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Examination on Insomnia Levels and Health Anxiety of Healthcare Technician Students during Covid-19 Pandemic Period

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ABSTRACT

Sleep in all periods is a biological need for all living things. This study was planned to examine the insomnia levels and health anxiety of the students during the Covid-19 pandemic period. The research is a descriptive study. The universe of the study consisted of 800 students studying at Dokuz Eylül University Vocational School of Health Services in the spring semester of the 2019-2020 academic year. When evaluating the study data, descriptive findings were expressed as percentage, mean, standard deviation and median. 67.0% of the students are between the ages of 18-20, 28.1% are between the ages of 21-23 and 4.9% are between the ages of 24 and above. The 73.6% of the students are females and 26.4% are males. While total insomnia mean score of the students is 15.0 ± 5.4, the mean score for health anxiety is 19.6 ± 11.2.A moderate, positive, statistically significant difference was found between the insomnia level of the students and their health anxiety (r=.570; p=.000<.001). As a result, it has been determined that the health technician students have experienced moderate insomnia and high levels of anxiety during the COVID 19 pandemic. In addition, there is a significant relationship between insomnia and health anxiety. It has been found that as the level of insomnia increases, health anxiety also increases.

Introduction

Sleep is a biological need for all living things (1). Sleep, which is important for quality of life, health, and well-being, is one of the inevitable activities with physiological, psychological and social dimensions (2).

Sleep is divided into two types as rapid eye movement (REM) sleep and non-REM sleep. The REM phase of sleep is characterized by muscle atony and dreams (3). While REM sleep accounts for approximately one-fourth of the total sleep duration in healthy individuals, most of the sleep is non-REM phase in which no dreams are seen (4).

Although the functions of sleep are not known exactly yet, it is known that sleep is needed for functionality (5). Sleep is considered essential not only for physiological balance and regeneration, but also for various metabolic, psychological, cognitive and immune functions (6).

People spend approximately 1/3 of their lives sleeping (6). According to a publication, it is recommended to sleep 7-9 hours for adults, 8-10 hours for adolescents, and 9-11 hours for children aged 6-13 per day (7).

Healthy sleep is closely related to cognitive performance (learning, memory, decision-making, attention), physical health (weight control, muscle gain, metabolism) and mental health (anxiety, depression, emotional control) (8).

Sleep and wakefulness, like many other body functions, is a cyclical process and is part of the circadian rhythm (9). Circadian rhythm disturbances have a direct effect on hormones, sensory control, motor control, perceptual and cognitive functions (10).

The need for sleep and insomnia are prolonged as long as the person stays awake, and it is known that the need for sleep is highest at night and when it is dark, regardless of how long the person is resting (5).

Insomnia is one of the most common sleep complaints in the general population (11). Insomnia is a disease that occurs several times a week and causes distress and daily disturbances (difficulties in focus, attention and memory, mood instability, drowsiness), which is caused by recurrent and chronic difficulty maintaining sleep (12).

Anxiety is defined as being in a state of apprehension, fear, tension, restlessness, worry, and distress for an internal unknown cause. Anxiety is one of the negative emotions (13, 14).

Health anxiety is excessive concern or worry about the health of a person and interpreting the changes in his body as a harbinger of a serious illness (15).

The corona virus, which originated in Wuhan, China, caused deaths due to pneumonia and described as COVID-19, has infected more than two hundred and ten million people as of 19 August 2021. A total of approximately one million four hundred thousand people died worldwide (16). It has been reported that COVID-19 has a high mortality rate of 6.8% today (17). During the COVID-19 pandemic, the curfew, social distance rule, social isolation, quarantine, travel restrictions, flexibility in working hours, distance education and working from home, implemented by governments to protect public health, have caused changes in our lives. With the differentiation of the life flow we are used to during

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pandemic process, the health of individuals has been affected (18). As the duration of the pandemic prolongs, especially anxiety disorders, depression, acute stress disorder, insomnia and health anxiety may be seen more frequently.

Post-traumatic stress disorder, anxiety, and insomnia (19, 20) have been reported in healthcare workers and patients with the COVID-19 virus in China. As a candidate for healthcare professionals and members of the community, it is thought to be useful to determine the insomnia levels and health anxiety of health technician students during the Covid-19 pandemic.

This study was planned to examine the insomnia levels and health anxiety of the students during the Covid-19 pandemic.

Materials and Methods

Study Design

The research is a descriptive study. The universe of the study consisted of 800 students studying at Dokuz Eylül University Vocational School of Health Services in the spring semester of the 2019-2020 academic year. The research was conducted with 288 students with a 95% confidence level and 5% sampling error from the universe of the research.

Data Collection Tools

Introductory Information Form: The introductory information form, which will be used to collect the data of the study, is a 15-question form created by the researchers by scanning the literature including the gender, age, financial status, sleep duration, caffeine consumption and general health status of the participants (Appendix 1).

Insomnia Severity Index Scale: The Turkish adaptation of the scale was done by Boysan et al. (2010) (21). The scale is in 5-point Likert-type and consists of 7 items. The lowest score is 0 and the highest score is 28. The score between 0-7 of the scale indicates clinically insignificant insomnia, 8-14 sub-threshold insomnia, 15-21 clinical insomnia (moderate), 22-28 clinical insomnia (severe) (22). In the adaptation study, the internal consistency coefficient of the scale was found to be 0.79.

Health Anxiety Scale: The scale developed by Salkovskis et al. (2002) measures the health anxiety levels of individuals. Although the scale consists of 18 items, it is scored between 0 and 3. The Turkish adaptation of the scale was made by Aydemir et al. (2013) (23). In the adaptation study, the scale-wide internal consistency coefficient was found to be 0.91.

Implementation of the Research

During the data collection process, the researchers first gave information to the students about the purpose and method of the research. Those who accepted to participate in the study were included in the study. Afterwards, the short URL link of the Insomnia Severity Index and Health Anxiety Scale, prepared electronically, was sent to the participants using social media and e-mail.

Statistical Analysis

While evaluating study data, descriptive findings were expressed as percentage, mean, standard deviation and median (24). Regression analysis was used in the relationship between the students' insomnia severity mean score, anxiety mean score and financial situation, Height Weight Index (BMI), total daily sleep duration, tea and coffee consumption, smoking and alcohol use, and regular exercise. Statistical significance level was accepted as $p < 0.05$ and $p < 0.001$ (25).

Ethics Committee Approval and Informed Consent

Written consent for data collection was obtained from the Research Ethics Committee of Dokuz Eylül University and the institutions where the study was carried out. Students were informed about the study and verbal consent was obtained from those who accepted to participate in the study (dated August 31, 2020; No. 2020/20-01).

Results

Sociodemographic and introductory information of the students are given in Table 1. 67.0 % of the students are between the ages of 18-20, 28.1% are between the ages of 21-23, and 4.9% are between the ages of 24 and above. 73.6% of the students are females, and 26.4% are males. Considering the financial situation of the students, 14.6% of them have a bad financial situation, 72.9% of them have a medium level of financial situation, and 12.5% of them have a good financial situation. 6.3% of the students were underweight (BMI <18.49), 75.0% of them were normal weight (BMI = 18.5-24.99), 8.3% of them were lightweight (BMI = 25-29.99) and 10.4% were overweight (BMI> 30). Considering the total daily sleep duration of the students, 44.5% sleep less than 7 hours a day, 34.7% sleep between 7-8 hours a day, and 20.8% sleep 8 hours or more a day. 16.7% of the students smoke cigarettes, 6.3% drink alcohol, 25.0% use both cigarettes and alcohol, and 52.1% do not use any of them. While 8.3% of the students use a regular medication, 91.7% do not use medication regularly. 25.0% of the students stated that they exercise regularly, and 75.0% stated that they do not exercise regularly.

Tea and coffee consumption frequency of students is given in Figure 1. 6.6% of the students consume tea, 17.4% coffee, 57.3% coffee and tea, and 18.8% do not consume any of them (Figure 1).

The daily tea and coffee consumption amount of the students are given in Figure 2. In the graph, it is seen that 60.7% of the students consume 1-2 glasses a day.

While the total insomnia severity mean score of the students was 15.090 ± 5.480 (min: 2 points - max: 27 points), their health anxiety mean score was determined as 19.697 ± 11.253 (min: 3 points - max: 54 points) (Table 2). The difference between the total insomnia scores and total anxiety scores according to the gender of the students was found to be statistically significant (WMU $X2 = 7948.000$, $p < .001$).

Regression analysis according to the scale scores of the students and some variables are given in Table 3. A weak, positive, and statistically significant ($r=.372$; $p=.000 <.001$) correlation was found between smoking and alcohol use and health anxiety of the students. A moderately positive and significant correlation was found between tea and coffee consumption and health anxiety of the participants ($r = .545$; $p=.002<.05$). A weak, negative statistically significant correlation was found between regular exercise status and health anxiety of the students ($r=-.324$; $p=.000<.001$). A moderate, positive statistically significant difference was found between the insomnia level of the students and their health anxiety ($r =.570$; $p= 000 <.001$).

It was determined that there is a weak, positive and statistically significant correlation between the insomnia level of the students and their BMI ($r=.461$; $p= .006 <.05$). A weak, positive and statistically significant ($r = 414$; $p= .000 <.001$) correlation was found between the insomnia level of the participants and their smoking and alcohol use and a high level, positive and statistically significant ($r =.732$; $p=.000 <.001$) correlation was determined between the insomnia level of the participants and their tea and coffee consumption. A weak, negative, statistically significant correlation was found between the insomnia level of the students and their regular exercise ($r=-.396$;$p=.001<.05$). A statistically significant negative correlation was found between the

insomnia level of the students and the total daily sleep duration (r =-.838; p=.000 <.001).

A weak, positive and statistically significant correlation was found between the BMI and financial situation of the students (r =.416; p=.000 <.001). It was observed that there was a weak, positive, and statistically significant (r=.374; p=.000 <.001) correlation between smoking and alcohol use of students and their financial situation. It was observed that there was a moderate, negative and statistically significant correlation between exercising regularly and BMI (r =-.647; p=.000<.001). When the correlations between other variables were analyzed, it was found that there was a statistically very weak correlation or that there was no correlation that could be considered significant (p>.05) (Table 3).

Dıscussıon

67.0% of the students are between the ages of 18-20, 73.6% of them are females, and 75.0% of the students are normal weight (BMI=18.5-24.99). It was found that as the BMI of the students increased, the severity of insomnia increased weakly. Looking at the total daily sleep duration of the students, about half of them (44.5%) sleep less than 7 hours a day. It was found that as the total daily sleep duration of the students decreased, the severity of insomnia increased at a high level (p <.001).

The 81.3% of the students consume tea, coffee or both together. In the study, it was determined that as the tea and coffee consumption of the participants increased, their health anxiety increased moderately (p <.05), and insomnia severity increased significantly (p <.001). It was found that as the smoking and alcohol use of the students increased, their health anxiety and insomnia severity slightly increased (p <.001).

Three-quarters (75.0%) of the students reported that they did not exercise regularly. A weak, negative, statistically significant correlation was found between regular exercise status and health anxiety (p <.001) and the severity of insomnia (p <.05) of the students.

In the study, while the mean score of the total insomnia severity of the students was 15.0 ± 5.4, the mean score of the health anxiety was determined as 19.6 ± 11.2. According to the study conducted by Pillai et al. (2015) in the United States, the total insomnia severity score of the participants was 9.6 ± 3.3, and the total anxiety mean score was 8.7 ± 9.4 (26). In our study, it can be said that the high mean score of insomnia severity and the mean score of anxiety was due to the pandemic period.

In the study, the difference between the total insomnia scores and total anxiety scores of the students (73.6% females and 26.4% males) according to their gender was found to be statistically significant. It was seen that this difference was due to the higher total scores of women (p <.001). Similarly, in another study, it was found that 1050 people (71.3% females and 28.7% males) had higher health anxiety levels in females than males in the event of an epidemic (p <.01) (27).

According to the results of the study conducted by Alvaro et al. (2014) with 318 students aged 12-18 years in South Australia, a positive significant correlation was found between general anxiety disorders and insomnia (p <.05) (28). Similarly, a moderate, positively significant correlation was found between the insomnia level of students and their health anxiety (p <.001).

In the study, a moderately positive and significant correlation was found between the tea and coffee consumption and health anxiety scores of the participants (p <.05). Contrary to our study, according to the results of the study conducted by Khademalhossini et al. (2015) with 303 high school students in Iran, the prevalence of tea, and coffee, consumption was found to be 79.5%, 54%, and 54%, respectively, and a significant negative correlation was found between the consumption of these three drinks and depression and anxiety (p <.05) (29).

Conclusions

As a result, it has been determined that health technician students experience moderate insomnia and high levels of anxiety during COVID-19 pandemic. In addition, there is a significant correlation between insomnia and health anxiety. It has been found that as the level of insomnia increases, health anxiety also increases.

Determining the anxiety and insomnia levels of health technician students during the pandemic process can contribute to drawing attention to this issue and determining the measures to be taken. Practices such as regular sleep, reduction of tea and coffee consumption, reduction of smoking and alcohol use, regular exercise, drinking plenty of fluids and healthy nutrition for strengthening the immune system can be recommended to reduce the anxiety and insomnia levels of students. At the same time, it is thought that conducting studies in different groups on the subject will support the reliability of the findings.

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Declaration of Interest Statement

The authors have no conflicts of interest to declare

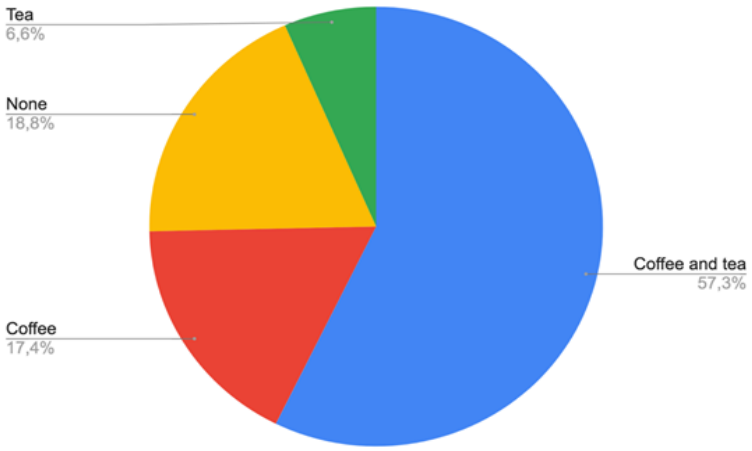

Figure 1.Prevalence of daily tea and coffee consumption among students.

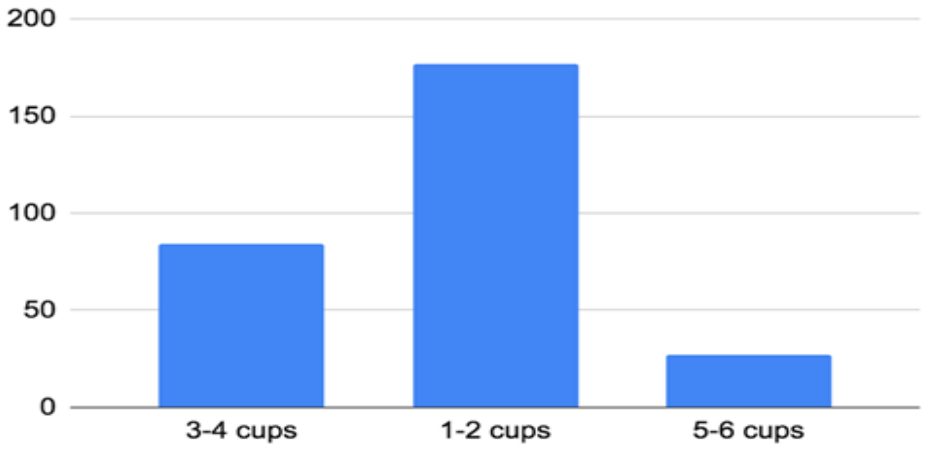

Figure 2. Distribution of daily consumption of tea and coffee of the students

Table1. Distribution of sociodemographic and introductory information of students

Variables	Number	%
Age		
Between 18-20	193	67.0
Between 21-23	81	28.1
24 and above	14	4.9
Gender		
Female	212	73.6
Male	76	26.4
Financial situation		
Bad	42	14.6
Medium	210	72.9
Good	36	12.5
BMI		
Underweight (BMI<18,49)	18	6.3
Normal (BMI=18,5-24.99)	216	75.0
Lightweight (BMI=25-29,99)	24	8.3
Overweight (BMI>30)	30	10.4
Total hours of sleep per day		
7 hours<	128	44.5
7-8 hours	100	34.7
8 hours and more	60	20.8
Smoking and alcohol use		
Smoking cigarettes	48	16.7
Drinking alcohol	18	6.3
Smoking and Drinking	72	25.0
None	150	52.1
Regular medication		
Yes	24	8.3
No	264	91.7
Regular exercise		
Yes	72	25.0
No	216	75.0
Total	**288**	**100.0**

%: Percentage

Table 2. Distribution of the mean scores of insomnia severity index and health anxiety scale of the students

Scale Score	N	Mean Score ± Ss	Min.	Max.
Insomnia severity score	288	15.090 ± 5.480	2	27
Health anxiety score	288	19.697 ± 11.253	3	54

Table 3.Correlation test results on the relationship between scale scores and variables

		Health Anxiety Scale	Financial situation	BMI	Total sleep duration per day	Smoking and Alcohol use	Coffee and tea consumption	Regular exercise
Financial situation	r p n	.170** .004 288						
BMI	r p n	.078 .184 288	.416** .000 288					

Total sleep duration per day	r p n	-.102 .085 288	.125 .034 288	-.135* .022 288				
Smoking and Alcohol use	r p n	.372** .000 288	.374** .000 288	.097 .102 288	.220** .000 288			
Coffee and tea consumption	r p n	.545** .002 288	.034 .569 288	.138* .019 288	-.038 .516 288	-.265** .000 288		
Regular exercise	r p n	-.324* .000 288	.056 .345 288	-.647** .000 288	.007 .910 288	-.141* .017 288	.192** .001 288	
Insomnia Severity Scale	r p n	.570** .000 288	.083 .158 288	.461* .006 288	-.838 .000 288	.414** .000 288	.732** .000 288	-.396* .001 288

* p<.05, ** p<.001

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