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SLEEP QUALITY IN DERMATOLOGIC PATIENTS WITH A COMPLAINT OF PRURITUS

ABSTRACT

Sleep of patients with pruritus deteriorate due to the symptoms of pruritus. In this study, it was aimed to assess the sleep quality of dermatology patients with complaints of pruritus. This case-control study was conducted between August 2017 and December 2017. The study population consisted of 100 patients with pruritus and 100 patients without pruritus who presented to the dermatology outpatient clinic of Private Salihli Hospital, a private hospital in Manisa, a province in Turkey. The study data were collected the "Sociodemographic Characteristics Questionnaire", "Pittsburgh Sleep Quality Index (PSQI)" and "Insomnia Severity Index (ISI)". The SPSS 15 was used for the analysis of the data. The mean age of the participants was 37.16 ± 14.33. While of the participants in the experimental group, 69% were female and 49% were married, of the participants in the control group, 81% were female and 54% were married. Of the participants, 75.0% in the experimental group and 57% in the control group had poor sleep quality. It was determined that sleep quality was significantly lower in the experimental group than that in the control group.

Keywords: Sleep, Sleep Quality, Pruritus, Nursing, Manisa

1. INTRODUCTION

A healthy skin is of great importance for the physiological wellbeing and physical health. Dermatologic diseases have negative effects on the self-esteem, body image and social life of a person due to lesions and deformations they cause on the skin. Therefore, dermatologic diseases are among the diseases that should be dealt with in cooperation with psychiatry. There are arguments that psychological conflicts exacerbate the symptoms of dermatological diseases. Enabling patients to express their feelings, providing psychotherapy support for patients who need it and resolving the psychological conflicts patients experience during the treatment process will positively affect the treatment of dermatological diseases [1 and 2]. Sleep is one of the indispensable needs of the human being and covers a significant part of life. Poor quality sleep leads to changes in a person's feelings, thoughts and motivations. People who do not have good quality sleep experience fatigue, short attention span, and irritability. Health workers may well ignore complaints from people regarding sleep deprivation and thus they rarely provide treatment [3]. Nursing is a profession that contributes to the fulfillment of not only basic human needs but also sleep requirements of people. Being aware of and evaluating patients' sleep quality is important for nurses to find solutions to patients' sleep problems. Studies aimed at

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preventing sleep problems help eliminate serious problems caused by insomnia [3, 4 and 5].

2. RESEARCH SIGNIFICANCE

As patients' pruritus symptoms increase, so do their sleep problems. Sleep patterns of patients with pruritus deteriorate due to the symptoms of pruritus, medications used, side effects of medications and psychosocial problems. The constant sleep problem leads to daytime sleepiness, attention distraction, and impairments of body functions. One result of this situation is the deterioration of the quality of life of individuals with complaints of pruritus. The main purpose of nursing within this context is to determine sleep problems and to improve sleep quality. After determining sleep patterns, sleep problems and causes of these problems in patients with complaints of pruritus, a nurse should plan and implement nursing interventions to solve these problems and evaluate whether the interventions have failed. To help patients having sleep problems due to pruritus overcome these problems, a nurse should assess sleep onset latency, awakening time, sleep duration, sleep habits and pre-sleep habits, and should take into account physical and psychosocial issues that cause sleep problems.

The nursing care aiming to reduce the sleep problems of patients with a complaint of pruritus will positively contribute to the quality of life of these patients. The present study was conducted to determine sleep quality in dermatologic patients with complaints of pruritus.

3. MATERIALS AND METHODS

This case-control study was conducted to assess and compare sleep quality of dermatologic patients with and without pruritus admitted to the dermatology outpatient clinic of Manisa Private Salihli Hospital. The study data were collected by face-to-face interviews between August 2017 and December 2017.

3.1. Methods

The study population included 350 patients with complaints of pruritus admitted to and followed in the Dermatology Polyclinic of Private Salihli Hospital in 2017. The sample size of the study was determined as a minimum of 112 patients using the epi-info statistical package program with a 5% error margin and a 1.0 pattern effect at the 80% confidence interval. Seven patients who did not want to participate in the study and five patients who participated in the study but did not fill in the forms appropriately were excluded from the study. The patients in the study sample were assigned into two groups: the experimental group including patients with a complaint of pruritus (n=100) and the control group including patients without a complaint of pruritus (n=100).

3.2. Data Collection Tools

The study data were collected using the 1. Sociodemographic Characteristics Questionnaire, 2. Pittsburgh Sleep Quality Index (PSQI), and 3. Insomnia Severity Index (ISI).

- **Sociodemographic Characteristics Questionnaire:** The questionnaire included items questioning the participants' socio-demographic characteristics such as age, gender, marital status, number of children, education status, employment status, profession, income status, and disease-related characteristics such as diagnosis, whether they have sought information related

to the disease, feelings of hopelessness and regularly used medication.

- **Pittsburgh Sleep Quality Index (PSQI):** The PSQI was developed by Buyyse et al. in 1989 [6]. The Turkish validity and reliability study of the scale was conducted by Agargün et al. and its internal consistency coefficient was reported as 0.80 [7]. In the present study, the Cronbach's alpha value for the PSQI was 0.81. The scale consists of 24 items. Each item in the measurement is rated between 0 (no difficulty) and 3 (severe difficulty). The sum of the scores for seven sub-scales yields the total PSQI score. The total PSQI score ranges from 0 to 21. While the sleep quality of those with a total score of 4 or less is considered "good", the sleep quality of those with a total score ranging between 5 and 21 is considered as "poor" [6].
- **Insomnia Severity Index (ISI):** This scale developed to assess the severity of insomnia symptoms can be used for clinical assessment of insomnia and for routine community screenings [8]. The scale consists of seven items. Each item is rated on a 5-point Likert scale ranging from 0 to 4. The total score ranges from 0 to 28. A score between 0 and 7 indicates no clinically significant insomnia, between 8 and 14 indicates subthreshold insomnia, between 15 and 21 indicates clinical insomnia (moderate severity), and between 22 and 28 indicates clinical insomnia (severe). Turkish validity and reliability studies of the scale were carried out by Boysan et al. (2010) [9]. The Cronbach's alpha value of the ISI in the present study was 0.80.

3.3. Data Analysis

The study data were analyzed in the computer environment using the SPSS for Windows 15.0. Numbers, percentages, mean, minimum and maximum values, standard deviation and Chi square value were used in the analysis of the data. For the significance level of the tests, $p<0.05$ was used.

3.4. Ethical Issues

To perform the study, permissions were obtained from Manisa Celal Bayar University Faculty of Medicine Ethics Committee of Health Sciences (dated and numbered June 08, 2017/24432) and the administration of Manisa Private Salihli Hospital. The participants' written informed consent was also obtained. Permissions to use the scales in the study were obtained from the developers of the scales.

4. FINDINGS AND DISCUSSIONS

The mean age of the participants was 37.16 ± 14.33. Of the participants in the experimental group, 57.0% were in the age group of 37 or under, 69.0% were female, 49.0% were married, 60.0% had 1 or no children, 29.0% were primary schools' graduates, 51.0% were employed, 28.0% were workers, and 73.0% had income equal to expenses. Of the participants in the control group, 59.0% were in the age group of 37 or under, 81.0% were female, 54.0% were married, 59.0% had 1 or no children, 31.0% were primary school graduates, 52.0% were employed, 32.0% were housewives and 74.0% had income equal to expenses (Table 1).

Table 1. Distribution of the participants according to their sociodemographic characteristics

Variables		Experimental Group		Control Group		Total		Significance
		n	%	n	%	n	%	x^2/p
Age	≤37	57	57.0	59	59.0	116	58.0	x^2=0.082
	≥38	43	43.0	41	41.0	84	42.0	p=0.886
Gender	Female	69	69.0	81	81.0	150	75.0	x^2=3.840
	Male	31	31.0	19	19.0	50	25.0	p=0.072
Marital Status	Single	38	38.0	30	30.0	68	34.0	x^2=1.876 p=0.598
	Married	49	49.0	54	54.0	103	51.5	
	Widow	5	5.0	8	8.0	13	6.5	
	Divorced	8	8.0	8	8.0	16	8.0	
The number of Children	≤1 Children	60	60.0	59	59.0	119	59.5	x^2=0.021
	≥2 Children	40	40.0	41	41.0	81	40.5	p=0.885
Education	Primary School	29	29.0	31	31.0	60	30.0	x^2=4.475 p=0.483
	Junior High School Senior	12	12.0	16	16.0	28	14.0	
	High School	28	28.0	22	22.0	50	25.0	
	Associate Degree	16	16.0	13	13.0	29	14.5	
	Bachelor's Degree Master's	13	13.0	18	18.0	31	15.5	
	Degree/Doctoral	2	2.0	0	0.0	2	1.0	
Employment Status	Employed	51	51.0	52	52.0	103	51.5	x^2=0.020
	Unemployed	49	49.0	48	48.0	97	48.5	p=0.887
Profession	Student	15	15.0	12	12.0	27	13.5	x^2=9.774 p=0.082
	Government	11	11.0	6	6.0	17	8.5	
	official	28	28.0	23	23.0	51	25.5	
	Worker Housewife	21	21.0	32	32.0	53	26.5	
	Self-employed	12	12.0	5	5.0	17	8.5	
	Retired	13	13.0	22	22.0	35	17.5	
Income Status	Income less than Expenses	21	21.0	20	20.0	41	20.5	x^2=0.031 p=0.985
	Income equal to Expenses	73	73.0	74	74.0	147	73.5	
	Income more than Expenses	6	6.0	6	6.0	12	6.0	

No significant difference was determined between the experimental and control groups in terms of the variables such as age, gender, marital status, the number of children, education status, employment status, profession and income status ($p>0.05$). While 75.0% of the participants in the experimental group had poor sleep quality, 57% of the participants in the control group had poor sleep quality. The sleep quality of the participants in the experimental group was significantly lower than that of the participants in the control group ($p<0.05$) (Table 2). In the present study, the scores obtained from the overall PSQI and its subscales by the participants in the experimental and control groups within the last month were determined. The mean PSQI score of the participants in the experimental group was 7.33±3.44, which indicated that they had poor sleep quality (Total PSQI Score>5).

Table 2. Distribution of the participants in terms of sleep quality

Variables	Experimental Group		Control Group		Total		Significance
	n	%	n	%	n	%	x^2/p
Sleep	-	-	-	-	-	-	x^2=7.219 p=0.007
Quality Good	25	25.0	43	43.0	68	34.0	
Poor	75	75.0	57	57.0	132	66.0	

The mean PSQI score of the participants in the control group was also above 5 and thus they had poor sleep quality too, but because their mean PSQI score was lower than that of the participants in the experimental group, their sleep quality was considered better. The comparison of the scores for the sleep quality components revealed a difference between the groups in terms of sleep duration, habitual sleep efficiency and sleep disturbances ($p<0.05$). However, there was no difference between the groups in terms of subjective sleep quality, sleep latency, use of sleeping medication and daytime dysfunction ($p>0.05$) (Table 3).

Table 3. Score distribution for the sleep quality components

Sleep Quality Components	Experimental Group (n=100)	Control Group (n=100)	Significance x^2/p
Subjective Sleep Quality	1.38±0.81	1.35±0.73	$x^2=1.467$ $p=0.690$
Sleep Latency	2.57±1.72	2.15±1.65	$x^2=6.966$ $p=0.073$
Sleep Duration	0.87±1.11	0.51±0.88	$x^2=11.653$ $p=0.009$
Habitual Sleep Efficiency	0.57±0.97	0.26±0.60	$x^2=8.178$ $p=0.042$
Sleep Disturbances	1.73±0.61	1.43±0.57	$x^2=12.463$ $p=0.006$
Use of Sleeping Medication	0.26±0.74	0.16±0.60	$x^2=1.340$ $p=0.720$
Daytime Dysfunction	1.58±1.62	1.38±1.68	$x^2=2.489$ $p=0.477$
Total PSQI	7.33±3.44	5.84±3.30	$x^2=7.219$ $p=0.007$

Skin diseases can lower sleep and quality of life of people with the disease by influencing their social and emotional states. Itching accompanying many dermatologic diseases is believed to reduce the quality of life as much as the diseases affecting the appearance of the skin can do [10]. The severity of pruritus varies from one person to another. While it may be unbearable and generalized, and can cause sleeplessness, or does not respond to treatment in some individuals, it may be regional or temporary in some individuals. Depending on the severity of pruritus, a victim's sleep quality may also be affected. The comparison of the sleep quality components of the participants in the experimental and control groups in the present study revealed a difference between them in terms of sleep duration, habitual sleep activity and sleep disturbance. The present study also showed that pruritus reduced the patients' sleep quality. The present study also revealed that pruritus affected 56.3% of the participants' sleep, that it limited 73.5% of the patients' participation in social activities, and that it put 40.4% of them in a difficult position before other people due to the urge to itch near them. It has been observed that pruritus affects both sleep quality and social life of patients. In their comprehensive systematic study on sleep disorders in adults with atopic dermatitis, Jean et al. (2017) found that the incidence of sleep disorders was high in people with dermatological disorders [11]. Other studies have also showed that in adults with atopic dermatitis, difficulty falling asleep and decreased sleep duration due to low sleep quality cause them to experience daytime sleepiness, fatigue and dysfunction [10 and 17]. In their study of the effect of itching and pain on the quality of life, Atış et al., (2017) found that sleep was

an important component of the physical activity [18]. In another study, pruritic episodes in functional pruritus were reported to occur during sleep [19]. In their study, T-J Goon et al., (2007) found that the majority of people with a complaint of pruritus could not stay asleep or had trouble falling asleep due to pruritus [20]. It was also reported that pruritus caused problems such as sleeplessness, and difficulty in falling asleep and in staying asleep. It was also reported that sleep disturbances caused permanent fatigue and deterioration in mental and physiological abilities [21 and 22]. Patients with uremic pruritus were found to have sleeping problems because they suffered itching at nights and had daytime sleepiness, which affected their social life [21 and 23]. Itching causes several physical, cognitive and social problems such as chronic fatigue, sleeplessness, diminished social functions and reduced quality of life [24].

In the multicenter, International Dialysis Outcomes and Practice Patterns Study (DOPPS) (2006) conducted with more than 18,000 patients receiving hemodialysis treatment in which the relationship between uremic pruritus and sleep quality was investigated, it was determined that sleep disturbance was associated with a high mortality risk in 17% of the patients [22]. This result is explained by the fact that although uremic pruritus is not directly related to mortality, sleep disturbance caused by uremic pruritus adversely affects other life functions and thus increases mortality [22 and 25]. Studies conducted on burn patients have found that the sleep quality of these patients becomes worse as the percentage of burn increases [26]. In their study, Hofland et al., (2007) found that changes in the role and function of patients during the first stage of the burn injury led to stress and sleep problems after hospitalization [27]. The results of aforementioned studies are consistent with those of the present study.

5. RESEARCH LIMITS

The study data were collected in Private Salihli Hospital in Manisa, a province located in the western part of Turkey. Therefore, the results obtained from this study are applicable only to the patients admitted to the dermatology polyclinic of Private Salihli Hospital and cannot be generalized to other patients. Moreover, the study data are limited to the subject areas measured by PSQI and ISI.

6. CONCLUSIONS AND RECOMMENDATIONS

The results indicate that sociodemographic characteristics did not affect sleep quality, that the sleep quality of the participants with complaints of pruritus was worse, that there was a difference between the participants in the experimental and control groups in terms of sleep duration, habitual sleep activity and sleep disturbance but not in terms of subjective sleep quality, sleep latency, use of sleeping medication and daytime dysfunction according to the distribution of scores obtained from the components of sleep quality. It is recommended that nurses should determine the frequency and severity of pruritus in dermatology patients and follow it, that possible medical interventions likely to help the management of sleep disturbances, disease control and improvement of sleep quality in patients with pruritus should be performed, that support to the fulfillment of behavioral plans aiming to improve sleep hygiene, to encourage relaxation and to solve sleep problems should be provided, that nurses should assess the severity of itching, ask patients questions about itching and its effects on their sleep and activities of daily living, and the course of the disease during each patient visit, and monitor patients' sleep disturbance-related complaints, and

that patients' behaviors to reduce itching, anxiety due to sleep irregularity, medications, and injuries in affected areas should be monitored.

NOTICE

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