Original Article

Sleep Quality and Associated Factors in Women Attitudes of Married Women Aged 18-49 for the Usage of Family Planning Method in COVID -19 Pandemic and Related Factors

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Abstract
Sleep, which has an important role in a healthy life, is a vital need. This vital need has an important place in all stages of a woman's life, including infancy, childhood, adulthood, and old age. This study aimed to determine the sleep quality of women aged 18-49 and related factors. The study, which was carried out as a descriptive and correlational research, was completed with the participation of 215 women. "Questionnaire Form" and "Pittsburgh Sleep Quality Index" were used to collect data. Data were analyzed with SPSS program. Mean age of women was 35±7.45 and the majority (74.4%) was university and higher graduate. Mean score of Pittsburgh Sleep Quality Index was 6.20±3.29. There was a significant relationship between short sleep during the day, sleeping with music or television on, having the habit of eating at night, watching television or using telephone or computer actively before sleep and sleep quality. Sleep quality of women was found to be bad in our study. It was determined that short sleep during the day, sleeping with music or television on, having the habit of eating at night, watching television or using telephone or computer actively before sleep affect sleep quality of women. It is recommended to prepare programs to improve sleep quality which is an important factor affecting female health and train women on this issue.

Keywords: Sleep, Sleep quality, Pittsburgh sleep quality, Women

Introduction

Sleep is defined as "a temporary loss of consciousness that can be ended with any stimulus, where brain activity is minimal, and the connection between the living organism and its environment is severed by its own choice" (Saygin & Ozguner, 2020). It is one of the most fundamental biological activities, and it constitutes a third of human life. Sleep, which has an important role in a healthy life, is a vital need (Ulusoy, 2020). This vital need has an important place in all stages of a woman's life, including infancy, childhood, adulthood, and old age. In all stages of a woman's life, changes in the levels of many hormones, especially estrogen and progesterone, affect her sleep patterns and quality (Santur & Ozsahin, 2021).

In addition to hormonal changes, in the literature, several physical, psychological, and environmental factors, such as age, sex, chronic diseases, medication use, physical activity, lifestyle, work life, dietary habits, alcohol, nicotine, and caffeine intake, social life, income status, stress, and emotional status, have been reported to affect sleep quality (Arpinar, 2020; Kolcu et al., 2021; Santur & Ozsahin 2021; Sahin et al., 2020). It has also been reported that the COVID-19 pandemic affects the sleep patterns and

quality of individuals by creating significant levels of stress and anxiety (Pieh et al., 2020; Sahin et al., 2020). In this context, this study was conducted to determine the sleep quality levels of married women aged 18-45 and associated factors.

Materials and Methods

Study design: This study was carried out with a descriptive and correlational design.

Sample: The population of the study consisted of married women aged 18-49. Considering the number of independent variables to be analyzed in the study, based on a moderate expected effect size of 0.15, a power of 85%, and a significance level of 0.05, the minimum required sample size was calculated as 176. Considering potential data losses, with a 20% increase, it was decided to include at least 211 participants in the study (Cohen et al., 2003). The study was completed with 215 participants. Women who did not have access to the internet, those who were pregnant, those who were breastfeeding, and those who were in menopause were excluded from the sample.

Measurement: The data for the study were collected using a "Personal Information Form" and the Pittsburgh Sleep Quality Index (PSQI)". The Personal Information Form, which was created by the researcher, included 20 questions on the sociodemographic and sleep-related characteristics of the participants. PSQI was developed by Buysse et al., (1989). It consists of 24 items, and the minimum and maximum PSQI scores are 0-21. A score of lower than 5 indicates "good" sleep quality, whereas a score of 5 or higher indicates "poor" sleep quality (Buysse et al., 1989). Agargun et al., (1996) tested the validity and reliability of the scale in Turkish and reported its Cronbach's alpha coefficient as 0.80 (Agargun et al., 1996). In this study, the Cronbach's alpha coefficient of PSQI was found as 0.70.

Data collection: The data were collected between 18 July 2022 and 10 August 2022 by sharing the link to a web-based form created on the Google Forms platform with women via social media and communication tools such as Instagram, Facebook, and WhatsApp. Standardizations were made on the Google Forms document to allow the participants to respond only once.

Statistical Analysis: The collected data were analyzed in the computer environment using the SPSS 22 (Statistical Package for the Social Sciences) program. The descriptive statistics of the data are presented as frequency, percentage, mean, and standard deviation values. The normality of the distribution of the numeric data was tested using Skewness and Kurtosis values, and it was found that these data were normally distributed (0.76 and 0.44, respectively). In the comparisons of the PSQI scores of the participants based on their independent variables, based on the number of samples, independent-samples t-test and Mann-Whitney U test ($n<30$) were used to compare two groups, and one-way analysis of variance (ANOVA) (post hoc Tukey's HSD) and Kruskal-Wallis H test ($n<30$) were used to compare three or more groups. The level of statistical significance was taken as $p<0.05$.

Ethical Consideration: The authors confirm that the ethical policies of the journal, as noted on the journal's author guidelines page, have been adhered to. Before starting the study, approval was obtained from the Health Sciences Scientific Research Ethics Committee of Necmettin Erbakan University (06.07.2022/24). The women who were to be included in the study read the informed consent form before responding to the web-based data collection forms. Those who answered "yes" to the statement "I have been informed about the study, and I agree to participate" were allowed to respond to the questions.

Results

The mean age of the participants was 35.0±7.45, and most (74.4%) had university or higher degrees (Table 1).

Other sociodemographic characteristics of the participants are presented in Table 1. Among the sleep-related characteristics of the participants, the three most frequently reported options were the usage of television, phone, or computer before sleeping (89.8%), the usage of thick curtains (48.4%), and drinking tea before sleeping (45.6%, Table 2).

The mean PSQI score of the participants was 6.20±3.29. No significant relationship was found between the sociodemographic

characteristics of the participants and their sleep quality levels (Table 3).

Among their sleep-related characteristics, having short naps during the day (p=0.023), sleeping while music, the television, is on (p=0.049), having the habit of eating at night (p=0.007), and the usage of television, phone, or computer before sleeping (p=0.018) were found to be significantly related to the sleep quality levels of the participants (Table 4).

Table 1. Sociodemographic characteristics of women

Independent Variables (n=215)	$\bar{x} \pm SD$	Min-Max
Age	35.0±7.45	19-45
	n	**%**
Educational Status		
Literate/elementary school	16	7.5
High School	39	18.1
University or higher degrees	160	74.4
Employment Status		
Working	117	54.4
Housewife	98	45.6
Partner's Educational Status		
Literate/elementary school	12	5.6
High School	53	24.7
University or higher degrees	150	69.7
Partner's Employment Status		
Working	200	93.0
Not Working	15	7.0
Family Type		
Nuclear family	203	94.4
Extended family	12	5.6
Socio-economic Status		
Below Minimum Wage	27	12.6
Above Minimum Wage	188	87.4
Number of Children		
None	36	16.7
1	63	29.3
≥ 2	116	54.0

Table 2. Sleep-related characteristics of women

Independent Variables (n=215)	n	%
Smoking		
Yes	44	20.5
No	171	79.5
Alcohol Use		
Yes	17	7.9
No	198	92.1
Drinking Coffee Before Sleeping		
Yes	40	18.6

No	175	81.4
Drinking Tea Before Sleep		
Yes	98	45.6
No	117	54.4
Regular Exercise		
Yes	33	15.3
No	182	84.7
Having short naps during the day		
Yes	85	39.5
No	130	60.5
Usage of television, phone, or computer before sleeping		
Yes	193	89.8
No	22	10.2
Listening to music/TV on while sleeping		
Yes	38	17.7
No	177	82.3
Sleep With The Light On		
Yes	8	3.7
No	207	96.3
Using Thick Curtains		
Yes	104	48.4
No	111	51.6
Eating at Night		
Yes	48	22.3
No	167	77.7

Table 3. Comparison of the mean PSQI scores of the women based on their sociodemographic characteristics

Independent Variables (n=215)	n	PSQI $\bar{x}$± SD	test	p
Age				
17-25	27	7.19±3.32	KW= 4.019	0.134
26-35	87	6.16±2.90		
36 ≥	101	5.98±3.57		
Educational Status				
Literate/elementary school	16	5.69±3.80	KW= 3.117	0.374
High School	39	6.92±3.16		
University or higher degrees	160	6.10±3.25		
Employment Status				
Working	117	5.92±2.98	t=- 1.371	0.172
Housewife	98	6.54±3.62		
Partner's Educational Status				
Literate/elementary school	12	6.33±3.82	KW= 4.106	0.250
High School	39	6.36±3.55		
University or higher degrees	150	5.95±3.05		
Partner's Employment Status				

Working	200	6.20±3.27	U= 1476.00	0.917
Not Working	15	6.33±3.69		
Family Type				
Nuclear family	203	6.18±3.26	U= 1174.50	0.835
Extended family	12	6.67±3.19		
Socio-economic Status				
Below Minimum Wage	27	6.26±3.13	U= 2466.50	0.812
Above Minimum Wage	188	6.20±3.32		
Number of Children				
None	36	5.97±2.97	F= 0.354	0.703
1	63	6.02±2.76		
≥ 2	116	6.38±3.65		

t: independent-samples t-test, df: 213; KW: Kruskal Wallis test, F: Analysis of variance in independent groups, between groups/within groups df:: 2/212/214

Table 4. Comparison of the mean PSQI scores of the women based on their sleep-related characteristics

Independent Variables (n=215)	n	PSQI $\bar{x}$ ± SD	test	p
Smoking				
Yes	44	6.48±3.49	t= 0.614	0.540
No	171	6.13±3.25		
Alcohol Use				
Yes	17	5.12±2.36	U= 1345.50	0.168
No	198	6.30±3.35		
Drinking Coffee Before Sleeping				
Yes	40	6.28±3.08	t= 0.149	0.881
No	175	6.19±3.35		
Drinking Tea Before Sleep				
Yes	98	6.38±3.02	t= 0.703	0.483
No	117	6.06±3.51		
Regular Exercise				
Yes	33	5.88±2.97	t=- 0.616	0.538
No	182	6.26±3.35		
Having short naps during the day				
Yes	85	6.84±3.74	t= 2.291	**0.023**
No	130	5.79±2.91		
Usage of television, phone, or computer before sleeping				
Yes	193	6.35±3.26	U= 1769.5	**0.018**
No	22	4.95±3.40		
Listening to music/TV on while sleeping				
Yes	38	7.16±3.33	t= 1.978	**0.049**
No	177	6.00±3.26		

Sleep With The Light On				
Yes	8	6.75±3.49	U= 751.5	0.656
No	207	6.18±3.29		
Using Thick Curtains				
Yes	104	6.39±3.24	t= 0.816	0.416
No	111	6.03±3.34		
Eating at Night				
Yes	48	7.33±3.50	t= 2.732	**0.007**
No	167	5.88±3.17		

t: independent-samples t-test, df: 213; U: Mann-Whitney U test

Discussion

Sleep has a significant place in the continuation of a woman's life in a healthy manner. Quality sleep increases the quality of life of the individual by helping them protect their mental and physical health. In this study, which was conducted to determine the sleep quality levels of married women aged 18-45 and associated factors, it was determined that the participants had poor sleep quality in general.

In this study, the participants were found to have poor sleep quality. Similarly, women were determined to have poor sleep quality in the studies conducted by Kabeloglu and Gul (2022), Dogan and Caltekin (2021), Esgin and Ozcelik (2022), and Tatli and Koseler Beyaz (2022). It should be noted that these studies that have identified poor sleep quality among women were all conducted during the COVID-19 pandemic.

No statistically significant relationship was found between the sociodemographic characteristics of the women who participated in this study and their sleep quality levels. Hinz et al., (2017) reported a significant relationship between the sleep quality levels of women aged 39 or younger and their socioeconomic and occupational statuses. Pattanaik et al., (2019) stated that the sleep quality of women was associated with their age, and those at the ages between 15 and 25 had poorer sleep quality than those in other age groups. Kim et al., (2021) reported higher rates of poor sleep quality among women with low education levels, as well as those with low income.

In this study, among their sleep-related characteristics, having short naps during the day, sleeping while music, the television, etc. is on, having the habit of eating at night, and the usage of television, phone, or computer before sleeping were found to be significantly associated with the sleep quality levels of the participants. Similar to the result of this study, previous studies revealed poorer sleep quality among individuals who took naps during the day compared to those who did not take naps (Cui et al. 2021; Zhou et al., 2020). In a study conducted in Australia, a significant relationship was found between night eating syndrome and sleep quality (Yeh et al. 2014). In another study, it was reported that night eating syndrome disrupted sleep quality (Bektas et al., 2016). Deniz (2016) identified significant relationships between night eating syndrome and sleep disorders, subjective sleep quality, and total sleep quality scores. Exelmans et al., (2016) stated that individuals who used mobile phones at night despite having the lights of the room turned off had difficulty falling asleep, and they had poorer sleep quality. Unlike the result in this study, Pala (2021) reported that although individuals using electronic devices such as mobile phones, computers, and television actively before going to sleep had poor sleep quality, the relationship between the usage of these devices before going to sleep and sleep quality was not statistically significant. It was thought that these variables could be behaviors that were formed or made more frequent during the COVID-19 pandemic period as a consequence of pandemic restrictions or circumstances involving working from home.

It was observed that smoking, alcohol consumption, drinking coffee or tea before sleeping, regular exercise habits, using thick curtains, or sleeping while leaving the lights on did not affect the sleep quality of the participants of this study significantly. As opposed to the result in this study, Guerra-Balic et al., (2023) reported that during the quarantine measures brought about by the COVID-19 pandemic, individuals with low physical activity, especially women, were at risk of insomnia. In other studies, significant relationships have been identified between activity levels and sleep quality (Akova and Kocoglu 2018), between sleep quality and the consumption of caffeinated drinks, ayran, coffee without cream, and stimulating drinks (Dogan and Caltekin 2021), and between sleep quality and variables such as smoking and low physical activity (Tatli and Koseler Beyaz 2022, Ozdemir et al., 2018).

Study Limitations: This study was a web-based study, and the inclusion of only participants with internet access was a limitation. Another limitation was that because this was a descriptive and correlational study, it reports factors that affect sleep quality, but it does not infer causality relationships between these variables.

Conclusion: The results of this study revealed that the married women aged 18-49 who participated in the study had poor sleep quality in general, and having short naps during the day, sleeping while music, the television, etc. is on, having the habit of eating at night, and the usage of television, phone, or computer before sleeping were significantly related to their sleep quality levels. Considering that factors associated with poor sleep quality are habits that have been gained due to the increased amount of time spent at home during the COVID-19 pandemic period, it can be recommended to organize programs towards improving sleep quality and conduct more comprehensive studies on this topic.

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