

# Identifying Sleep Quality of the Elderly and Their Methods of Coping with Sleep Problems

## Yaşlı Bireylerin Uyku Kalitelerinin ve Uyku Problemleri ile Baş Etme Yöntemlerinin Belirlenmesi

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**ABSTRACT Objective:** The aim of this study was to identify sleep quality of the elderly, the factors affecting their sleep quality, and their methods of coping with sleep problems, and therefore to guide the planning of the correct implementations. **Material and Methods:** This study was conducted with 392 volunteer elderly participants living in downtown and districts of Burdur. The data were collected using a form asking demographic information and information about sleep, and the Pittsburgh Sleep Quality Index (PSQI). Descriptive statistics (mean, standard deviation, minimum, maximum), chi-square test, and correlation analysis were used to define continuous variables in the data analysis. **Results:** The mean age of the participants was 69.69±5.48. It was observed that 45.2% were male, 37.5% were primary school graduates, 80.6% were married, 78.8% had a chronic disease. In the study, the mean PSQI score was found to be 8.12±2.88, and 62.3% had poor sleep quality. It was found out that the factor affecting sleep quality most was pain (69.9%); 75.8% of the participants sleep at different times during the day; and among the coping methods, praying, tasbehat (invocation), and listening to the Holy Quran had the highest rate (55.9%). **Conclusion:** Sleep problems are common, and sleep quality decreases in the elderly, which is boosted as age advances. The causes of sleep problems in the elderly and the methods of coping with them should be investigated and the factors causing sleep problems should be controlled.

**Keywords:** Aged; sleep; quality; coping; problem

**ÖZET Amaç:** Bu araştırma yaşlı bireylerin uyku kalitesi ve etkileyen faktörlerin belirlenmesi, uyku problemleri ile baş etme yöntemlerinin tespit edilmesi ve bu bağlamda doğru uygulamaların planlanmasına yol göstermek amacıyla yapılmıştır. **Gereç ve Yöntemler:** Bu çalışma, Burdur il merkezi ve ilçelerinde yaşayan 392 gönüllü yaşlı katılımcı ile yapılmıştır. Veriler; kişisel ve uykuya dair bilgileri içeren bilgi formu ile Pittsburg Uyku Kalitesi İndeksi (PUKİ) kullanılarak toplanmıştır. Veri analizinde sürekli değişkenleri tanımlamak için tanımlayıcı istatistikler (ortalama, standart sapma, minimum, maksimum), ki-kare testi ve korelasyon analizi kullanılmıştır. **Bulgular:** Araştırmaya alınan yaşlı bireylerin yaş ortalaması 69,69±5,48 olup, %45,2'sinin erkek, %37,5'inin ilkokul mezunu, %80,6'sının evli, %78,8'inin kronik bir hastalığı olduğu görülmüştür. Çalışmada PUKİ puan ortalamalarının 8,12±2,88 olduğu, %62,3'ünün kötü uyku kalitesine sahip oldukları saptanmıştır. Uyku kalitesini en çok etkileyen faktörün ağrı (%69,9) olduğu, katılımcıların %75,8'inin gün içinde farklı sürelerde uyuduğu, başetme yöntemleri arasında en yüksek oranın dua etmek, tesbehat, Kur'an'ı Kerim dinlemek (%55,9) olduğu saptanmıştır. **Sonuç:** Yaşlı bireylerde uyku ile ilgili problemler sık görülmekte, uyku kalitesi azalmakta ve bu durum yaş ilerledikçe artış göstermektedir. Yaşlı bireylerin uyku sorunu yaşamaya nedenleri ve baş etme yöntemleri araştırılıp, uyku sorununa neden olan faktörler kontrol altına alınmaya çalışılmalıdır.

**Anahtar Kelimeler:** Yaşlı; uyku; kalite; baş etme; problem

Age-related physiological changes and problems arise due to the aging of the world population and the increasing number of the elderly. Although aging is a natural phenomenon, it brings many physiological, psychological, and social changes, and older individuals need to learn to adapt to such changes over time. Physical, hormonal and psychological changes,

chronic diseases, fatigue, balance disorder, osteoporosis, urinary retention, and difficulty in orientation are frequently seen as age advances. In addition, sleep disorder is one of the most common problems independent of diseases.<sup>1,2</sup> As a result of their study on morbidity and symptom prevalence in the elderly, Silva et al. found that the elderly had primarily sleep

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problems (37.7%).<sup>3</sup> In many studies, it was reported that individuals aged 65 years and over often had sleep problems.<sup>3-8</sup> The elderly have been found to experience problems such as falling asleep, frequent awakening at night, over-sleeping in daytime, insomnia, and early awakening.<sup>9,10</sup> In Western countries, it is reported that 20-50% of adults and 57% of the elderly living at home experience sleep problems more than the elderly living in nursing homes.<sup>7,8,11</sup> Sleep disorders affect the quality of life in the elderly and decrease their ability to perform daily life activities and their life satisfaction. In this sense, it is important to reveal the changes in sleep patterns, sleep problems, the factors affecting them, and coping methods in terms of planning the correct implementations to eliminate such problems. Therefore, in this study, it was aimed to identify sleep quality of the elderly and their methods of coping with sleep-related problems.

## MATERIAL AND METHODS

Before starting the study, ethical approval was obtained from the Noninterventional Studies Ethics Board of Mehmet Akif Ersoy University (Date: 08.03.2017; No: 2017/3/76). The research was conducted in downtown and districts of Burdur, and the data were collected by face to face interview method between 01.01.2018 - 03.30.2019. In our study, the sample of the study was determined by the single-stage cluster sampling method. Accordingly;

- $n = t$
- $2 \cdot [1 + (0.02) \cdot (b-1)] \cdot (p \cdot q) / e^2$
- n: sample size
- t: the value corresponding to 95% significance
- b: sampling stage (this stage was taken as 1 due to being single-stage)
- p: the probability of occurrence of the examined event was taken as 50%.
- q: the probability of nonoccurrence of the examined event (1-p)
- e: refers to the accepted margin of error (5% in this study).
- b= the equation becomes;  $n = t$

- 2. (p. q) / when taken 1. Therefore;
- $n = (1.96)^2 \cdot (0.5 \cdot 0.5) / (0.05)^2$   $n = 384$

Considering that there would be missing values in the data, the number of participants was completed to 400. 8 participants withdrew the study, and the remaining 392 questionnaires were included in the data analysis. Accordingly, downtown and all districts (Bucak, Aglasun, Celtikci, Kemer, Karamanli, Tefenni, Cavdir, Golhisar, Altinyayla, Yesilova) of Burdur were selected as the study area and the questionnaires were distributed to family practice centers in the districts proportional to the population density. The elderly without any sensory loss due to vision or hearing impairments and without a history of psychiatric health problems were included in the study. Written and verbal consents were obtained from the participants at the beginning of the study. The data were collected using a questionnaire containing personal sleep information and the Pittsburgh Sleep Quality Index (PSQI). The PSQI developed by Buysse et al. in 1989 and adapted to Turkish by Agargun et al. in 1999 has 7 sub-scales.<sup>12</sup> These sub-scales are subjective sleep quality (1 item), sleep latency (2 items), sleep duration (1 item), habitual sleep efficiency (3 items), sleep disturbances (9 items), use of sleep medication (1 item), and daytime dysfunction (2 items). The increase in the score indicates that sleep quality deteriorates, and the total score above 5 means that sleep quality is clinically poor. In the study of Buysse et al., while the Cronbach Alpha coefficient was 0.83, Agargun et al. found this value 0.80.<sup>12</sup> Descriptive statistics (mean, standard deviation, minimum, maximum), chi-square test and correlation coefficient were used to identify continuous variables in the data analysis. The Shapiro-Wilk test was used to calculate whether the data fit the normal distribution or not. SPSS 20 package program was used to calculate statistical data. The rules of the Helsinki Declaration were complied with in the research.

## RESULTS

It was found that the data fit the normal distribution. (Shapiro-Wilk Test  $p > 0.05$ ). Of the participants were, 54.8% females, and the mean age was  $69.69 \pm 5.48$  years. The demographic information of the partici-

**TABLE 1:** Socio-demographic characteristics of the participants.

	Socio-Demographic Characteristics	Number (n)	Percentage (%)
Age Groups	65-74	294	75.0
	75 and over	98	25.0
Gender	Female	215	54.8
	Male	177	45.2
Educational Attainment	Primary School	147	37.5
	Middle School	103	26.3
	High School	94	24.0
	University	48	12.2
Marital Status	Married	316	80.6
	Single	76	19.4
Employment Status	Employed	76	19.4
	Unemployed	316	80.6
BMI	<19	156	39.8
	19-24	98	25.0
	25-29	92	23.5
	>30	46	11.7
Presence of Chronic Disease	Yes		
	No	309	78.8
Doing Exercise		83	21.2
	Not at all	126	32.1
	I walk less than 30 minutes a day	78	19.9
	I walk less than 30 minutes - 1 hour a day	134	34.2
	I walk more than 1 hour a day	54	13.8
TOTAL		392	100

pants is given in [Table 1](#). It was found that 80.6% of the elderly were not employed, 37.5% were primary school graduates, and 80.6% were married. Of them, 78.8% had at least one chronic disease. The mean body mass index (BMI) of the elderly was  $27.13 \pm 4.13$  kg/m<sup>2</sup>, the lowest BMI was 15.07, and the highest BMI was 42.16. It was found that BMI values of 64.8% were within normal limits, and 32.1% did not use to walk at all ([Table 1](#)).

The elderly were asked about their sleeping habits and the factors that might affect them. The responses to the questions are given in [Table 2](#). It was determined that 61.5% of the elderly had sleep problems, and 69.9% of them had pain (joints, back, waist, muscles, etc.) as the reason for experiencing sleep disorders. Among the methods of coping with sleep disorders, praying, tasbihat (invocation), and listening to the Holy Quran had the highest rate (55.9%). They were followed by watching television, listening to music, and reading books (52.0%), and

not drinking water (50.5%). However, it was found out that 37.8% did not develop any coping methods. The mean Pittsburgh Sleep Quality Index score was  $8.12 \pm 2.88$  ([Table 3](#)) and its Cronbach Alpha coefficient was 0.73. The minimum score that can be obtained from the scale is 1 and the maximum score is 15. According to the total Pittsburgh Sleep Quality Index score, it was determined that while 37.8% had normal sleep quality, 54.6% had poor sleep quality and 7.6% had very poor sleep quality ([Table 4](#)). There was no statistically significant relationship between the total scale score and the other demographic information of the participants, such as marital status ( $p=0.17$ ), gender ( $p=0.09$ ), employment status ( $p=0.26$ ), and eating before bedtime ( $p=0.06$ ). Nevertheless, a significant relationship was found between the scores of the sub-scales and the variables of age, educational attainment, BMI, number of chronic diseases, doing exercise, and daytime sleep duration ( $p \leq 0.05$ , [Table 5](#)).

**TABLE 2:** Information on sleep habits of the elderly.

Sleep Habits		Number (n)	Percentage (%)
Do you eat before going to bed?	No	107	27.2
If yes, how long ago?	Yes, 30 min. -1 hour	59	15.1
	Yes, 1 - 2 hours	74	18.8
	Yes, 2- 3 hours	152	38.9
Do you sleep in the daytime?	No	95	24.2
If yes, how many hours in total?	Yes, 30 min. -1 hour	108	27.5
	Yes, 1 - 2 hours	99	25.2
	Yes, 2- 3 hours	56	14.3
	Yes, more than 3 hours	34	8.8
Do you have sleep problems?	No	151	38.5
	Yes	241	61.5
Do you think you have more sleep problems as you get older?	No	94	24.0
	Yes	298	76.0
What factors do you think to affect * your sleep quality?	None	71	18.1
	Pain (Joint, back, waist etc.)	274	69.9
	Fatigue	216	55.1
	Respiratory problems (Dyspnea, COPD etc.)	98	25
	Gastrointestinal problems (Acid indigestion, dyspepsia, constipation, regurgitation, reflux etc.)	188	47.9
	Stress	254	64.8
	Urogenital problems (incontinence, thamuria etc.)	196	50.0
	Chronic diseases	84	21.4
	Other	34	8.8
Coping methods*	None	148	37.8
	Consumption of dairies	86	21.9
	Consumption of linden tea, sage tea, chamomile tea	63	16.1
	Moving and changing the lying position	178	45.4
	Waiting	96	24.5
	Trying not to sleep in the daytime	104	26.5
	Watching TV, listening to music, reading books	204	52.0
	Not drinking water	198	50.5
	Consuming nothing at least 2 hours before bedtime	65	16.6
	Massage	12	3.1
	Having shower	22	5.6
	Taking sleeping pills	8	2.0
	Praying, tasbihat (invocation), and listening to the Holy Quran	216	55.9

\* Participants were able to more than one answer this open-ended question.  
COPD: Chronic obstructive pulmonary disease.

The participants were asked, "What factors do you think affect your sleep quality?". Accordingly, there was a significant difference between the ones uttering a factor affecting their sleep quality and those who did not ( $p = 0.002$ ) in terms of the total PSQI score. As seen in Table 3, while 31.8% of those who stated a factor affecting their sleep quality had normal PSQI scores, this is the case for 64.8% of those who did not specify a factor affecting their sleep quality.

The sub-scale data of the Pittsburgh Sleep Quality Index were assessed, and their means are given in Table 3. The highest mean scores were found in subjective sleep quality ( $1.62 \pm 0.89$ ), sleep disturbances ( $1.38 \pm 0.76$ ), and sleep latency ( $1.36 \pm 0.63$ ), respectively (Table 3).

## DISCUSSION

Sleep and sleep-related habits are necessities that vary among individuals and with age and become a

**TABLE 3:** Mean total PSQI score and sub-scale scores.

Sub-scales of the PSQI	Mean ± SD
1) Subjective Sleep Quality	1.62±0.89 (2)
2) Sleep Latency (Delay in sleep)	1.36± 0.63 (2)
3) Sleep Duration	0.97±0.84 (1)
4) Habitual Sleep Efficiency	1.18±1.18 (1)
5) Sleep Disturbances	1.38±0.76 (1)
6) Use of Sleep Medication	0.72±0.56 (1)
7) Daytime Dysfunction	0.98±0.68 (1)
<b>Total PSQI Score</b>	<b>8.12±2.88</b>

PSQI: Pittsburgh Sleep Quality Index.

problem with an increase in chronic diseases, inactivity, fear of death, and a decrease in family and social support systems in later ages. The previous research and our results have revealed that sleep-related problems increase as age advances. In the present study, the mean PSQI score of the elderly was found to be 8.12±2.88 and 62.3% had poor sleep quality (Table 3). In addition, there were negative correlations between age and subjective sleep quality ( $r=0.563$ ,  $p=0.017$ ) and sleep duration ( $r=-0.214$ ,  $p=0.016$ ); but positive correlations between age and sleep latency ( $r=0.159$ ,  $p=0.023$ ), sleep disturbances ( $r=0.194$ ,  $p=0.036$ ), and daytime dysfunction ( $r=0.13$ ,  $p=0.000$ ) (Table 5). It was reported that sleep quality decreased with advanced age (Öztürk M. Hastanede yatan yetişkin hastaların uyku gereksinimlerini etkileyen faktörlerin incelenmesi. Yüksek Lisans Tezi. Ankara: Çukurova Üniversitesi, Sağlık Bilimleri Enstitüsü; 2003). In addition, 53.1% of those aged 75 years and over in the study of Öztürk, 77% of the elderly who lived in nursing homes (mean PSQI score was 8.02±2.87) in the study of

Fadiloglu et al., and 60.9% of the elderly who lived in nursing homes in the study of Eser et al. had poor sleep quality (Öztürk M. Hastanede yatan yetişkin hastaların uyku gereksinimlerini etkileyen faktörlerin incelenmesi. Yüksek Lisans Tezi. Ankara: Çukurova Üniversitesi, Sağlık Bilimleri Enstitüsü; 2003).<sup>13,14</sup> Ceyhan et al. found that 83.5% of the elderly with incontinence had poor sleep quality (mean PSQI score was 8.33±4.16) and that chronic diseases affected sleep quality.<sup>15</sup> Hence, the results of the present study are consistent with the literature. Corley et al. reported that 43.5% of the elderly had sleep problems and that the presence of chronic diseases and living in nursing homes were shown as the cause of sleep problems.<sup>16</sup> Ceyhan et al. found that 87.0% of the elderly woke up at night, that the most frequent cause of awakening at night was having a bowel movement, and that 60.9% did not feel rested after sleep.<sup>15</sup> Pekcetin and Inal found that sleep quality was associated with pain; Haack et al. found that sleep was associated with pain.<sup>17,18</sup> The results of the present study show similarity to the findings in the literature, and the factors decreasing sleep quality of the elderly are listed as pain, stress, fatigue, urogenital problems, gastrointestinal problems, respiratory problems, and chronic diseases, respectively (Table 2). In addition, there were negative significant relationships between the number of chronic diseases and subjective sleep quality ( $r=-0.098$ ,  $p=0.000$ ), sleep latency ( $r=-0.796$ ,  $p=0.001$ ), and sleep duration ( $r=0.323$ ,  $p=0.016$ ); but positive significant relationships between the number of chronic diseases and sleep disturbances ( $r=0.786$ ,  $p=0.019$ ), use of sleep medication ( $r=0.489$ ,  $p=0.047$ ), and daytime dysfunction ( $r=0.874$ ,  $p=0.002$ ).

**TABLE 4:** The relationship between those specifying factors affecting their sleep quality and total scale scores.

What factors do you think affect your sleep quality?	Those Specifying Factors	Total scale scores of the groups			p
		Normal sleep quality	Poor sleep quality	Very poor sleep quality	
Those Specifying Factors	102	197	22	$\chi^2 = 12.416$ $p=0.002$	
	31.8%	61.4%	6.9%		
Those Not Specifying Any Factors	46	17	8	$p=0.002$	
	64.8%	23.9%	11.3%		
<b>TOTAL</b>	<b>148</b>	<b>214</b>	<b>30</b>		
		37.7%	54.6%	7.7%	

TABLE 5: The relationship between the sub-scales of the PSQI and characteristics of the participants.

Characteristics of the Participants	Subjective Sleep Quality		Sleep Latency		Sleep Duration		Habitual Sleep Efficiency		Sleep Disturbances		Use of Sleep Medication		Daytime Dysfunction	
	r	p	r	p	r	p	r	p	R	p	r	p	r	p
Age Groups	-0.563	0.017	0.159	0.023	-0.214	0.016	0.213	0.102	0.194	0.036	0.178	0.316	0.123	0.000
Educational Attainment	0.562	0.214	0.921	0.812	0.124	0.102	0.417	0.246	0.098	0.101	-0.489	0.044	0.126	0.112
BMI	-0.322	0.001	-0.514	0.024	0.106	0.015	0.116	0.214	0.654	0.012	0.745	0.128	0.357	0.017
The Number of Chronic Diseases	-0.098	0.000	-0.796	0.001	-0.332	0.016	0.474	0.123	0.796	0.019	0.489	0.047	0.874	0.002
Doing Exercise	0.156	0.025	-0.654	0.048	0.426	0.036	0.269	0.462	-0.214	0.026	-0.368	0.043	0.187	0.102
Daytime Sleep Duration	-0.269	0.027	-0.362	0.013	-0.258	0.010	0.362	0.658	0.139	0.001	0.427	0.198	0.562	0.061

r: Pearson correlation analysis results.

Excessive daytime sleepiness is a common condition that occurs in the case of inadequate sleep, unregulated sleep, and other chronic diseases, and it is defined as a difficulty in maintaining the state of wakefulness.<sup>19</sup> In their study, Zee and Bloom stated that 28% of the elderly had difficulty in initiating sleep and 42% had difficulty in initiating and sustaining sleep. In the study of Onal et al., 4.7% of the elderly could not resist sleep in the daytime and had a sudden and short-term sleep.<sup>4,20</sup> Buğrul examined sleep quality of individuals older than 55 years in Beylikova and found that 20.2% snoozed in the daytime. In the study of Onal et al., it was found that 4.7% of the elderly could not resist daytime sleep, had sudden and short-term sleep conditions, and 2.5% complained of too much sleep in the daytime (*Buğrul N. Beylikova'da 55 yaş üstü bireylerde uyku kalitesi, yorgunluk ve kognitif fonksiyonların değerlendirilmesi. Tıpta Uzmanlık Tezi. Eskişehir: Eskişehir Osmangazi Üniversitesi, Sağlık Bilimleri Enstitüsü, Halk Sağlığı; 2015*).<sup>4</sup> In a study conducted in a nursing home in Canakkale, it was found that 56.0% of the elderly had a desire to take a nap after waking up.<sup>21</sup> The results of the present study show consistency with the findings in the previous research and it was found that 75.8% of the elderly slept in the daytime and 76% thought that they had sleep problems (Table 2). When daytime sleep duration and sub-scales of the PSQI were compared to each other, there were negative significant relationships between daytime sleep duration and subjective sleep quality ( $r=-0.269$ ,  $p=0.027$ ), sleep latency ( $r=-0.362$ ,  $p=0.013$ ), and sleep duration ( $r=-0.258$ ,  $p=0.010$ ), but a significant positive relationship between daytime sleep duration and sleep disturbances ( $r=0.139$ ,  $p=0.001$ ) (Table 5).

In a study by Stenholm et al. in Italy, it was stated that sleep disorders were observed due to prolonged sleep time and this affected the physical performance while Spira et al. reported there was a loss of physical performance due to the short sleep time and prolonged wakefulness in American people.<sup>22,23</sup> Calik and Algun compared physical activity and sleep in the elderly, and the rate of found poor sleep as 48%. They stated that there was no relationship between physical activity and sleep in these individuals.<sup>19</sup> In the study of Spira et al., return-to-sleep and falling asleep durations were found not to be associated with a decrease in physical performance, but to be associated with functional performance, such as doing chores.<sup>24</sup> In our study, the elderly were asked whether they would walk to assess whether they do exercise. While 32.1% of the elderly do not walk at all, 34.2% walk between 30 minutes and 1 hour daily. It was found that there were positive significant relationships between doing exercise and subjective sleep quality ( $r=0.156$ ,  $p=0.025$ ) and sleep duration ( $r=0.426$ ,  $p=0.036$ ), but negative significant relationships between doing exercise and sleep latency ( $r=-0.654$ ,  $p=0.048$ ), sleep disturbances ( $r=-0.214$ ,  $p=0.026$ ), and use of sleep medication ( $r=$

-0.368,  $p=0.043$ ) (Table 5). The reasons for the discrepancy between the present study and previous studies are thought to be the factors such as differences in the assessment methods, investigating different sleep variables (sleep duration, insomnia, etc.), conducting studies with different populations, and questioning different exercise types.

Saltan et al. found a negative correlation between physical health and functionality and use of sleep medication, one of the sub-scales of the sleep quality scale. In their study, the mean BMI was found to be  $28.84\pm 6.76$  and they found a negative correlation between use of sleep medication and BMI ( $r=-0.256$ ,  $p=0.0160$ ). However, while they could not find any significant correlations between BMI and the total PSQI scores and the sub-scales of the PSQI ( $p>0.05$ ), we found negative significant relationships between BMI ( $27.13\pm 4.13$ ) and subjective sleep quality ( $r=0.322$ ,  $p=0.001$ ) and sleep latency ( $r=-0.514$ ,  $p=0.024$ ), but positive correlations between BMI and sleep duration ( $r=0.106$ ,  $p=0.015$ ), sleep disturbances ( $r=0.654$ ,  $p=0.012$ ), and daytime dysfunction ( $r=0.357$ ,  $p=0.017$ ).

In a study conducted by Spira et al., it was stated that there were relationships between use of sleep medication and functional performance, and educational attainment.<sup>25</sup> In our study, we found a negative significant correlation between use of sleep medication and educational attainment ( $r=-0.489$ ,  $p=0.044$ ) (Table 5). It is thought that the reason for these differences is due to regional and cultural differences in the elderly groups studied, and that future studies on this subject should further scrutinize sleep quality and BMI, and sleep use of sleep medication in the elderly. In addition, as the methods of coping with sleep disorders, the participants in our study mostly preferred to pray, do tasbehat (invocation), listen to the Holy Quran, and not to drink water before going to bed, but they least preferred to use sleeping pills and massage (Table 2). There are many studies in the literature suggesting that different massage therapies increase sleep quality and sleep duration in the elderly.<sup>26-29</sup> However, the results of our research reveal that massage is not practically applied by the participants, which may be due to the lack of the person who will do regular massage.

Incontinence, which is one of the most common genitourinary problems in the elderly, affects sleep quality of the elderly, which is supported by many studies supporting in the literature. It was observed that the elderly developed behaviors such as avoiding consuming beverages such as water, herbal tea, and milk before going to bed to cope with abovementioned problem and ensure that night's sleep is not interrupted.<sup>4,15,23,30,31</sup> It was discovered that the findings of the present study are consistent with the literature and 50.2% of the participants avoided drinking water at night.

## CONCLUSION

As a result, it is clear that quality sleep is a necessity and affects the quality of life significantly. The results of the study revealed that sleep problems are seen more frequently in the elderly compared to other age groups and increase as age advances. Therefore, sleep problems and coping methods in the elderly should be investigated more. Thus, wrong practices can be identified, and correct coping behaviors can be taught to the elderly, and some recommendations in the literature can be shared. These recommendations are:

- 1) Caring the sleep hygiene, sleeping and waking up at the same time every day, and leaving the naps in the daytime,
- 2) Ensuring the bedroom to be quiet, illuminated without being too warm, relaxing, and comfortable,
- 3) Reducing the time spent in the bed out of sleep,
- 4) Utilizing daylight as much as possible, going out on the balcony, and walking in the sunshine hours are important for regulating the diurnal rhythm, which should be explained to the elderly,
- 5) Appropriate treatment of accompanying diseases, chronic pain, depression, and nocturnal noises,
- 6) Eating light meals before bedtime, and reducing the consumption of stimulants such as coffee, tea, and cigarettes,
- 7) Restricting the fluid intake near bedtime,
- 8) Increasing activity rate as much as possible with daily exercises,

9) Reducing the use of sleeping pills without medical advice except special cases.<sup>32-35</sup>

### Informed Consent

All of the procedures were explained to the subjects and written informed consent forms were obtained from all participants. The study protocol conforms to the ethical guidelines of the Declaration of Helsinki and was approved by the Non-Clinical Research Ethics Committee of Mehmet Akif Ersoy University.

### Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a com-

pany that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

### Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

### Authorship Contributions

This study is entirely author's own work and no other author contribution.

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