do not eat have good sleep quality [1]. Crispim et al., show that food intake near the sleep period is associated with the negative aspects of sleep patterns in healthy individuals, especially women [11].

It was determined that 26.3% of those who had the habit of getting up from sleep and eating had good sleep quality. It was determined that 31.1% of those who did not have the habit of getting up from sleep and eating had good sleep quality (Table 2). In the study of Balci, there was a significant relationship between sleep quality and sleep quality; 18.2% of those who woke up and consumed food had good sleep quality [1]. Crispim et al., stated that especially women tend to eat more at night and therefore their sleep quality is negatively affected [11].

It was found that 230 (74.67%) of the 308 people skipped meals and the most skipped meal was morning with a rate of 49.1% (Table 2). The most common reason for skipping meals was "I don't have time with the rate of 59.4% while the second and third most common reasons were "I am too lazy to prepare" and "I don't have the habit"

with the rates of 31% and 24, 6%, respectively. Carbohydrate-rich foods are usually selected in the snacks. The most common choices were wafer, chocolate, etc., with a rate of 60.7%. Crackers, biscuits, etc. were the second choice with the rate of 48.7% while fresh/dried fruits were third with a rate of 44.2%.

Conclusion

When the total sleep quality of the women was in terms of gender, it was found that the males had a better quality of sleep ($p=0.006$). Although the relationship between nutritional habits and sleep has not been clearly identified, studies have shown that they influence each other. When the relationship between eating habits and sleep is examined it was found that night's sleep affects and improves sleep quality positively. Food and beverages taken before bed time should be avoided. Smoking and alcohol intake have negative effects on sleep quality. Alcohol consumption should be avoided.

Medical students, who have important contributions in maintaining public health should be aware of this issue and represent an exemplary lifestyle in terms of nutritional habits, sleep quality. They are expected to conduct new studies and raise awareness of the relationship between eating habits and sleep quality.

Conflicts of interest statement: The authors report no conflicts of interests.

References

1. Balç K. The assessment of the relationship between nutritional status and sleep quality in adult subjects working at Başkent University Ankara Hospital. 2017.
2. Chaput JP. Sleep patterns, diet quality and energy balance. *Physiol Behav.* 2014; 134: 86- 91.
3. Peuhkuri K, Sihvola N, Korpela R. Diet promotes sleep duration and quality. *Nutr Res.* 2012; 32: 309-319.
4. Zheng J, Yang L, Chen Q. Effect of physical exercise on sleep quality in medical students. *Chinese Journal of Public Health.* 2008.
5. Wang L, Qin P, Zhao Y, Duan S, Zhang Q, Liu Y, et al. Prevalence and risk factors of poor sleep quality among Inner Mongolia Medical University students: A cross-sectional survey. *Psychiatry Research.* 2016; 244: 243-248.
6. Mayda AS, Kasap H, Yıldırım C, Yılmaz M, Derdiyok Ç, Ertan D, et al. Prevalence of Sleep Disorders in 4-5-6. Class Students of Medical Faculty. *Journal of Duzce University Health Sciences Institute.* 2012; 2:8-11.
7. Asghari A, Kamrava KS, Hemami MR. Cigarette smoking habit and subjective quality of sleep. *International Journal of Medical Sciences.* 2015; 3: e18454.
8. Aysan E, Karaköse S, Zaybak A, İsmailoğlu EG. Sleep Quality Among Undergraduate Students and Influencing Factors. *Dokuz Eylül University E-Journal of Nursing Faculty.* 2014; 7: 193-198.
9. Lund HG, Brian BA, Reider D, Annie BA, Whiting B, Prichard JR. Sleep patterns and predictors of disturbed sleep in a large population of college students. *J Adolesc Health.* 2010; 46: 124-132.
10. Qin LQ, Li J, Wang Y, Wang J, Xu J, Kaneko T. The effects of nocturnal life on endocrine circadian patterns in healthy adults. *Life Sci.* 2003; 73: 2467-2475.
11. Crispim CA, Zimberg ZI, Reis BG, Diniz RM, Tufik S, Mello MT. Relationship between food intake and sleep pattern in healthy individuals. *Journal of Clinical Sleep Medicine.* 2011; 7: 659-664.