Original Article

Examining the Factors Affecting the Sleep Hygiene and Daytime Sleepiness in Nursing Students

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Abstract

Purpose: To determine the sleep hygiene of the university students, to examine the daytime sleepiness condition by confirming the factors affect the sleepiness condition.

Material and Method:

Findings: It is determined that the sleep hygiene score is; 20.50 ± 6.04 and the Daytime Sleepiness Total Scores of the students is 7.70 ± 3.59. There is a relationship in the reverse direction between them. As the sleep hygiene score increases, daytime sleepiness point averages decrease at the same time. Besides, it is found that the cigarette and alcohol consumption of the students don't affect their sleepiness levels.

Conclusion: According to the findings of the research, the sleep hygiene of the students insufficient, the daytime sleepiness conditions of the same students are extra. The training can be provided for students to break the habits (time-wasting in internet, cigarette consumption…) affect the sleep quality.

Keywords: Sleep hygiene, daytime sleep, sleepiness, student nurse

Introduction

Adolescence is defined or/and measured by the complexity of physical, psychological, social and cognitive precautions. An aspect of the adolescence involves the concepts such as delay, sleep, sleepiness and not to be able to set the awakening time. The students are specified as a population affected by sleep problems (Li et al, 2010)

For recent 30 years, investigators have established pretty significant relationships between sleep and sleepiness conditions of individuals in adolescence by emphasizing the environmental factors, fundamental bioregulator processes, circadian rhythm sleep disorders and sleep demands of teenagers (Pallos 2007; Miyata et al.,2018) These studies revealed that circadian rhythm sleep disorders, sleep complaints, timeless and inconsistent sleep result in insufficient academic performance, school absenteeism, sleepy traffic accidents, drug addiction, emotion organizing and emotion control (Miyata et al.,2018)It is pointed out that the university students sleep insufficiently weeklong, and on the weekends, they sleep for long hours (Alkaya & Okuyan 2017). Concerning the information of several surveys, the students face with sleep phase syndrome more than the people in general population and also have changeable sleep programs. (Keshavarz Akhlaghi & Ghalebandi 2009). This syndrome causes poor business and academic performance during the week and hyper sleepy mode. Krueger analyzed the effects of sleep withdrawal on the performance. According to the results of his research, insufficient sleep has negative impacts on decrement of sleep reaction time and wakefulness, increment of perceptual and cognitive distortion; weakening of the immune system and the psychological state (Keshavarz Akhlaghi, & Ghalebandi 2009).

Sleep hygiene should absolutely be provided to increase the sleep quality, arrange the sleep rhythm and wake up at the same time in every day. There is need to provide well sleep hygiene, exercise regularly, reduce caffeine consumption, take naps in the afternoon, reduce alcohol and cigarette consumption. Common strategies that

students use against sleep patterns are pretty harmful (Herrmann et al., 2018) Some of these strategies are drinking coffee to extend the awake time; drinking alcohol to compensate the uncompleted sleep and decrease the sleepiness (Sahin et al., 2014).

Insufficient sleep quality is associated with anxiety increased, nervousness, confusion and generally poor life satisfaction (Shimura A, et al.,2018). Since university students are in the late of adolescence, their sleep routine and other relevant problems can be different from other students of various ages (Chutani & Singhal 2017) Education stress and academic workload may also be the reasons for this difference. Sleep disturbances increase based on senescence and generally cause excessive daytime insomnia (EDS) (Saygili et al., 2011).

Excessive daytime insomnia is defined as wakefulness or excessive sleep disorder claim directly regarding tiredness. It is determined that typically 20% of the adults are in the tendency to tiredness and sleep in daytime based on excessive daytime sleepiness. Cognitive weakening and demens risk are found as high in elders with EDS (Roth, Roehrs & Rosenthal 1994).There are potentially significant variables to consider on sleep disturbance, sleep withdrawal. These variables that are used to evaluate the effects of sleep withdrawal as follows; cognitive performance, motor performance, and mood that measures the mental tiredness. There are also other variables that can change the effects of these variables (Agargun et al.,1999, Johnson et al., 2017).The studies show that the performance varies by different cognitive task types. According to Naitoh, sleep withdrawal for a time less than 46 hours has a remarkable impact on cognitive and motor skills. Moreover, other investigators mention that the performance decreases in individuals who experience sleep loss for less than 45 hours (Pallos et al.,2007).

This study aims to determine the sleepiness and sleep hygiene conditions of nursing students.

Material and Method

This descriptive survey was actualized with 65 nursing students between 01.10.2017-05.10.2017. This survey was completed with these 65 students accepted to attend to the survey without sample calculation. Sleep hygiene scores were computed by using ''Survey Form'' with introductory characteristics ''Sleep hygiene index'' and ''Epworth Sleepiness Scale''. The

data were evaluated by independent t-test, percentage and correlation analyses in SPSS 21 program.

Epworth Sleepiness Scale: ESS was developed by Johns in 1991. This is a practical scale that can easily be evaluated and used. ESS is a 4-point Likert scale. It is pointed as 0, 1, 2, 3 and the high score shows the sleepiness. The validity and reliability study of this scale was realized by Agargun et al.,1999). (Cronbach ∞=0.80). This scale can be used to measure the sleepiness level in different conditions and the general sleepiness level for the studies on sleep and sleep disorders (Agargun et al. 1999, Aleo et al., 1997, Roth et al. 1994). The Turkish version of Epworth Scala was used to evaluate the sleepiness level. Epworth scala has frequently been used to evaluate the sleep in the surveys about sleep disturbance. The attendees are asked to answer eight questions by considering the previous month to measure the possibility of dropping asleep. The answers are scored between 0 and 3 (0 = I never doze off, 1 = I rarely doze off, 2 = I occasionally doze off, 3 = I probably doze off). The score of 8 items is the Epworth score and this score varies between 0 and 24. High Epworth score refers to increased drowsiness. In Epworth Sleepiness Scale, 0-5 points, 6-10 points, 11-12 points and 16-24 points are respectively show Lower Normal Daytime Sleepiness, Higher Normal Daytime Sleepiness, Mild Excessive Daytime Sleepiness, Severe Excessive Daytime Sleepiness (Izci & Ardic et al., 2008). 11 and more than 11 points refer to Excessive Sleepiness.

Results

There are many factors that affect daytime sleepiness and sleep hygiene of students. Sleep hygiene and daytime sleepiness of nursing students are given in the table below. Factors affecting sleep and sleep hygiene in tables are clearly indicated. It is seen when the demographic attributes of students are reviewed in Table 1 that 38.5% (n:25) of them are males, 61.5% (n: 40) of them are females. 81.5% (n:53) of the attendees are between 17 and 20 years. The age of 18.5% (n:12) of them is between 21 and 24. The height of 72.3% (n:47) of the attendees is between 1,55-1,75 cm. The height of 27.7% (n:18) of them is between 1,76-1,95 cm. It is found when the weights of the students are analyzed that 81.5% (n:53) of them are between 43-70 kg, 18.5% (n:12) of them are between 71-110 kg. Concerning students' statements, 98.5%

(n: 64) of them drink 0-3 cups of coffee a day, 1.5% (n:1) of them drink coffee 4-6 times a day. 83.1% (n: 54) of these attendees spend 0-5 hours a day on the internet, 16.9% (n:11) of them spend 6-16 hours a day on the internet. 16.9% (n:11) of them are on medication while 83.1% (n:54) of them are not. 75.4% (n:49) of them don't smoke, 24.6% (n:16) smoke.

As is seen in Table 2, 46.2% (n: 30) of the students rarely doze off while reading something by sitting; 55.4% (n: 36) of them rarely doze off while watching TV; 38.5% (n:25) of them never doze off while motionlessly sitting in the community; 30.8% (n:20) of them rarely doze off during a car journey that takes at least one hour; 35.4% (n:23) of them doze off while resting to relax; 76.9% (n:50) of them never doze off while talking to someone; 58.5% (n:38) never doze off while quietly sitting after a lunch without alcohol; 76.9% (n:50) of them never doze off while the car that they are in stops in traffic for a few minutes.

Table-1. Distribution of Demographic Features of Students

	N	%	t	p
Gender				
Male	25	38.5	22.76	.063
Female	40	61.5		
Age				
17-20	53	81.5	24.42	.050
21-24	12	18.5		
Height			22.82	.000
155-175	47	72.3		
176-195	18	27.7		
Weight			24.42	.597
43-70	53	81.5		
71-110	12	18.5		
How many times a day do you drink coffee?				
0-3 Times	64	98.5	9.42	.000
4-6 Times	1	1.5		
How many hours a day do you spend on the Internet?			9.52	.000
0-5 Hours	54	83.1		
6-16 Hours	11	16.9		
Is there any medicine you use?			39.06	.000
Yes	11	16.9		
No	54	83.1		
Cigarette use			32.57	.000
Yes	16	24.6		
No	49	75.4		

Table-2. Distribution of Items of Sleepiness Scale

	I never doze off		I rarely doze off		I occasionally doze off		I probably doze off	
	n	%	n	%	n %		n	%
While reading something by sitting	15 23.1		30	46.2	15 23.1		5	7.7
While watching T.V	7 10.8		36	55.4	16 24.6		6	9.2
While motionlessly sitting in community (eg. at any meeting or place such as theater)	25 38.5		22	33.8	14 21.5		4	6.2
While being a passenger in a car journey that takes at least one hour without a break	18 27.7		20	30.8	19 29.2		8	12.3
While resting to relax in the afternoon when conditions are appropriate	4	6.2	23	35.4	21 32.3		17	26.2
While talking to someone in sitting position	50 76.9		9	13.8	1	1.5	5	7.7
While quietly sitting after a lunch without alcohol	38 58.5		16	24.6	4	6.2	7	10.8
While the car that I am in stops in traffic for a few minutes	50 76.9		10	15.4	5	7.7		

Table-3. Distribution of Sleepiness and Sleep Hygiene Score Totals Based on Demographic Attributes

	Sleep Hygiene Score Total					Daytime Sleepiness Score Total				
	N	%	Mean+SD	t	p	N	%	Mean+SD	t	p
Gender									.-597	.552
Male	25	38.5	21.24±6.40	-.770	.444	25	38.5	7.48±2,96		
Female	40	61.5	20.05±6.40			40	61.5	8.04±4,44		
Age									.163	.688
17-20	53	81.5	20.98±6.30	1.33	.186	53	81.5	7.61±3.18		
21-24	12	18.5	18.41±4.31			12	18.5	8.08± 5.16		
Height				.188	.851				.-026	.979
155-175	47	72.3	20.59±6.19			47	72.3	7.69±2.97		
176-195	18	27.7	20.27±5.78			18	27.7	7.72±4.94		
Weight				1.27	.208				1.273	.208
43-70	53	81.5	19.52±5.88			53	81.5	7.96±3.68		
71-110	12	18.5	24.83±4.85			12	18.5	8.45 ±2.94		
How many times a day do you drink coffee?									.-295	.769
0-3 Times	64	98.5	22.48±6.08	-.247	.806	64	98.5	8.04±2.63		
4-6 Times	1	1.5	20.00			1	1.5	9.35±4.24		
How many hours a day do you spend on the Internet?				-.349	.728				.420	.680
0-5 Hours	54	83.1	21.38±5.83			54	83.1	7.87±4.32		
6-16 Hours	11	16.9	20.09±7.25			11	16.9	8.18±2.89		
Is there any medicine you use?									1.710	.092
Yes										
No	11	16.9	20.36±6.51	.513	.610	11	16.9	9.36±4.94		
	54	83.1	21.33±5.99			54	83.1	7.35±3.19		
Cigarette use									.363	.718
Yes	16	24.6	19.75±5.80	1.737	.087	16	24.6	8.00±3.52		
No	49	75.4	22.77±5.99			49	75.4	7.61±3.64		

Table-4. Comparison of Total Scores of Sleep Hygiene and Sleepiness

	Sleep Hygiene Total					Daytime Sleepiness Total Score				
	X	SD	t	r	p	X	SD	t	r	p
Sleep Hygiene Total Score	20.50± 6.04		27.36	1		7.70 ±3,59		17.51	-.101	.429
Sleepiness Total Score				-.101	.429				1	

As is seen in Table 3, the sleep hygiene total score of males is 21.24±6.40, the sleep hygiene total score of females is 20.05±6.40. There is no statistically significant difference between the groups. While the sleep hygiene total score of attendees who drink coffee for 0-3 times a day is 22.48±6.08, the attendees who drink coffee for 4-6 times a day is 20,00. According to the time spent on the internet, the sleep hygiene total score of them who use internet for 0-5 hours is 21.38±5.83 while the sleep hygiene total score of attendees who use internet for 6-16 hours a day is 20.09±7.25. The sleep hygiene total score of smokers is 19.75±5.80; this same score is 22.77±5.99 for non-smokers. The sleep hygiene total score of students who use medicine is 20.36±6.51, this same score is found as 21.33±5.99 for the students who don't use medication. We can say when the daytime sleepiness scores are evaluated that the males have 7.48±2.96 points, females have 8.04±4.44 points. There is not any statistically significant difference between groups. While the daytime sleepiness score of students who drink coffee for 0-3 times a day is 8.04±2.63; the average of students who drink coffee for 4-6 times a day is 9.35±4.24. It can be mentioned when the daytime sleepiness averages of students are analyzed based on time spent on the internet that the average of students who spend 0-5 hours a day is 7.87±4.32 while the average of students who spend 6-16 hours a day is 8.18±2.89. While the daytime sleepiness score of smokers is 8.00±3.52, this score is 7.61±3.64 for non-smokers. There is no statistical difference between groups. Besides, there is not a statistically significant difference (p>0.05) between sleep hygiene total scores and daytime sleepiness total scores by the genders. At the end of the survey, we can easily confirm that the number of cup of coffee drunk, cigarette use and time spent on the internet don't affect the sleep hygiene and daytime sleepiness condition (p>0.05).As is seen in Table 4, the sleep hygiene total score is 20.50± 6.04; the Daytime Sleepiness Total Score of the students is 7.70±3.59. There is a reverse relationship between them. As the sleep hygiene score increases, the daytime sleepiness point averages decrease at the same time. This is an expected and desired circumstance.

Discussion

The sleep hygiene total score of students is 20.50±6.04, Daytime Sleepiness Total Scores is

7.70±3.59. The daytime sleepiness levels of students are high. It is mentioned in an investigation that there is an increment in Epworth Sleepiness Scale point average with age (Omac, Egri & Karaoglu 2010). Our study confirmed an increment in Epworth Sleepiness Scale with age as well. Besides, we found that the daytime sleepiness increases with age.

Other risk factors determined for daytime sleepiness are smoking, reducing the addictions, individual habits such as spending time for games and internet for 2 hours and over. There are studies describe the cigarette and alcohol use (Kaneıta et al. 2010, Pallos 2007, Tremaine et al., 2010) (Li et al., 2010) and computer as risk factors for sleep problems. It is expressed in studies that the sleep quality in women is worse than men (Keshavarz Akhlaghi & Ghalebandi, 2009). According to the result our survey, the sleep hygiene scores of female students is lower than the sleep hygiene scores of male students; on the other hand, daytime sleepiness condition of females is higher than the same situation of male students. It is stated that this circumstance may stem from being neurotic disorders more common in women and again women consider the somatic symptoms more than men (Becker et al.,2018) Concerning our survey, consuming drinks such as coffee includes caffeine does not affect sleep quality. Moreover, in a similar manner with our review, Caliyurt stressed that there is no effect of drinks include caffeine on sleep quality (Caliyurt O, 1998). Saygili et al. mentioned that the drinks such as tea and coffee do not affect the sleep quality of students (Saygili et al., 2011).

Conclusion

We offer to be attempted to increase the sleep quality and to reduce tiredness of students; the students who have chronic illness should efficiently be cured; smoking should be quitted; the attempts ought to be planned to sleep at the same time for every day. Training should be provided to quit smoking, live free from stress and experience sleep hygiene for reducing the sleep problems.

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