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Nightmares among young medical students.

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Abstract

Background: While people everywhere can struggle with sleep problems, poor sleep habits are clearly a problem on college campuses. Many studies reported that 15% of college students are unsatisfied with their quality of sleep. Many factors may contribute to the disturbances of sleep habits in college students.
Objectives: to examine the prevalence of nightmares among medical students and its gender relationship.
Methods: A cross-sectional study was conducted over during the 2013-2014 academic year at the College of Medicine, Taibah University, Madinah, Saudi Arabia.
Results: there were statistically significant relationship between students' gender and the frequency of nightmares per week (P-value=0.001), difficult falling in sleep (Pvalue=0.02), presence of insomnia (P-value=0.01) , preferred drinks (P-value=0.001) and the frequency of eating fast food per week (P-value=0.001).
Conclusion: These data demonstrate that sleep disturbances are a considerable issue among medical students. A high prevalence of nightmares was found in medical students.

Keywords: Nightmare, Medical students, Sleep habits.

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Introduction

Sleep is a natural way of restoring our body's energy. Sleep has a relevant facilitating role in learning and memory processes. Conversely, sleep deprivation and/or fragmentation usually impairs these functions [1]. In the last few years, there has been a growing attention to sleep and sleeplessness-related problems. Sleep occurs in four stages: REM, N1, N2 and N3. It is during the Rapid eye Movement or REM stage, that dreaming occurs. This sleep-wake cycle is driven by a circadian timing system which is influenced by some factors such as physiological function, school and work schedules, and many others [2]. While people everywhere can struggle with sleep problems, poor sleep habits are clearly a problem on college campuses. Buboltz, Brown, and Soper (2001) reported that 15% of college students are unsatisfied with their quality of sleep. Many factors may contribute to the disturbances of sleep habits in college students. The sleep-wake cycle of medical students is characterized by insufficient sleep duration, delayed sleep onset, and occurrence of napping episodes during the day [3,4].

The International Classification of Sleep Disorders, second edition (ICSD-2) (2005) has classified nightmare disorder as a para-somnia. The minimal diagnostic criteria proposed by the ICSD-2 is recurrent episodes of awakenings from sleep with recall of intensely disturbing dream mentations, usually involving fear or anxiety, but also anger, sadness, disgust, and other dysphoric emotions [5]. Nightmare disorder is common, affecting about 4% of the adult population [6], with a higher proportion affecting children and adolescents. The presence of nightmare disorder can impair quality of life, resulting in sleep avoidance and sleep deprivation, with a consequent increase in the intensity of the nightmares. Nightmare disorder can also predispose to insomnia, daytime sleepiness, and fatigue [7-9]. Accordingly, we assume in this study that medical students are at a higher risk of having nightmares. So, the objective of the current study is to examine the prevalence of nightmares among medical students and its gender relationship.

Participants and Methods

A cross-sectional study was conducted over in October, 2013-2014 academic year at the College of Medicine, Taibah University, EL Madinah Al Monawarah, Saudi Arabia. The participants in this study were 122 healthy male and female students who were distributed equally in the first, second, and third academic years. Male students totaled (31.1%) and female (68.9%). The mean age was 20.5 years, ranging from 18 to 23 years. A self-administrated questionnaire was

developed after extensive literature review. A group discussion was conducted with other staff members to brainstorm and come up with a suitable data collection tool.

The questionnaire was designed containing questions enquiring about age, gender, academic level, total sleep time per 24 h, any medical problem, and possible factors affecting bedtime or sleep pattern. This questionnaire was distributed to the students during mid-semester in their break times. The participation was voluntary and the student agreements were taken before the study.

Statistics

Data were analyzed by the SPSS version 17.0 (SPSS, Inc. Chicago, IL). Frequency table was used to present the distribution of nominal variables. Chi square was used for analyzing data. P values below 0.05 were considered as statistically significant.

Results

There were 122 responses from the total population of 225 students with a response rate of 54.2%. But there were fewer responses from the male cohort because of inaccessibility due to separate campuses. The results of this study were represented in Table 1. Frequency of nightmares per week was 18.9% vs 18% of male and female students didn't have nightmares. 4.1% vs 31.9%; 5.7% vs 9.8%; 0.8% vs 5.7% and 1.6% vs 3.2% of male vs female students had nightmares once; two times; three times or more per week respectively. Average sleep hours per day didn't show significant differences among male and female students. The average sleep hour per day was 7 hours in 12.3% vs 36.1%; 5 hours in 12.3% vs 15.6%; less than 5 hours in 0.8% vs 4.1% and more than 7 hours in 5.7% vs 13.1% among male vs female students respectively.

The frequency of waking up times during night was more in female students than male students though non-significant. It was 19.5% vs 44.2% among male vs female students, whereas, 11.5% vs 24.6% of male vs female students didn't wake up during night. Feeling tired in the morning was higher in the female students than male students though non-significant (21.3% vs 46.7%). Difficult falling in sleep was significantly higher in female than male students (8.2% vs 32.8%; P=0.02 among male vs female students respectively). Presence of insomnia was also significantly more in female than male students (3.2% vs 20.5%; P=0.01 among male vs female students respectively).

There were non- significant differences in time of going to bed at night, sleep medication, time spent at a computer per day, family history of sleep disorders, history of smoking, eating all three meals at a regular time daily, food preference when hungry, dairy products consumption per week and eating in the last hour before sleeping. Preferred drinks were soft drinks among male students (10.7) and coffee &/ or tea among female students (33.6%); P=0.001.

The frequency of eating fast food per week was signicantly higher in female students than male students (32.4% vs 63.1%; P=0.001 among male vs female students respectively).

Table 1. *Analysis of gender factor with other study variables.*

The statement	Category	Gender		P-value
		Male [number (%)]	Female [number (%)]	
1. Frequency of nightmares per week	Never	23 (18.9)	22 (18)	0.001
	One time	5 (4.1)	39 (31.9)	
	Two times	7 (5.7)	12 (9.8)	
	Three times	1 (0.8)	7 (5.7)	
	More	2 (1.6)	4 (3.2)	
2. Average sleep hours per day	7 hours	15 (12.3)	44 (36.1)	0.2
	5 hours	15 (12.3)	19 (15.6)	
	Less than 5	1 (0.8)	5 (4.1)	
	More than 7	7 (5.7)	16 (13.1)	
3. Frequency of waking up times during night.	One time	16 (13.1)	27 (22.1)	0.6
	Two times	4 (3.2)	17 (13.9)	
	Three times	2 (1.6)	7 (5.7)	
	More	2 (1.6)	3 (2.5)	
	None	14 (11.5)	30 (24.6)	
4. Feeling tired in the morning	Yes	26 (21.3)	57 (46.7)	0.5

	No	12 (9.8)	27 (22.1)	
5. Difficult falling in sleep	Yes	10 (8.2)	40 (32.8)	0.02
	No	27 (22.1)	43 (35.2)	
6. Presence of insomnia	Yes	4 (3.2)	25 (20.5)	0.01
	No	33 (27)	57 (46.7)	
7. Time of going to bed at night	9 o'clock	3 (2.5)	1 (0.8)	0.09
	10 o'clock	2 (1.6)	4 (3.2)	
	11 o'clock	3 (2.5)	16 (13.1)	
	12 o'clock or more	29 (23.8)	63 (52.6)	
8. Sleep medication	Yes	0 (0)	1 (0.8)	0.7
	No	37 (30.3)	78 (63.9)	
9. Time spent on computer per day	Less than 1 hour	3 (2.5)	11 (9)	0.1
	1-3 hrs	27 (22.1)	45 (36.9)	
	4-7 hrs	4 (3.2)	22 (18)	
	More than 8 hrs	4 (3.2)	5 (4.1)	
10. Family history of sleep disorders	Yes	7 (5.7)	27 (22.1)	0.1
	No	30 (24.6)	57 (46.7)	
11. History of smoking	Yes	2 (1.6)	0 (0)	0.09
	No	36 (29.5)	84 (68.9)	
12. Eating regular 3 times daily	Yes	14 (11.5)	26 (21.3)	0.4
	Less than 3	21 (17.2)	45 (36.9)	
	More than 3	3 (2.5)	13 (10.7)	
13. Food preference when hungry	Fruits	7 (5.7)	14 (11.5)	0.7
	Vegetables	6 (4.9)	20 (16.4)	
	Sweets	20 (16.4)	48 (39.3)	
14. Dairy products consumption per week	More than 8	4 (3.2)	10 (8.2)	0.4
	42467	14 (11.5)	23 (18.9)	
	42372	15 (12.3)	41 (33.6)	
	None	4 (3.2)	5 (4.1)	
15. Preferred drinks	Coffee and/or tea	11 (9)	41 (33.6)	0.001
	Soft drink	13 (10.7)	8 (6.6)	
	Power drink	3 (2.5)	1 (0.8)	
	Fresh juice	10 (8.2)	33 (27)	
16. Frequency of eating fast food per week	Never	2 (1.6)	5 (4.1)	0.001
	1 time	4 (3.2)	42 (34.4)	
	2 times	12 (9.8)	16 (13.1)	
	3 times	13 (13.7)	9 (7.4)	
	More	7 (5.7)	10 (8.2)	

17. Eating in the last hour before sleeping	Yes	17 (13.9)	40 (32.8)	0.4
	No	21 (17.2)	43 (35.2)	

Discussion

The presence of nightmares among medical students was reported in the present study. The frequency of nightmares per week showed statistically significant difference between male and female students (31.9% vs 4.1% reported it once; 9.8% vs 5.7% twice; 5.7% vs 0.8% three times and 3.2% vs 1.6% more than three times weekly of female vs male students respectively). Also, a significant difference in difficult falling in sleep (30.8% vs 8.2% of female students vs male students respectively). Nightmare was associated with insomnia (20.5% of female students vs 3.2% of male students). Coffee and/or tea was the preferred drink in female students, whereas, soft drink was the preferred one in the male students (coffee and/or tea: 33.6% vs 9% ; soft drink: 6.6 vs 10.7% among female vs male students). This study showed that nightmare frequency was significantly higher among female than male students. Previously, it has been shown that the prevalence of some sleep disturbances is greater in women [10,11]. The survey by Ohayon and Smirne (2002) in the general population found similar results too [12].

Insomnia was also significantly higher in female students than in males. This observation was in agreement with Nojomi et al. (2009) who also found that insomnia to be more frequent among females [13]. Insomnia may cause psychiatric disorders, psychosocial stress, and dysfunctions such as decreased work efficiency and learning disability [14]. There was a statistically significant difference of coffee consumption and fast food consumption. It was towards female students also. The effect of life-style on sleep quality has been examined in several studies and most of them identified an association between these variable and sleep disturbances [15,16]. Consumption of tea, coffee was reported to have negative effect on sleep [17]. Forda et al. (2013) suggested an association of frequent consumption of fast food with negative effect in females only and foods typical of Mediterranean diets such as fresh vegetables, fresh fruit, olive oil, nuts, and legumes with positive effects in males and females. Further study is needed to investigate the cause of the increased prevalence of nightmares among female students [18].

Conclusion

The results of the study demonstrate that sleep disturbances are a considerable issue among medical students. A high prevalence of nightmares was found in medical students. Sleep disturbances were associated with gender, coffee consumption and fast food eating habits. Insomnia problems were reported also in our students.

Recommendation

Medical students represent the most crucial opportunity for education in the field of healthy lifestyles. So, the author recommends that the undergraduate medical students should be educated about the importance of adequate sleep to their academic performance and progression in their study. Nightmares and sleep disturbance could have an impact on their general physical and psychological wellbeing. Further investigation on a larger scale is recommended to look carefully on sleep disturbance and its relation with academic performance in medical students because of its poverty on previous studies.

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