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# The Effect of COVID-19 History on Anxiety Levels and Sleep Quality in Patients Hospitalized in the Neurology Service During the Pandemic Period

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**ABSTRACT**

**Aim:** COVID-19, which emerged in the city of Wuhan, China, brought new living conditions with it by affecting the whole world in a short time. This study aimed to determine the anxiety level and sleep quality of neurology patients hospitalized in the neurology service according to their COVID-19 status during the pandemic period. **Materials and Methods**: Research data were collected as face-to-face questions and answers between March 20 and May 20, 2021. One hundred (55 Female, 45 Male) patients participated in the study. The patients were divided into two groups according to whether they had COVID-19 or not. Patients who had COVID-19 were designated as the COVID-19 group, and those who did not were designated as the non-COVID-19 group. The Pittsburgh Sleep Quality Index (PSQI) was used to assess sleep quality and the Coronavirus Anxiety Scale (COAS) was used to assess anxiety level. **Results:** A significant difference was found between the COVID-19 group and non-COVID-19 group for anxiety scale mean scores, total PSQI score averages, and sub-parameters sleep latency, sleep duration, and sleep disturbance ($p<0.05$). There was a positive moderate correlation between anxiety level and sleep quality ($p=0.000$, $r=0.472$). A moderate positive relationship was detected between anxiety level and subjective sleep quality which is one of the sub-parameters of sleep quality ($p=0.000$, $r=0.439$). **Conclusion:** COVID-19 disease has negative effects on the anxiety level and sleep quality of individuals. The extent of these effects should be examined. It is important to consider these effects in treatments.

**Keywords:** Anxiety, COVID-19, Pandemic, Sleep.

# Pandemi Döneminde Nöroloji Servisinde Yatan Hastalarda COVID-19 Öyküsünün Kaygı Düzeyleri ve Uyku Kalitesi Üzerine Etkisi

**ÖZ**

**Amaç:** COVID-19, kısa zamanda tüm dünyayı etkisi altına alarak yaşam koşullarını çok büyük oranda etkilemiştir. Bu çalışmanın amacı pandemi sürecinde COVID-19 geçirme durumlarına göre nöroloji servisinde yatan nöroloji hastalarının anksiyete düzeyi ve uyku kalitesini değerlendirmek amacıyla yapılmıştır. **Gereç ve Yöntem:** Araştırma verileri 20 Mart -20 Mayıs 2021 tarihleri arasında yüz yüze soru-cevap olarak toplanmıştır. Araştırmaya, 100 (55 Kadın, 45 Erkek) hasta katılmıştır. Hastalar COVID-19 geçirip geçirmemelerine göre iki gruba ayrılmıştır. COVID-19 hastalığını geçiren kişiler COVID-19 geçiren grup olarak hastalığı geçirmeyenler ise COVID-19 geçirmeyen grup olarak belirlendi. Veri toplama aracı olarak uyku kalitesini değerlendirmek için Pittsburgh Uyku Kalitesi İndeksi (PUKİ), anksiyeteyi değerlendirmek için Koronavirüs anksiyete Ölçeği (KAÖ) kullanılmıştır. **Bulgular:** COVID-19 geçiren grup ve COVID-19 geçirmeyen grup karşılaştırıldığında anksiyete ölçeği puan ortalamaları, PUKİ total puan ortalamaları ve alt parametrelerinden uyku latansı, uyku süresi, uyku bozukluğu arasında anlamlı fark saptandı ($p<0.05$). Anksiyete düzeyi ile uyku kalitesi arasında pozitif yönde orta düzey korelasyon olduğu görüldü ($p=0.000$, $r=0.472$). Anksiyete düzeyi ile uyku kalitesinin alt parametrelerinden öznel uyku kalitesi ($p=0.000$, $r=0.439$) ile pozitif yönde orta düzey anlamlı ilişki saptandı. **Sonuç:** Nörolojik hastalığı olup COVID-19 geçiren bireylerin anksiyete düzeylerinin daha yüksek ve uyku kalitelerinin daha kötü olduğu görülmüştür. Bu etkilerin boyutları incelenmelidir. Ve tedavilerde bu etkilerin göz önünde bulundurularak yapılması önemlidir.

**Anahtar Kelimeler:** Anksiyete, COVID-19, Pandemi, Uyku.

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## INTRODUCTION

The effects of COVID-19 (coronavirus disease), which spread rapidly first in China and then in almost all countries in the world, continue (World Health Organization, 2022). In studies examining the psychological and social effects of COVID-19, it has been observed that COVID-19 causes radical changes in society in all aspects and negative psychological problems. In a study in which 500 people participated, it was reported that 19% of the participants had depression, 14% had anxiety and 25.4% had worsened mental health after the pandemic (Choi et al., 2020).

In a study on anxiety, and depression conducted with 307 participants, the frequencies of anxiety and depression were reported to be 18.6% and 13.4%, respectively (Dai et al., 2020). In the study of 1210 participants conducted in China during the COVID-19 epidemic, 28.8% of the participants were found to have moderate to severe anxiety symptoms and 16.5% had moderate to severe depression symptoms. Moreover, it was stated that women were more negatively affected by the psychological consequences of the epidemic; It was observed that the scores they got from the stress, anxiety, and depression scales were significantly higher (Wang et al., 2020).

Sleep problems are one of the leading causes of psychological problems. It is known that insomnia affects a person's healthy thinking and psychology, as well as difficulty for sleeping due to sadness, stress, and depression. In addition, sleep quality is one of the concepts that is emphasized in clinical practice and sleep-related research. It is seen that studies on sleep disorders are increasing rapidly all over the world. While it plays a major role in the pathophysiology of chronic diseases, it is worth examining because it is the first deterioration process in acute diseases (İyigün et al., 2017; Huang et al., 2020).

Sleep research is essential because poor sleep quality is a symptom of many medical conditions and there is a high correlation between sleep health and physical as well as psychological health. Sleep plays a very important role in the health of individuals. Inadequate sleep, besides posing a threat to health, causes a decrease in cognitive, psychomotor, and emotional functions. The effect of sleep-related hormonal circulation on immunity and health has been demonstrated. It is reported that people with sleep disorders experience health problems more frequently and more severely. It has been shown that sleep rhythm is affected by many factors and causes disorders. Sleep quality is an important indicator that affects a person's cognitive, physical, and social life. Many reasons affect sleep quality.

Smoking, afternoon coffee consumption, alcohol use, poor sleep hygiene, stress levels and additional diseases are the most common factors that affect sleep quality (İyigün et al., 2017). To prevent the coronavirus pandemic, many states have imposed many restrictions on their citizens to protect their health, and with the theme of 'Life Fits Home', a curfew has been imposed on individuals under the age of 20 and over the age of 65 between March 15 and June 10, 2020, in our country, and all schools and universities, education process remotely, and it was a vacation scheduled online. It can be predicted that the new lifestyle that emerged during the COVID-19 disease pandemic and the measures taken to control the epidemic may also have an impact on sleep quality. Because it is possible to say that stress and lifestyle changes negatively affect sleep quality (Huang et al., 2020).

Fear is an adaptive defense mechanism that is fundamental for survival and involves several biological processes of preparation for a response to potentially threatening events. However, when it is disproportionate, it becomes harmful and can induce several psychiatric disorders (Garcia, 2017; Shin, 2010). In a pandemic, fear increases anxiety, stress levels and insomnia in healthy individuals and intensifies the symptoms of those with pre-existing psychiatric disorders (Shigemura et al., 2019). In previous epidemic situations, the number of those whose mental health was affected tended to be greater than the number of people infected by the disease (Reardon, 2015). Thus, it is of extreme importance to implement public health policies, including assistance protocols concerning individual and collective mental health in conjunction with pandemic response strategies during and after the event. Sleep disorders are frequently seen in neurological patient groups, and anxiety along with depression are seen at high rates in these patient groups. Sleep can be affected by many factors. It needs to be evaluated from multiple perspectives. Sleep quality is one of the most important parameters affecting the quality of life. A person needs quality sleep in order to think clearly, focus on his work, and complete his daily tasks successfully. Improving a person's sleep quality and reducing anxiety will also increase participation in physical therapy and rehabilitation. Therefore, it is extremely important to implement public health policies, including mental health outreach protocols, along with pandemic response strategies during and after the event. Because these policies provide protective and preventive services within the scope of community-based mental health practices, improving mental health and reducing the treatment burden allocated to mental health services.

This study aimed to determine the anxiety levels and sleep quality of neurology patients hospitalized in the neurology service during the pandemic period, according to their COVID-19 history.

## MATERIALS AND METHODS

### Study type

This cross-sectional study was conducted through face-to-face interviews with patients in Pamukkale University from March- June 2021.

### Study group

Over 18 years of age who met the inclusion criteria with neurological disease in the Neurology Inpatient

Service of Pamukkale University Hospital were included in the study. As inclusion criteria, Persons who have a neurological disease (stroke, MS, etc.), can communicate and read, and have no mental problems. As the exclusion criterion, those with a previously diagnosed psychiatric illness and who do not want to participate were excluded from the current study. We invited 114 patients to the study. 14 patients did not want to participate in the survey. A total of 100 people were included in our study.

The effect size of the reference study was determined as d=0.68 (Morin et al., 2003). According to the results of the reference study, assuming that we can obtain a lower effect size (d=0.5), as a result of the power analysis, it has been calculated that 95% power can be obtained at a 95% confidence level. A minimum of 42 people (per group) were included in the study.

**Procedures**

The socio-demographic characteristics of the participants who met the inclusion criteria were questioned through mutual interviews. After the demographic information of the patients was obtained, it was questioned whether they had COVID-19, and whether they had a family history. Sleep quality was assessed by the Pittsburgh Sleep Quality Index (PSQI), and the Coronavirus Anxiety Inventory (COAS) questionnaire was used to assess anxiety.

**Evaluation methods**

PSQI ranges from 0 to 21. A total score lower than 5 indicates “good sleep quality” (Buysse et al., 1989). Turkish validity and reliability were established (Ağargün et al., 1996).

COAS which was developed in 2020 and adapted into Turkish by Biçer et al., was used. In this scale, the responses of individuals to the coronavirus in the last two weeks were evaluated. Both scales, consisting of one factor and five items, were created in a Likert style. There are items stating that as the scores obtained from the scale approach 5, reassurance-seeking behaviors increase, and as they go down to 1, reassurance-seeking behaviors decrease (Biçer et al., 2020; Lee et al., 2020).

**Statistical analysis**

Data were analyzed with SPSS 22.0. Continuous variables were given as mean, and categorical variables were given percentages. The Mann-Whitney U test was used to compare independent group differences and the relations between continuous variables were analyzed with Spearman correlation analysis. Normal distribution of the data was determined by the Kolmogorov-Smirnov test, and the data are not normally distributed. Chi-square analysis was used for the differences between categorical variables.

**Ethical considerations**

Ethical approval of the study was given by the Pamukkale University Non-Interventional Clinical Research Ethics Committee (decision no:06, date:16/03/2021).

## RESULTS

Of individuals with neurological disease who met the inclusion criteria, 46 (20 women, 26 men) had COVID-19, while 54 (35 women, 19 men) were not diagnosed with COVID-19. When the patients were divided into two groups according to whether they had COVID-19 or not, the mean age of the COVID-19 group was 50.93±19.39 years, and the mean age of the non-COVID-19 group was 55.1±17.82 years.

The body mass index of all patients was found to be 25.43±4.07 kg/m2. The mean body mass index was 25.69±3.81 kg/m2 in the COVID-19 group and 25.20±4.31 kg/m2 kg/m2 in the non-COVID-19 group. Demographic and clinical characteristics of groups are given in Table 1.

In the COVID-19 group, the number of people who smoked was 8 (17.4%) and the number of people who drank alcohol was 2 (4.3%); In the non-COVID-19 group, the number of smokers was 3 (5.6%) and no one consumed alcohol. While 37 (80.4%) people in the COVID-19 group had a relative with a history of COVID-19, only 6 (11.1%) people in the non-COVID-19 group had a relative with a history of COVID-19. Seven (15.2%) of individuals with COVID-19 had any surgery while hospitalized. The number of people who had surgery in the group without COVID-19 was determined as 2 (3.7%).

A significant difference was found between the two groups' COAS total scores, PSQI total scores, and sleep latency, sleep duration, and sleep disturbance sub-parameters ($p<0.05$) (Table 2).

There was a correlation between COAS total score and sleep quality ($p=0.000$, $r=0.472$). A moderate positive correlation was found between COAS total score and subjective sleep quality ($p=0.000$, $r=0.439$). There was a moderately positive correlation between COAS total score and sleep delay ($p=0.001$, $r=0.339$) (Table 3).

## DISCUSSION

Although it is agreed worldwide that the pandemic is a stressful period, little is known about the consequences after the quarantine and epidemic period. Although there are studies investigating the neuropsychiatric effect of the COVID-19 pandemic in MS patients (Costa-Frossard et al. 2020), there is no study examining the effect of COVID-19 history on coronavirus anxiety level and sleep quality in hospitalized neurology patients.

**Table 1. Demographic characteristics of groups.**

| | | COVID-19 Group (n=46) | Non-COVID-19 Group (n=54) | z | p |
|---|---|---|---|---|---|
| | | X±SD<br>Median (Min-Max) | X±SD<br>Median (Min-Max) | | |
| **Year (y)** | | 50.93±19.39<br>49 (20-90) | 55.1±17.82<br>56.5 (21-88) | -1.498 | 0.134* |
| **Height (cm)** | | 166.97±8.04<br>167.5 (152-186) | 165.07±8.15<br>165 (150-182) | -1.051 | 0.293* |
| **Weight (Kg)** | | 71.44±9.88<br>73.5 (44.5-95) | 68.40±11.04<br>56.5 (36-88) | -1.408 | 0.159* |
| **BMI** | | 25.69±3.81<br>24.9 (18.52-33.66) | 25.20±4.31<br>25.71 (16-32) | -0.149 | 0.882* |
| **Length of hospital stay (Days)** | | 6.21±3.59<br>5 (1-15) | 6.63±5.91<br>5 (1-35) | -0.484 | 0.629* |
| | | **n (%)** | **n(%)** | **$X^2$** | **p** |
| **Diagnoses of patients** | **Cerebrovascular accident** | 17 (37%) | 21 (39%) | 2.817 | 0.138** |
| | **Hemiplegia** | 8 (17%) | 8 (15%) | | |
| | **MS** | 5 (11%) | 7 (13%) | | |
| | **Gullian barre** | 3 (7%) | 5 (9%) | | |
| | **Myasthenia gravis** | 4 (9%) | 1 (2%) | | |
| | **Peripheral neuropathy** | 4 (9%) | 4 (7%) | | |
| | **Parkinson's disease** | 3 (6%) | 5 (9%) | | |
| | **Hidrosefali** | 2 (4%) | 3 (6%) | | |
| **Sex** | **Male** | 20 (43.5%) | 35 (64.8%) | 3.748 | 0.280** |
| | **Female** | 26 (56.5%) | 19 (35.2%) | | |
| **Marital Status** | **Married** | 41 (89.1%) | 44 (81.5%) | 3.956 | 0.253** |
| | **Single** | 5 (10.9%) | 10 (19.5%) | | |
| **Educational status** | **Out of school** | 9 (19.6%) | 7 (13%) | 2.359 | 0.770** |
| | **Primary school** | 19 (41.3%) | 30 (55.6%) | | |
| | **Middle school** | 6 (13%) | 7 (13%) | | |
| | **High school** | 7 (15.2%) | 6 (11.1%) | | |
| | **University** | 5 (10.9%) | 4 (7.4%) | | |

PSQI: Pittsburgh Sleep Quality Index, Min: Minumum, Max: Maximum, BMI: Body mass index; *Man-Whitney u test, **Chi-square test; X: Mean, SD: Standard Deviation, %: percent, p<0.05.

**Table 2. Comparison of the anxiety levels and sleep quality of the groups.**

| Variables | COVID-19 Group (n=46)<br>Mean ±SD<br>Median (Min-Max) | Non-COVID-19 Group (n=54)<br>Mean ±SD<br>Median (Min-Max) | z | p |
|---|---|---|---|---|
| **PSQI Total Point** | 14.30±3.32<br>13.5 (10-21) | 12.72±3.65<br>11 (10-21) | -2.417 | **0.016** |
| **Subjective sleep quality** | 2.23±0.94<br>3 (0-3) | 2.11±0.86<br>2 (0-3) | -0.961 | 0.337 |
| **Sleep latency** | 2.41±0.93<br>3 (0-3) | 2.01±0.78<br>2 (1-3) | -2.725 | **0.006** |
| **Sleep time** | 2.08±0.96<br>2 (0-3) | 1.66±0.82<br>1 (1-3) | -2.466 | **0.014** |
| **Habitual sleep activity** | 1.93±0.99<br>2 (0-3) | 1.90±0.91<br>2 (0-3) | -0.229 | 0.819 |
| **Sleeping disorder** | 2.32±0.87<br>3 (1-3) | 1.81±0.97<br>2 (0-3) | -2.776 | **0.006** |
| **Use of sleeping pills** | 1.69±1.00<br>2 (0-3) | 1.61±0.73<br>1.5 (0-3) | -0.594 | 0.553 |
| **Daytime dysfunction** | 1.60±0.93<br>2 (0-3) | 1.59±0.68<br>1 (1-3) | -0.341 | 0.733 |
| **COAS** | 13.73±4.33<br>15 (12-22) | 12.55±2.59<br>12 (10-20) | -2.304 | **0.021** |

PSQI: Pittsburgh Sleep Quality Index, COAS: Coronavirus Anxiety Inventory; Min: Minumum, Max: Maximum; Man-Whitney u testi; p<0.05

**Table 3. Examining the relationship between sleep quality and anxiety.**

| Variables | COAS | |
|---|---|---|
| | p | r |
| **PSQI Total point** | **0.000** | 0.472 |
| **Subjective sleep quality** | **0.000** | 0.439 |
| **Sleep latency** | **0.001** | 0.339 |
| **Sleep time** | **0.003** | 0.296 |
| **Habitual sleep activity** | 0.498 | 0.069 |
| **Sleeping disorder** | **0.033** | 0.213 |
| **Use of sleeping pills** | **0.003** | 0.297 |
| **Daytime dysfunction** | **0.013** | 0.249 |

PSQI: Pittsburgh Sleep Quality Index, COAS: Coronavirus Anxiety Inventory; Spearman correlation, $p<0.05$

The aim of this study was to determine the coronavirus anxiety level and sleep quality of neurology patients hospitalized in the neurology service according to their COVID-19 status during the pandemic period. In our study, where we examined the relationship between sleep quality and coronavirus anxiety in individuals with neurological disease and had COVID-19 and compared them with neurology patients without a history of COVID-19, a relationship was found between coronavirus anxiety and sleep quality. Furthermore, it was determined that neurological patients with COVID-19 had higher coronavirus anxiety levels and worse sleep quality. Sleep can be affected by many factors. It needs to be evaluated from multiple perspectives. Sleep quality is one of the most important parameters affecting the quality of life. A person needs quality sleep to think clearly, focus on his work, and complete his daily tasks successfully (Caminero & Bartolomé, 2011). It was observed that neurology patients who had COVID-19 had higher coronavirus anxiety scores. Anxiety disorder is a mood disorder that is expected in the context of a pandemic. A previous study in China reported that most of its patients experienced moderate to severe anxiety during the pandemic (Costa-Frossard et al. 2020). It is often manifested by poor concentration, insomnia, and high blood pressure (Ma et al., 2018. Long-term anxiety is associated with increased disability, poor quality of life, cognitive impairment, and early death (Abzhandadze et al., 2017, Azizi et al., 2020, Archer et al., 2020, Balfe et al., 2018, Guay et al., 2017). The COVID-19 pandemic creates many uncertainties in individuals' lives, and when these uncertain situations are perceived as threatening, they cause negative reactions in the person and cause anxiety. However, based on the results of this research, it is stated that individuals can maintain their psychological resilience to the extent that they can use their spiritual resources during such trauma periods, which is the key to mental health during this COVID-19 epidemic period (Wang et al., 2019). It has been reported that diseases can be considered as traumatic negative events. It is thought that traumatic events also negatively affect a person's psychology (Archer et al., 2020). In the first days of the epidemic, emptying food shelves, confinement at home, interpreting every physical sensation as a symptom of COVID-19, exposing minds to a shower of dirty information through social media posts, and watching programs about the epidemic on the internet and television for long hours increased fear and panic. According to the sleep survey, a score higher than five indicates a sleep disorder. In our study, it was observed that neurology patients were above 5, regardless of having COVID-19. However, it was seen that there were higher scores in the group that had COVID-19. Stress may not be the only cause of sleep problems during the pandemic (Morin et al., 2003, Sateia 2014). Numerous studies have been conducted investigating sleep problems and their psychological impact during the SARS epidemic (Brooks et al., 2018). However, to our knowledge, there is no study evaluating the sleep quality of neurology patients hospitalized in the neurology service during the COVID-19 pandemic. Our study found that sleep quality decreased in different disease groups during the COVID-19 pandemic, which is consistent with the findings of recent studies (Yuan et al., 2020, Huang & Zhao 2020, Zhang et al., 2020). Decreased sleep quality can exacerbate symptoms of chronic diseases and reduce response to treatment (Caminero & Bartolomé, 2011). Accordingly, there is a need for multidimensional and multi-stage studies investigating sociopsychological factors that can improve sleep quality. It is an undeniable fact that the COVID-19 pandemic brings many uncertainties, especially in health, social, psychological and economic areas.

When we look at the sub-parameters of sleep, there was a difference between the two groups, especially in falling asleep, sleep duration and sleep disturbance. Anxiety in people may delay falling asleep, reduce sleep duration and cause sleep disorders. Neurology patients have existing problems related to sleep. Having a disease such as COVID-19 can increase and exacerbate anxiety and fear in these people. When looked at, most of the relatives of neurology patients

have had COVID-19. In this case, it can cause isolation problems such as fear, avoidance and staying away from people's environment, making these people even more antisocial. This may lead to depressive states in patients. In this respect, patients should be protected from the disease and should be helped to overcome their fears (Yuan et al. 2020).

In our study, when we looked at the relationship between coronavirus anxiety and sleep in neurological patients with COVID-19, it was seen that there was a relationship between sleep quality and falling asleep, especially with the total score. In particular, coronavirus anxiety is related to total score and sleep quality. To have a good sleep, a person must be free from worry. These patients with COVID-19 should be informed about the disease and in terms of prevention, and if there are caregivers, they should be informed about how to behave in a new epidemic. Sleep is very effective on quality of life. A person must have a good sleep pattern to maintain a daily routine.

Thirty-eight of our patients (38%) had a history of cerebrovascular accident, and 16 of them (16%) were patients with hemiplegia. And they made up the majority of patients. Therefore, regardless of stroke types and stroke severity, more attention should be paid when contracting COVID-19, and considering that patients with a stroke have a higher prevalence of age, smoking, hypertension and cardiovascular disease, COVID-19 patients with a stroke history should be compared to those without a stroke history. It is stated that it is not surprising that patients experience worse clinical outcomes than others (Huang and Zhao, 2020). Therefore, health authorities need to identify high-risk groups based on patients' sociodemographic profiles in order to provide early psychological interventions. Anxiety, stress and sleep problems are well-known risk factors for cardiovascular disease. Second, as the prevalence of neuropsychiatric disorders increases in the context of a pandemic, the content of psychological interventions should be modified according to the needs of the general population.

Our study was limited in several ways. Since the study had a cross-sectional design, the data and analyses obtained from the study may not be sufficient to draw causal inferences. Since the participants were volunteers who participated in the survey, the study may have sample bias. The fact that it was performed on different disease groups will affect the level of psychological impact of the pandemic. However, it is also necessary to question whether patients with COVID-19 disease were hospitalized during this period, how many days they were hospitalized, and what effects they had afterward. Despite its limitations, we hope that the findings of this study will provide us with guidance on the psychological state and sleep status of patients during the pandemic period and will be more conducive to the management of patients with a history of stroke and MS who are at high risk for COVID-19.

## CONCLUSION

It has been observed that the sleep quality of patients with neurological problems decreases, and the coronavirus anxiety level increases. However, it has been observed that the coronavirus anxiety level is higher in patients who have had COVID-19 than in those who have not. This will also negatively affect patients' compliance with treatment, participation and exercise. Determining patients' sleep quality and coronavirus anxiety levels will be useful in predicting their participation in treatment. Sleep affects a person's quality of life greatly. For this reason, it should be questioned whether the patient has COVID-19 in the future and appropriate approaches should be taken accordingly. And studies should be carried out to improve sleep quality. Additionally, studies should be conducted with larger participation and in which different parameters that may affect sleep are evaluated.

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**Conflict of Interest**

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

**Author Contributions**

**Plan, design:** TCA, FY; **Material, methods and data collection:** AY, ST; **Data analysis and comments:** AY, FY; **Writing and corrections:** TCA, FY, AY.

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**Ethical considerations**

Ethical approval of the study was given by the Pamukkale University Non-Interventional Clinical Research Ethics Committee (decision no:06, date:16/03/2021).

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