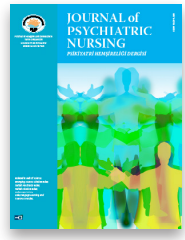
JOURNAL OF
PSYCHIATRIC NURSING

DOI: 10.14744/phd.2017.60490
J Psychiatric Nurs 2018;9(1):23-28



Original Article

Determination of sleep states before and after sleep hygiene training in psychiatric patients

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Abstract

Objectives: The study assessed sleep disorders in patients receiving psychiatric services and the contribution of nursing education in addressing these disorders.

Methods: A semi-experimental study was conducted with 51 patients (23 females and 28 males) hospitalized in the Psychiatry Clinic of Muğla Sıktı Kocman University Education and Research Hospital between November 2002 and March 2013. Research data was collected using a personal information form and the Pittsburg Sleep Quality Index (PSQI). The surveys were given using a one-to-one interview technique in the hospital room between 19:00 and 22:00 hours. The status of the patients before the education was determined. Patients were educated and encouraged to apply interventions for one week. Patients were reassessed after one week of intervention.

Results: The average age of patients participating in the study was 46.24±14.54. At the end of the study, a statistically significant difference was found between the pre-training and post-training sleeping states of the patients (t=0.000, p<0.05). When the pre-training and post-training sleep quality score distributions were compared, all seven components exhibited a significantly positive increase.

Conclusion: This study shows that psychiatric patients with sleep disorders can improve their sleep quality following the use of appropriate nursing initiatives. When the total sleep quality scores were examined, the pre-training sleeping state of the patients was poor, but after the training, a significant improvement was observed (t=0.000, p<0.05).

Keywords: Psychiatric patient; sleep hygiene; sleep state; sleep wake disorders.

Sleep is the loss of communication of the organism with its surrounding partially, temporarily, and periodically in a reversible manner following stimulus of various intensities.[1] The regulation of the pattern in which humans sleep at night and perform their activities during the day is the circadian rhythm. If this rhythm is altered, a circadian rhythm disorder may exist.[2] Sleeping disorders have various abnormalities such as problems in the amount or quality of sleep (insomnia, hypersomnia, sleep rhythm change, etc.) or problems occurring during sleep (sleepwalking, fear bout, sleep bruxism, snoring, etc.).[3] Sleeping disorders are generally a confounding factor in other diseases. Although sleeping issues are not easily identifiable and are rarely discussed, they directly affect health. Bad sleep is a stress response, contributes to the load on the body, and/or is a mediator between psychological distress and neuroendocrine effects, which may cause negative impacts on health. Sleep disorders are associated with increased morbidity, mortality, and catarrh formation.[4]

Sleep is a vital necessity and is the basis of a healthy and long life during which the body repairs itself.[5] Sleeping is an indispensable requirement equivalent to breathing, eating, and discharge and is a basic condition for being physically and psychologically healthy.[6–9] If individuals cannot sleep enough, situations such as fatigue, lethargy, distractibility,

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Submitted Date: February 02, 2016 **Accepted Date:** October 25, 2017 **Available Online Date:** January 08, 2018

and increased algesia and angriness are encountered.[7–13] In sleep deprivation in humans, deterioration in thought, emotions, and motivation occurs. Individuals who cannot sleep sufficiently face cognitive depression.[14] Psychiatry is the field where sleep disorders are primarily confronted. Sleep issues are one of the first disorders diagnosed in psychiatric patients, but are one of the last to improve.

Sleep disorders create increased stress for patients and they face difficulty in performing daily activities.[15] In addition to providing basic physiological requirements, preparing a relaxing environment for patients and enabling sleep is an important function of nurses.[16] As the purpose of nursing is to assist individuals who cannot perform basic functions, detecting and removing factors preventing the individual from fulfilling his sleep requirement to ensure a normal sleep pattern is a nursing duty. The nurses who care for individuals with sleep disorders have important roles and responsibilities such as diagnosing sleep disorders at an early stage, decreasing existing stressors, and ensuring the necessary environmental arrangement by creating a therapeutic ambiance.[17]

Purpose of the Study

Nursing is a profession that provides necessary help to meet basic human needs. Nurses should be able to identify problems related to sleep in patients, illnesses affecting sleep, sleeping conditions, and arrangements and practices to improve sleep quality. Knowing and evaluating the sleep quality of patients is important for nurses. Such interventions will mitigate additional problems that may arise due to lack of sleep and will prevent insomnia and its associated problems.[18,19] Sleep disorders are very common in psychiatric patients because the medications used often disrupt sleep. Nurses who have patients with sleep problems should provide education and initiatives without drug use. The purpose of the study is to determine nursing efforts and results aimed at detecting and resolving sleeping problems of patients staying in the psychiatry clinic.

Hypothesis of the Study H1

The patient's sleeping problems can be solved using education and interventions without sleeping pills.

Materials and Method

Design

The research sample consisted of male and female patients at Muğla Sıtkı Koçman University Education and Research Hospital Psychiatry service who agreed to participate in the research. The semi-experimental research was conducted between 15.11.2012 and 15.03.2013. The research was completed with 51 individual patients staying at the psychiatry service. Patients who were able to establish communication and who were willing to participate in the research within this period constituted the research group.

Data Collection Tools

A survey form consisting of nine questions regarding sociodemographic characteristics of patients and the Pittsburg Sleep Quality Index (PSQI) were used. Socio-demographical characteristics included age, marital status, number of children, education status, and place of residence.

The PSQI was developed and used by Buysse et al. in order to evaluate sleep quality (1989). Ağargün et al (1995) checked the validity and reliability of the index and its applicability to the Turkish community. The Cronbach alpha internal consistency was 0.80. In our study, the PSQI Cronbach alpha was 0.79. The PSQI evaluates sleep quality within the last month. The index consists of 19 questions and 7 components, although 18 items and 7 components were included in scoring. Each item is evaluated based on a scale of 0-3 points and the total of the 7 component points equals the PSQI score. The total score is between 0 and 21 with a high total score indicating poor sleep quality. A total PSQI score ≤5 indicates good sleep and >5 indicates poor sleep.[20]

Application of Data Collection Tools

Legal permissions were obtained from the necessary authorities before starting the application on 12.12.2012. The surveys were given using the one-to-one interview technique in the hospital room between 19.00 and 22.00 hours. Initially, the status of the patients before the education was determined. After the education was given, patients were encouraged to apply the information for one week. The content of the given education included habits that disturb sleep, changes in sleep patterns, and sleep and relaxation. Participants were provided information regarding interventions including music therapy, reading a book, taking a warm shower, drinking warm milk, chatting, and watching TV. Finally, the status of the patients after applying the education was determined and comparisons were made. Each interview was 1 hour on average. Before the interviews, the purpose of the research was explained and patients were assured the data would be confidential.

Evaluation of Data

The data was evaluated using the SPSS (Statistical Package for the Social Sciences) 14.0 program. Percentage distribution was used to evaluate sociodemographic characteristics and the t-test was used to evaluate of sleep scores before and after training.

Ethical Consideration

During the data collection phase, the purpose of the study was explained to the patients and they were not forced to participate in the study. Written permission was obtained from related institutions. There were no dependency relationships or conflicts of interests between the interviewer and interviewees.

Results

Our study population included 7.8% of patients ages 15-30, 18.6% ages 30-45, 21.6% ages 45-60, 2.0% ages 60-80 years old, 45.1% female, and 54.9% male. It was determined that 37.3% of the participants in the study were children and 12.7% of them were not children. It was determined that 2.0% of them did not write, 33.3% had a primary education, 11.8% had a secondary education, and 2.9% were higher education graduates. 7.8% of the patients lived in the village, 26.5% lived in the district, and 15.7% lived in the province. It was determined that 17.6% of the participants are working, 32.4% are not working in a job, 5.9% are workers, 9.8% are civil servants, 14.7% are housewives, 11.8% are self-employed, 2.0% are students, and 5.9% are unemployed (Table 1).

Table 1. Participating patients demographic characteristics

Demographic characteristic	n=51	%
Age		
15-30	8	15.7
31-45	19	37.2
46-60	22	43.1
61-80	2	3.9
Sex		
Female	23	45.1
Male	28	54.9
Marital Status		
Single	22	43.1
Married	29	56.9
Children		
Yes	38	74.5
No	13	25.5
Educational status		
Not literate	2	3.9
Primary education	34	66.7
Secondary education	12	23.5
Higher education	3	5.9
Place of residence		
Village	8	15.6
District	27	52.9
Province	16	31.4
Employment status		
Yes	18	35.3
No	33	64.7
Occupation		
Worker	6	11.8
Officer	10	19.6
Housewife	15	29.4
Self-employed	12	23.5
Student	2	3.9
Unemployed	6	11.8
Social security		
Yes	49	96.1
No	2	3.9

The PSQI score before education was =19.54 and the result after education was =9.56. The difference between the patient scores before and after education was statistically significant. (t=0.000, p<0.05) (Table 2). Before education, the average, minimum, and maximum values of the PSQI components were calculated. The average subjective sleep quality was =2.01 (min-max: 0-3); sleep latency was =4.23 (min-max: 0-6); sleep period was =1.98 (min-max: 0-3); habitual sleep effectiveness was =3.62 (min-max: 0-7); sleep disorder was =2.80 (min-max: 0-6); sleep pill consumption was =1.35 (min-max: 0-3); and daily function disorder was =1.80 (min-max: 0-5) (Table 2).

After education, the average, minimum, and maximum PSQI values were calculated. The subjective sleep quality average was =0.72, sleep latency average was =1.96, sleep period average was =0.41, habitual sleep effectiveness average was =2.01, sleep disorder average was =1.11, sleep pill consumption average was =2.52, and daily function disorder average was =0.13 (Table 2).

Discussion

When the sleep quality status of the patients were examined using the PSQI, the sleep quality status was =19.54±7.62 before education and =9.56±4.80 after education. These results were statistically different, showing that sleep status significantly improved after educational intervention. One of the interventions used to address sleeping disorders was music therapy. Lafçı (2009) researched the effect of music on the sleep quality of cancer patients and stated the PSQI score averages of the experimental group one week after hospitalization was 8.8±0.4, whereas the PSQI score averages of the control group one week after hospitalization was 9.7±0.3, yielding no significant difference (p=0.091). The PSQI score averages of the experimental group two weeks after hospitalization was 2.9±0.1, whereas the PSQI score averages of the control group two weeks after hospitalization was 11.3±0.2, which did yield a significant difference (p=0.000) (Lafçı, 2009).[21] Here, after interventions such as book reading, taking a warm shower, drinking warm milk, chatting, and TV watching, apart from music therapy, the improvement in sleep quality was significant. Music has been used in diverse health care settings, patients with psychiatric disorders, intensive care units, pediatric health care areas, and operating rooms.[22,23] Research on behavioral techniques such as relaxation techniques, massage, biofeedback, music therapy, and hypnosis show an increase in sleep quality in intensive care. In patients with cardiac surgery, deep breathing exercises and relaxation techniques increase sleep quality by reducing the patient's heart rate, improving blood pressure, and causing less pain.[24] Another study found 38.7% of elderly individuals have habits that allow them to fall asleep comfortably

Table 2. Pittsburgh Sleep Quality Scale Scores before and after training (n=51)

	Mean±SD	Minimum	Maximum	Significance Level
Overall scores				
Before training	19.54±7.62	2	41	t=0.000
After training	9.56±4.80	1	31	p<0.05
Individual scale component subjective sleep quality				
Before training	2.01±0.86	0	3	t=0.00
After training	0.72±0.69	0	3	p<0.05
Sleep latency				
Before training	4.23±1.69	0	6	t=0.00
After training	1.96±1.59	0	6	p<0.05
Sleep time				
Before training	1.98±1.17	0	3	t=0.00
After training	0.41±0.77	0	3	p<0.05
Habitual sleep efficiency				
Before training	3.62±1.67	0	7	t=0.00
After training	2.01±0.94	1	5	p<0.05
Sleep disturbances				
Before training	2.80±1.61	0	6	t=0.00
After training	1.11±1.29	0	6	p<0.05
Sleep medication use				
Before training	1.35±1.43	0	3	t=0.00
After training	2.52±1.10	0	3	p<0.05
Daytime function disruption				
Before training	1.80±1.34	0	5	t=0.18
After training	0.13±0.40	0	2	p<0.05

SD: Standard deviation.

when they have a sleeping problem: 25.8% watch TV, 16.1% chat, 6.5% listen to music, 3.2% read books, and 3.2% of them wander around.[25]

In addition, other studies show individuals with chronic psychiatric illnesses who were participating in the sleep hygiene education program have positive psychological well-being, better compliance with drug treatment and therapeutic interventions, decreased anxiety, strengthened physical self-perceptions, increased social functioning, reduced daytime sleepiness, and improved nighttime sleepiness.[20,26,27]

In this study, the sleep quality, which is one of the PSQI components, was =2.01 before the education and = 0.72 after the education. Atlığ et al.[28] (2012) assessed functional status of sleep quality and depression in stroke patients and stated 23.8% of the patients had good sleep quality (PSQI score <5) 76.2% of the patients had bad sleep quality (PSQI score ≥5). The author observed that sleep quality improved with education.

A significant difference was detected before and after education of patients in terms of PSQI components: subjective sleep quality, sleep latency, sleep period, habitual sleep effectiveness, sleep disorder, sleep pill consumption, and daily function disorder (p<0.05). Kiper et al.[29] (2009) detected a significant relationship between these components in a study performed on patients with rheumatoid arthritis; however, the difference in sleeping pill usage was not significant (p>0.05). A statistically significant difference in this study was attributed to the presence of hypnotic and sedative substances in psychiatric care, which may be due to the need for long-term care.

Conclusion

- The participants were male (54.90%), in the 45-60 age group (21.6%), and primary school graduates (33.3%). Most patients were married (28.4%), had moderate income (36.3%), and received social security (96.1%).
- The PSQI was used to evaluate the sleep status of patients staying at a psychiatry service hospital, before and after education.
- The PSQI before education was =19.54 whereas it was =9.56 after education. Thus, the difference between the patient scores before and after education is statistically significant (t=0.000, p<0.05).
- Significant differences were found between the components of PSQI before and after training between subjective

sleep quality, sleep latency, sleep duration, sleep activity, sleep medication use, sleep disturbance, and daytime dysfunction components ($p<0.05$).

- Using sleep education, improvement was observed in the sleep quality of patients.

Recommendations

In the light of these findings:

- Nurses should be knowledgeable about sleep disorders and nursing care so that they can:
- Establish a therapeutic relationship
- Control physical discomfort
- Provide a relaxing environment
- Ensure sleep integrity
- The sleeping problems of psychiatric inpatients can be addressed with training and alternative interventions instead of medication. For this reason, nurses are advised to include these routines in their practice and routine applications.

Limitations of the Study

The present study had some limitations. First, the sample of this study comprised only 51 patients who were hospitalized in the psychiatric clinic. Second, the study findings were limited in terms of reliability and validity dimensions of the measurement scales used.

Conflict of interest: There are no relevant conflicts of interest to disclose.

Peer-review: Externally peer-reviewed.

Authorship contributions: Concept – N.U.; Design – N.U.; Supervision – N.U.; Fundings - N.U., N.K., D.A.; Materials – N.U., N.K., D.A.; Data collection &/or processing – N.K., D.A.; Analysis and/or interpretation – N.U., L.T.; Literature search – N.U., N.K., D.A.; Writing – N.U., L.T.; Critical review – N.U., L.T.

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