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RESEARCH ARTICLE
Nursing

The Relationship Between Sleep Quality, General Mental State and Depression Levels in Nurses

Hemşirelerde Uyku Kalitesi, Genel Ruhsal Durum ve Depresyon Düzeyleri Arasındaki İlişki

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ABSTRACT

This study aims to evaluate the relationship between sleep quality, overall mental states, and levels of depressive symptoms among the nurses working in a district state hospital. The study was conducted among 109 nurses working in the district state hospital. Data were collected using a socio-demographic information form prepared by the researchers, along with the "Pittsburgh Sleep Quality Index (PSQI)", "Brief Symptom Inventory (BSI)", and "Beck Depression Inventory (BDI)". Kruskal Wallis, Shapiro Wilk, Mann Whitney U, Allpairwise, and Spearman correlation tests were used in the analysis of the data. The mean age of the nurses participating in the study was found to be 31.17 ± 8.165. 58.7% (n=58) of the nurses were married, and 59.6% (n=65) were working in units other than internal and surgical departments. 49.1% of the nurses participating in the study evaluated their sleep quality as "quite poor". A weak positive significant correlation was found between PSQI and the BSI Anxiety subscale, the BSI Depression subscale, the BSI Negative Self subscale, the BSI Somatization subscale, and the BSI Hostility subscale ($p<0.05$). When the relationship between PSQI total and BDI was examined, a weak significant positive correlation was found ($p<0.05$). As the sleep quality of the nurses decreases, it was determined that this leads to deterioration in their overall mental states and an increase in the levels of depressive symptoms.

Keywords: Nursing, Sleep Quality, General Mental State, Depression

ÖZET

Bu çalışma, bir ilçe devlet hastanesinde çalışan hemşirelerin uyku kalitesi, genel ruhsal durumları ve depresif belirti düzeyleri arasındaki ilişkiyi değerlendirmeyi amaçlamaktadır. Araştırma ilçe devlet hastanesinde çalışan 109 hemşire ile yürütüldü. Veriler araştırmacılar tarafından hazırlanan sosyo-demografik bilgi formu ile "Pittsburgh Uyku Kalitesi İndeksi (PUKİ)", "Kısa Semptom Envanteri (KSE)" ve "Beck Depresyon Envanteri (BDE)" kullanılarak toplandı. Verilerin analizinde Kruskal Wallis, Shapiro Wilk, Mann Whitney U, Allpairwise ve Spearman korelasyon testleri kullanıldı. Araştırmaya katılan hemşirelerin yaş ortalaması 31,17±8,165 olarak belirlendi. Hemşirelerin %58,7'si (n=58) evli olup, %59,6'sı (n=65) dahili ve cerrahi bölümler dışındaki birimlerde çalışmaktadır. Araştırmaya katılan hemşirelerden %49.1' i uyku kalitesini "oldukça kötü" olarak değerlendirdi. PUKİ ile KSE Anksiyete alt ölçeği, KSE Depresyon alt ölçeği, KSE Negatif Benlik alt ölçeği, KSE Somatizasyon alt ölçeği ve KSE Düşmanlık alt ölçeği arasında pozitif yönde zayıf anlamlı bir korelasyon bulunmuştur ($p<0,05$). PUKİ toplamı ile BDÖ arasındaki ilişki incelendiğinde zayıf, anlamlı, pozitif bir korelasyon bulundu ($p<0,05$).

Hemşirelerin uyku kalitesi azaldıkça bunun genel ruhsal durumlarında bozulmaya ve depresif belirti düzeylerinde artışa yol açtığı belirlendi.

Anahtar Kelimeler: Hemşirelik, uyku kalitesi, genel ruhsal durum, depresyon

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INTRODUCTION

Approximately one third of human life is spent in sleep, which is considerably important for biological, psychological, and overall health (Erbil & Yücesoy, 2022). Sleep quality is closely related to an individual's overall mental state and level of depression. Low sleep quality can lead to symptoms of depression and general mood disorders (Costa et al., 2022; Palhares et al., 2014; Walker & Stickgold, 2004). This situation is particularly significant for professionals with irregular work hours such as night shifts (Chan, 2009).

Mental health is a key component in determining the quality of life in a society. A mentally healthy individual should generally have inherent internal consistency and harmony with the society in which they live. However, challenges brought on by work life can have various negative impacts on both physical and mental health (Öztürk & Uluşahin, 2004). Especially the nursing profession can be heavily affected by these issues due to the intense work conditions and workload (Chan, 2009; Palhares et al., 2014; Shao et al., 2010). The continuous high stress levels, emotional exhaustion, irregularities in sleep and dealing with physiological stress that nurses face can

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negatively affect their mood and levels of depression (Çatak & Bahçecik, 2015). However, the exact nature of this situation and the extent of these effects have not yet been sufficiently researched.

The quality and nature of the work done is related to the secure environment provided at work. Accordingly, there are still ineffective and insufficient plans in the working life (Çatak & Bahçecik, 2015). The nursing profession, which always holds an important position among health professionals, requires its members to be physiologically and mentally healthier than other professions (Öztuna, 2013). Shift workers may have mental difficulties such as depressive symptoms, insomnia, and attention deficit. The prevalence of depressive symptoms can be attributed to periods when the biological rhythm is disrupted, such as working during the time that should be spent sleeping and sleeping during the time that should be worked. The obligation to work in work life leads to the disruption of the sleep pattern, while preparing the ground for the occurrence of psychological problems (Selvi et al., 2010).

This study aims to examine the effect of nurses' sleep quality on their overall mental states and depression levels. In particular, situations where shift nurses' biological rhythms are disrupted, and as a result, there may be an increase in overall mood and levels of depression, will be focused on. This research aims to pave the way for the development of strategies to improve nurses' psychological and physiological health by determining the effect of sleep quality on their overall mental states and depression levels.

METHODS AND PROCEDURE

Design

This study was carried out using a descriptive and relational design.

Participants

This study was conducted among the nurses working at District State Hospital. The initial planned sample was to include all nurses actively working at the hospital. However, for various reasons, a total of 22 nurses were excluded from the research. These reasons included time constraints, reluctance towards the research process, and some personal situations (e.g. pregnancy).

Among the nurses who accepted the study and completed the surveys, 11 expressed concerns about sharing their information during the data collection process. However, after a detailed explanation of the principles of confidentiality and data protection, these participants felt comfortable completing the survey and continued with the process.

In conclusion, a total of 103 nurses participated in this study. These participants consisted of nurses who were working at a specific hospital and voluntarily agreed to participate in the research process.

Data Collection

The data collection process was carried out through face-to-face interviews with the nurses. The data obtained from the participants were measured using four different assessment tools. The 'Personal Information Form' was used to determine the demographic and personal information of the participants. The 'Pittsburgh Sleep Quality Index (PSQI)' was used to measure sleep quality, the 'Brief Symptom Inventory (BSI)' was used to evaluate general mental status, and the 'Beck Depression Inventory (BDI)' was used to determine the level of depressive symptoms. These measurement tools were selected to comprehensively evaluate the different psychological and physiological statuses of the nurses.**Personal Information Form**

The Personal Information Form, consisting of 14 questions, was prepared by the researchers. These questions included socio-demographic information and information related to the work environment.

Pittsburgh Sleep Quality Index (PSQI)

The PSQI was developed in 1989 by Buysse and his team for the purpose of measuring sleep quality in psychiatric practices and clinical research (Buysse et al., 1989). The items of the PSQI were arranged based on clinical observations of patients with sleep disorders, sleep quality literature, and an 18-month clinical follow-up process on the PSQI.

The PSQI consists of a total of 24 questions. 19 of these questions are self-reported, and the remaining 5 questions are answered by a spouse or roommate. These 5 questions are used only for clinical information acquisition and do not take part in total scoring. The index consists of seven different components, each of which has a value between 0 and 3. The total score of the index ranges from 0 to 21. A PSQI total score greater than 5 indicates poor sleep quality.

The validity and reliability study of the Turkish version of the scale was conducted in 1996 by Ağargün and his colleagues (Ağargün et al., 1996), and the Cronbach's Alpha reliability coefficient was found to be 0.804. In this study, the Cronbach's Alpha reliability coefficient was determined to be 0.802.

Brief Symptom Inventory (BSI)

The BSI is a self-evaluation inventory designed by Derogatis (1992) (Derogatis, 1992). This inventory, which contains 53 items, has been developed as a multidimensional symptom screening scale to identify potential psychological symptoms in both normal populations and individuals with various psychiatric and medical conditions. The measurement tool has a structure that can be applied to individuals aged 15 and over.

The BSI is divided into five sub-dimensions: Anxiety, Depression, Negative Self, Somatization, and Hostility. The Anxiety sub-dimension measures the individual's feelings of tension and apprehension, the Depression sub-dimension evaluates feelings of hopelessness about the future. The Negative Self-dimension addresses feelings of guilt, the Somatization dimension examines symptoms such as fainting and dizziness. The Hostility sub-dimension measures the individual's desire to break or spill things.

The validity and reliability study of the Turkish version of the scale was conducted by Hisli in 2002 (Hisli Şahin et al., 2002). In this study, it was found that the Cronbach's Alpha reliability coefficient of the scale ranged from 0.70 (Somatization) to 0.88 (Depression). The Cronbach's Alpha reliability coefficient obtained in this research varies between 0.706 (Somatization) and 0.882 (Negative Self).

Beck Depression Inventory (BDI)

The BDI, developed by Beck and his colleagues, has been transformed into a format suitable for group application and has the feature of self-evaluation (Beck et al., 1996). This measurement tool, which can be used by adolescents and adults aged 15 and over, measures depressive symptoms comprehensively, including somatic, emotional, cognitive, and motivational symptoms.

Among the symptom categories are mood, pessimism, feelings of failure, dissatisfaction, feelings of guilt, feelings of punishment, self-hatred, self-blame, desire to punish oneself, crying fits, irritability, social introversion, indecision, body image, determination of workability, sleep disorders, fatigue, exhaustion, loss of appetite, weight loss, somatic complaints, and loss of sexual drive.

The measurement tool consists of 21 items, each evaluated between 0-3 points. Individuals choose a statement that expresses how they felt, including today, in the last week. The total score obtained ranges from 0 to 63.

According to the scoring system, a total score between 0-9 is considered normal (without depression), while scores of 10 and above indicate increasing depressive symptoms. The validity and reliability study of the Turkish version of the scale was conducted by Nesrin Şahin (Hisli) in 1988 (Hisli, 1988). In these studies, the Cronbach's Alpha reliability coefficient was found to be 0.80. In this study, the Cronbach's Alpha reliability coefficient was determined to be 0.902.

Data Evaluation

Data analyses were conducted using the Statistical Package for Social Sciences (SPSS) Windows version 24.0 software package. The level of significance was determined at $p < 0.05$. The normality of data distribution was checked both with the Shapiro-Wilk and Kolmogorov-Smirnov tests. For non-normally distributed data, the Mann Whitney U test was used to compare between two independent groups. If the distribution of numerical data on two groups rather than more independent groups were to be compared, and these data did not show normal distribution, the Kruskal Wallis and Allpairwise multiple comparison tests were used in this case. The relationships between numerical variables were tested with the Spearman correlation coefficient. Cronbach Alpha coefficients were calculated for reliability analysis. As descriptive statistics, mean ± standard deviation values for numerical variables and number and percentage values for categorical variables were presented.

Ethical Aspects of the Research

This study was carried out with the approval of the relevant state university's Clinical Research and Ethics Board (Decision no: 23775) and the written permission of the institution where the study was to be conducted (Number: 65738784-929-671). Additionally, the right to use the scales was obtained through email correspondence with the relevant parties.

Before the data collection process was initiated, the purpose and duration of the study were explained in detail to the nurse participants, and their informed consent was obtained. It was pointed out that participants could withdraw from the research at any stage, and their right to do so was respected.

A strict stance was adopted regarding the confidentiality of personal information; it was promised that participants' personal information would not be shared with third parties without their permission.

Additionally, the anonymity and security of participants' identities and the information provided were protected at the highest level in accordance with ethical principles. In this way, it was ensured that the study was conducted in compliance with ethical principles and that the rights and privacy of the participants were respected.

Limitations of the Research and Encountered Difficulties

The application of this study is limited to a specific District State Hospital due to geographical constraints. Some difficulties were encountered in the research process, especially in relation to the sampling.

Out of the nurses included in the sample, 22 were excluded from the study for various reasons. These reasons included lack of time (6 people), discontinuing the survey (7 people - those who initially accepted the research and then withdrew), refusing to accept the research (5 people), and absence from the hospital due to pregnancy (4 people).

Of the nurses who accepted the study, 11 expressed concerns about sharing their information while filling out the surveys. Upon this, the principles of confidentiality of the study were explained in detail to the participants, and they decided to complete the survey in light of this information.

RESULTS

The findings according to the descriptive characteristics of the nurses participating in the research are given in Table 1. The average age of the nurses participating in the study was determined as 31.17±8.165. 58.7% of the nurses are married, and 59.6% work in other units. Looking at the total years of work for the nurses, it was found that 53% have been working for 0-5 years, 34.1% have been working in their current unit for 0-1 years, and 53.3% have been working in their current institution for 1-5 years. It was found that 66.1% of the participants work in shifts, and 61.5% work with 6-10 nurses. 52.3% of the nurses sleep more than 6 hours, and 46.8% evaluate their quality of work life as good. The average number of beds in their service is 13.09±8.873, and the average number of patients per nurse is 23.22±8.230. It was determined that the nurses work an average of 52.15±41.209 hours of overtime in a month. Looking at the weekly working hours, it was revealed that 71.8% work over 40 hours. In the study, 49.1% of the nurses described their subjective sleep quality as quite poor.

Table 1. Distribution of Nurses' Descriptive Characteristics (n=109)

Variables		Sayı	%
Age	Age 18-25	34	31.2
	Age 26-32	34	31.2
	Age 33-40	20	18.3
	Age 41 and above	21	19.3
Marital Status	Single	45	41.3
	Married	64	58.7
Unit of Work	Internal Units	23	21.1
	Surgical Units	21	19.3
	*Other Units	65	59.6
Years of Working as a Nurse	0-5 years	57	53.0
	6-10 years	20	19.1
	11-20 years	13	12.7
	21-30 years	19	15.2
Years of Working in the Unit	0-1 years	37	34.1
	2-5 years	20	18.3
	6-10 years	20	18.3
	11 years and above	32	29.3
Years of Working in This Hospital	1-5 years	57	53.3
	6-10 years	19	17.4
	11 years and above	32	29.3
Work Schedule	Continuous Day Shift	37	33.9
	Rotating Shift	72	66.1
Number of Nurses Worked With	0-5 people	28	25.7
	6-10 people	67	61.5
	11 people and above	14	12.8
Average Daily Sleep Duration	Less than 6 hours	52	47.7
	More than 6 hours	57	52.3
Quality of Work Life	**Very poor**	10	9.2
	Poor	48	44.0
	Good	51	46.8
Working Hours	**40 Hours Weekly**	30	27.3
	More than 40 Hours Weekly	79	71.8
Subjective Sleep Quality	**Very Bad**	7	6.4
	Quite Bad	54	49.1
	Quite Good	38	34.5
	Very Good	10	9.1

The average total score obtained by the nurses from PSQI was determined as 13.92±2.78. When the average scores of the BSI subscales were examined, it was found that anxiety was 10±8.13, depression was 14.62±9.34, negativity for self was 84±7.78, somatization was 7.01±5.85, and hostility was 7.90±4.85. The average total BDI score was determined as 12.40±8.99 (Table 2).

Table 2. Scores on the PSQI, BSI, and BDI Scales for Nurses (n=109)

Variables	Potential Highest and Lowest Scores	Average	Std. Deviation
PSQI	0-21	13.92	2.78
BSI Anxiety	0-39	10.00	8.13
BSI Depression	0-36	14.62	9.34
BSI Negative Self	0-36	8.84	7.78
BSI Somatization	0-27	7.01	5.85
BSI Hostility	0-21	7.90	4.85
BDI Total	0-63	12.40	8.99

There is a weak significant positive correlation between PSQI and the BSI Anxiety subscale (r=0.322, p=0.001). The BSI Depression subscale (r=0.328, p=0.001), the BSI Hostility subscale(r=0.324, p=0.001), BSI Somatization subscale (r=0.338, p=0.001) and total BDI (r=0.331, p=0.001. When the relationship between PSQI and the BSI Negative Self subscale was examined; a moderately significant positive correlation was determined (r=0.412, p=0.001). (Table 3).

Table 3. The Relationship Between the Mean Scores Obtained by Nurses from the PSQI, BSI, and BDI Total and Sub-dimensions (n=109)

Variables	BDI	BSI Anxiety	BSI Depression	BSI Negative Self	BSI Somatization	BSI Hostility
BDI	-					
BSI Anxiety	r=0.528 p<0.001	-				
BSI Depression	r=0.563 p<0.001	r=0.813 p<0.001	-			
BSI Negative Self	r=0.527 p<0.001	r=0.815 p<0.001	r=0.781 p<0.001	-		
BSI Somatization	r=0.560 p<0.001	r=0.722 p<0.001	r=0.726 p<0.001	r=0.656 p<0.001	-	
BSI Hostility	r=0.496 p<0.0	r=0.744 p<0.001	r=0.711 p<0.001	r=0.704 p<0.001	r=0.685 p<0.001	-
PSQI	r=0.331 p<0.001	r=0.322 p<0.001	r=0.328 p<0.001	r=0.412 p<0.001	r=0.338 p<0.001	r=0.324 p<0.001

r: Spearman rank correlation coefficient p: Significant at the 0.05 level.

DISCUSSION

The average age of the participants in this research was found 31.17±8.165. In the study conducted by Karakaş and colleagues (2017), the average age was 35.39±8.59 (Karakaş et al., 2017). In the study conducted by Kaçan and colleagues (2016), the average age was 33.12±7.85 (Kaçan et al., 2016). The proximity of the average age of nurses can be associated with the samples being taken from similar age ranges. 58.7% of the participants in the research are married. In the research conducted by Öztuna (2013), 59% of the nurses were found to be married (Öztuna, 2013). It is observed that the majority of nurses have established their family structures. In this study it was found that 66.1% of the participants work in shifts. In the study conducted by Öztuna (2013), 75% of the nurses work in shifts (Öztuna, 2013). When looking at the literature, it can be associated with the nursing profession being linked to a 24/7 working environment in bedded institutions. When looking at the total working years of the nurses participating in the research, it was found that 53% worked between 0-5 years 49.1% of the participants described their subjective sleep quality as quite poor. In the study conducted by Öztuna (2013), 55% of the nurses described their subjective sleep quality as quite poor (Öztuna, 2013). This result can be associated with the negative effect of shift work on sleep.

The average total score obtained from PSQI by the nurses participating in the research was found to be 13.92±2.78. In the study conducted by Kaçan and colleagues (2016), the average total score obtained by the nurses from PSQI was 12.49±5.79 (Kaçan et al., 2016). Many studies report that the quality of nurses' sleep varies between 5.9-7.3 points. A PSQI total score above 5 indicates poor sleep quality (Demir et al., 2017; Karagozoglu & Bingöl, 2008; Üstün & ŞÇ, 2011). The PSQI total score determined in the study was found to be higher when compared with other studies. When looking at the reasons based on literature, the reasons for the high PSQI score can include being worn out, being forced to work more than standard working hours, experiencing social support problems, encountering life-threatening health events at any moment, having difficulty falling asleep due to shifts at costantly changing times, experiencing sleep problems, and individual sleep differences.

In the study conducted by Üstün and Çınar (2011), it is reported that married nurses, who are health professionals, find less time to sleep than single nurses due to the financial and emotional unease brought about by marriage, the obligation to work both at home and at work, and the heavy roles assigned to women in Turkish culture (Üstün & ŞÇ, 2011). In this study, no difference was found between the nurses' marital status and PSQI total scores (p>0.05). When the literature is reviewed, various research also found no difference between the sleep quality of nurses and their marital status (Chien et al., 2013; Demir et al., 2017; Karagozoglu & Bingöl, 2008; Üstün & ŞÇ, 2011). This could be due to nurses having different family structures, sleep habits, different cultural backgrounds, and different lifestyles.

There was no statistically significant difference between the total score taken from PSQI by the participants in the study and the unit they worked in (p>0.05). When looking at the PSQI total score between units, the highest score was received by those working in internal units. In a study conducted by Rocha and De Martino (2010), it was reported that the sleep quality of nurses working in internal units was worse (Rocha & Martino, 2010). This result is parallel with this study. The poor sleep quality of nurses working in internal units can be attributed to the intense circulation in internal services, the presence of large patient populations, and the necessity of multifaceted nursing care as a result, as well as the problems related to nurses dealing with chronically ill individuals for a long time (Karagozoglu & Bingöl, 2008). Again in this study, it was found that the sleep quality of nurses working in intensive care and emergency units was poor. In a study conducted by Karakaş and colleagues (2017) on 153

nurses, their sleep quality was found to be poor, and 40% of them were found to be intensive care nurses (Karakaş et al., 2017). This result can be associated with the complex work order in intensive care units and interventions on patients at any moment negatively affecting their sleep quality.

When the sleep durations of the participants were examined, it was found that 52.3% of them slept more than 6 hours. In studies conducted by Kripke and colleagues (2002), and Tamakoshi and colleagues, it was stated that the average sleep for health is 7 hours per night (Kripke, 2002). The reason for most of the nurses participating in the study sleeping longer than the standard sleep time could be said to be due to sleep irregularities related to overtime hours worked.

When all age groups were compared with the PSQI total score of the participants in the study, it was determined that their sleep quality was poor (PSQI score >5). It was determined that the sleep quality of the nurses between the ages of 18-25 participating in the study was not statistically significant ($p>0.05$, Table 4). In the conducted research, it is stated that there is no difference between the sleep quality of the nurses and the age groups (Demir et al., 2017; Güneş & Üstün, 2010; Karagozoglu & Bingöl, 2008; Üstün & ŞÇ, 2011). In a study conducted by Rocha and De Martino (2010), it was reported that the sleep quality of nurses with an age range of 40-49 was worse (Rocha & Martino, 2010). In Chan's study, it was reported that sleep quality decreased as age progressed (Chan, 2009). Policies that require nurses completing 20 years to only work day shifts, the desire of single nurses to earn more income by working more shifts, and the better adjustment of older nurses to working conditions can be cited as reasons why sleep quality doesn't worsen as age progresses in this study. The reasons for the higher PSQI total scores of lower age groups in this study may include working more hours, being actively employed in high-risk units like emergency and intensive care. Also, the lower PSQI scores of older nurses compared to young nurses in this study may be attributed to younger nurses working more shifts.

When looking at the relationship between PSQI and all sub-dimensions of BSI of the participants in the study, it was generally found to have a weak positive relationship (Table 3). In other words, as the sleep quality of nurses decreases, the rate of encountering psychological symptoms in all sub-dimensions of BSI also increases. In Öztuna's study (2013), when looking at the relationship between the total score of all sub-dimensions of PSQI and BSI, it was determined that there was a moderate, positive relationship (Öztuna, 2013). In studies conducted, it has been determined that shift workers have more frequently observed psychological symptoms with depressive signs along with anxiety and physical complaints. It can be said that working in a way that disrupts sleep patterns can cause disturbances in nurses' biological sleep rhythms and decreases in sleep quality.

In the study, a weak significant positive relationship was found between the PSQI total score and the BDI total score ($r=0.331$, $P<0.05$). As the sleep quality of the participants in the study decreases, their depressive symptom levels also increase. In the conducted studies, it was observed that sleep increased depressive symptoms. Significant relationships are generally reported between depressive symptoms and sleep. In fact, symptoms may occur in the mental state after poor sleep quality, and sleep quality can also deteriorate in some mental disorders (Özgen et al., 2001). In the study by Dikici and colleagues (2013), one of the factors increasing the level of depressive symptoms was reported as poor sleep quality (Dikici et al., 2013). In the research by Ziverev and colleagues (2002), depressive symptoms are particularly bringing about changes in REM, which is the second stage of sleep. It was also reported that the hormones released in the brain undergo changes, and with the changed biological rhythm, the rhythm within sleep is disrupted (Zverev & Misiri, 2009). Keskin and Tamam's study reported that depressive symptoms draw attention not only to sleep-related complaints but also to objective changes related to sleep structure. Moreover, poor sleep quality is closely associated with repetition, depression, and self-harm behavior in depressive symptoms. Therefore, sleep problems in depressive individuals should be carefully considered and necessary interventions should be made (Keskin & Tamam, 2018).

The fact that the nurses in the institution have few social activities, heavy workload, social conditions, financial concerns, institutional pressure, and societal perceptions related to nursing could be thought to highlight depressive symptoms. The disruption of the circadian rhythm by the shift and the accompanying sleep disorders can be associated with an increase in depressive symptoms. Insufficient rest due to heavy workload leads to sleep insufficiency and causes a decrease in sleep quality. Nurses who prefer to stay away from social environments after sleep deprivation can be thought to increase depressive symptoms as they face individual loneliness.

Results and Suggestions

The findings of this study show that the working conditions and routines of the nurses have a significant effect on their sleep quality and overall mood. Nurses working night shifts and heavy overtime, especially those working in high-risk units (intensive care, emergency service), exhibit lower sleep quality and negative overall mental state. Also, an increase in the level of depressive symptoms was detected in nurses with poor sleep quality.

These findings require the implementation of various strategies aimed at improving the sleep quality and overall mental state of nurses. Stabilization of the schedules of shift-working nurses, reduction of the overtime burden, and improvement of working conditions, especially in high-risk units (like intensive care and emergency service), are important.

Nurses need to rest by ensuring they work as much as possible in an active-passive work schedule. It is suggested that institutions use appropriate technological tools to facilitate their work. Also, taking necessary precautions to reduce the risk of occupational diseases and accidents, and organizing work schedules to maintain work-life balance is important.

It is crucial to periodically evaluate the sleep quality of nurses and implement institutional regulations based on these evaluations. This should be combined with an increase in social activities within the institution to preserve the general mental state and health of the nurses.

Furthermore, institutional arrangements should be made to protect novice nurses from depressive symptoms and to prevent them from feeling isolated. Expanding the results of this study to a wider sampling and replicating them in different institutions and geographical regions will confirm the generalizability of the effects on the sleep quality and mood of nurses.

Declaration of Generative AI and AI-assisted technologies in the writing process

All research and writings included in this article were created solely through the original thoughts and efforts of the authors; no Generative AI or AI-assisted technologies were utilized.

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