



Original Article

Perceived stress level and methods of coping with stress in patients with chronic itching

Sema Yabacı,¹ Dilek Efe Arslan,² Nazan Kılıç Akça³

¹Gaziosmanpaşa University Hospital, Tokat, Turkey

²Halil Bayraktar H.S.V.S, Erciyes University, Kayseri, Turkey

³Department of Internal Medicine Nursing, Bakırçay University Faculty of Health Sciences, İzmir, Turkey

Abstract

Objectives: This study was conducted to evaluate the stress level and coping methods of patients with a chronic itching problem.

Methods: The research was carried out with patients who presented at the dermatology outpatient clinics of Yozgat Bozok University Research and Application Hospital, Yozgat State Hospital, and Sorgun State Hospital with a chronic itching complaint. The sample consisted of 125 patients. The data were collected using a patient information form, and scores of a visual analogue scale (VAS), the Perceived Stress Scale (PSS), and the Coping Style Scale (CSS).

Results: The mean duration of an itching problem was 27.11±49.74 months and the mean itching severity based on the VAS score was 6.52±2.05. The mean PSS score was 29.71±7.2 (min-max: 14-47), which was greater than the median possible score. Female patients with severe itching (VAS ≥7) had a higher mean PSS score. A passive approach was seen more often in patients who had experienced excessive itching for 4-6 years. Patients who reported itching in the evening used the coping style of seeking social support more than other groups. A weak positive correlation was seen between the PSS score and a passive coping style, and between the PSS score and seeking social support. A weak positive correlation was also found between patient age and an optimistic approach. A weak negative correlation between the duration of itching and a self-confident approach and seeking social support was also recorded. Finally, a weak negative correlation was found between the duration of illness and seeking social support.

Conclusion: It was observed that as the stress level of the patients increased, they more often used passive methods to cope with stress. Nursing management of patients with chronic itching and a high stress level should include appropriate methods to increase the use of active coping methods.

Keywords: Coping with stress; itching; nursing; stress.

Itching (pruritus) is an unpleasant, subjective sensory perception that causes an intense desire to scratch. The pathogenesis can be difficult to determine and it can significantly impair quality of life.^[1,2] Various etiological factors for excessive itching can contribute to a negative effect on biological, psychological, and social dimensions.^[3,4] A study of the German general population found that a significant proportion had an itching problem at some point in their lives.^[5]

Itching is not a disorder, but a symptom. Though itching may

initially have a protective function, it can become uncomfortable and annoying, and even cause significant harm if the condition progresses and becomes chronic.^[6,7] Chronic pruritic conditions are associated with high levels of stress and anxiety, and can lead to significant impairment of a patient's quality of life.^[8] Stress has also been proven to exacerbate itching, and itching can exacerbate stress, leading to a complex itch-scratch cycle.^[8] This vicious circle can include skin lesions, sleep disorders, changes in psychological health, stress, and

Address for correspondence: Sema Yabacı, Gaziosmanpaşa Üniversitesi Hastanesi, Tokat, Turkey

Phone: +90 546 584 68 60 **E-mail:** sema_ybc@hotmail.com **ORCID:** 0000-0002-8883-7694

Submitted Date: September 30, 2020 **Accepted Date:** July 28, 2021 **Available Online Date:** December 31, 2021

©Copyright 2021 by Journal of Psychiatric Nursing - Available online at www.phdergi.org



What is presently known on this subject?

• Pruritus, or itchy skin, is an unpleasant sensory perception that causes an intense desire to scratch. Chronic itch affects up to 15% of the population and is most often caused by inflammatory conditions, such as eczema and psoriasis, but is also associated with systemic disorders. Determining the cause and appropriate treatment can be complex. Stress is the body's response to physical, emotional, or psychological strain that is perceived as threatening or potentially beyond the capacity of the individual to manage.

What does this article add to the existing knowledge?

• A literature review revealed only a limited number of studies focused on stress in patients with itching problems and the management methods used in Turkey. The present study represents a valuable contribution to the literature, as we were able to determine the perceived stress and the active and passive management methods in patients with itching problems and factors affecting this condition.

What are the implications for practice?

• The findings of this study indicated that chronic stress can cause and increase itching. Similarly, itching can increase stress. The nursing management of patients with chronic itching should include interviews and other appropriate methods to increase the use of active coping methods. Nurses can have a key role in helping patients with chronic itching cope with the physiological and psychological symptoms.

depression.^[5,8,9] Stress can affect skin physiology and pathology. It is an important factor in the onset and aggravation of chronic itching.^[8,10] It has been established that perceived stress changes the dynamic balance between endocrine and immune systems.^[11] Grandgeorge and Misery^[12] determined that stress made itching worse in patients with atopic dermatitis (81%). Dalgard et al.^[13] conducted a study of the general population of Oslo, Norway, and found a correlation between negative life experiences, psychological disturbances, and itching. However, it was not clear whether stress was a triggering factor or a complication of itching. The authors reported that low self-efficacy and a poor ability to cope with stressful situations may be causes of chronic itching.

The goals of chronic pruritus treatment are to eliminate and/or alleviate itching, protect skin integrity, use active coping methods to manage stress, increase the patient's quality of life, and to design a comprehensive and effective treatment plan.^[6,10,14] Therefore, the treatment should not focus only on drugs, but also include an evaluation of perceived stress and stress management methods.^[15-17] An integrated multidisciplinary team consisting of a dermatologist, psychiatrist, psychologist, nurse educator, and a social worker is best suited to adequately address the multifaceted aspects of pruritus.^[9] A study conducted in a clinic offering a multidisciplinary approach for pruritus treatment recorded a decrease in the severity of itching and an improvement in psychosocial symptoms in the experimental group when compared with a control group.

The principal roles of a nurse on the healthcare team are the assessment of the severity of itching, correct and timely use of essential drugs, skin care, stress management, and patient and family education.^[14,18]

The patient should know that controlling perceived stress will make it easier to cope with itching.^[4] A literature review

revealed that there is only a limited number of studies evaluating the stress experienced by pruritus patients and methods of coping with stress in Turkey. An evaluation of the perceived stress and coping methods of patients with chronic pruritus could be very useful to planning the training and counseling that nurses give to patients regarding stress management. A determination of the stress perception of patients with chronic pruritus, their use of active and passive coping methods for stress, and the influential factors constitutes a contribution to the literature.

Study questions:

- What is the level of perceived stress in patients with chronic pruritus?
- What stress coping behaviors are used by patients with chronic pruritus?
- Does itching affect the stress perception or coping behaviors of patients with chronic pruritus?

Materials and Method

Ethical Considerations

Before starting the study, written permission was obtained from the institutions and approval was granted by the Bozok University Clinical Research Ethics Committee on November 30, 2015 (no: 110). Ethical principles related to confidentiality and respect for privacy were observed throughout. Written and verbal informed consent were obtained from the participants.

Study Design

This descriptive study was conducted with patients who presented at the dermatology outpatient clinic of 2 state hospitals and a research and training hospital with the complaint of itching. A maximum of 60 patients are admitted to the outpatient clinics per day, and an average of 3-4 of these patients presented with the complaint of chronic itching. The study sample consisted of 125 patients who presented between February 22, 2016 and July 15, 2016 and met the inclusion criteria. Ten patients who had communication difficulties and were unable to answer the questions, and 30 patients who declined to participate in the study were not included in the research. The study data were collected by an investigator between 8:00 AM and 12:00 PM 2 days a week for during the study period. The effect size of the perceived stress level and the submissive approach value was found to be $d=0.29$, and the posterior power of the test was determined to be 95% at the $\alpha=0.05$ level.

Inclusion Criteria

- Age >18 years
- Outpatient clinic presentation with the complaint of itching
- No communication difficulty
- No antidepressant treatment

- No current psychological treatment related to stress and coping methods
- Participation consent
- Itching problem existing for at least 6 weeks

Data Collection Tools

The study data were collected using a patient information form, a visual analogue scale (VAS), the Perceived Stress Scale (PSS), and the Coping Style Scale (CSS). An investigator collected data 2 days a week during the study period. Following a physical examination, the forms and scales were completed in a face-to-face interview of approximately 15-20 minutes with each patient.

Patient Information Form

A form was created based upon a literature review that consisted of 23 questions to record sociodemographic characteristics (10 questions), the nature of the disease and itching, and the effects on daily life (13 questions).^[1,9,10]

Visual Analogue Scale

Price et al.^[19] conducted early research of a VAS to assess pain in 1983 and several studies have confirmed the reliability and validity of use. A 10-point scale (0=no itching, 10=very severe itching) is used to record a handwritten mark on a 10-cm line (each score separated by a distance of 1 centimeter). Numerical scales are widely used since they make determination of the intensity of itching easier and they facilitate scoring and documentation. A VAS has also previously been used in several studies to assess the intensity of itching, which is a subjective sensation, like pain. This scale was given to the study patients and they were asked to evaluate the intensity of the itching they were feeling, and the result was used as the itching intensity and severity value.^[20,21]

Perceived Stress Scale

A 14-question version of the PSS was developed by Cohen, Kamarck, and Mermelstein in 1983.^[22] A Cronbach alpha value of 0.86 for the total score indicated good internal consistency in the original version. Validity and reliability testing for a Turkish version of the scale was performed by Eskin et al.^[23] in 2013. This scale was designed to measure the level of perceived stress during the previous month using a 5-point scale, from 0 (never) to 4 (very often). The total score can range between 0 and 56. A high score indicates that the perceived stress level is high. Eskin et al. reported a Cronbach alpha value of 0.84. In our study, the Cronbach's alpha value was 0.83.

Coping Style Scale

The Ways of Coping checklist was developed by Folkman and Lazarus^[24] to assess the mechanisms used to cope with depres-

sion, loneliness, and other conditions, such as psychosomatic disturbances. Validity and reliability have been demonstrated for various conditions that may cause short-term stress. A validation and reliability study of a Turkish version of the scale, the CSS, which has 30 items and 5 subscales, was performed by Şahin and Durak.^[25] The scale measures 2 primary styles used to cope with stress: problem-focused/active and emotion-focused/passive behavior. Subscales reflecting active styles are seeking social support, an optimistic approach, and a self-confident approach, while subscales related to passive styles are a helpless approach and a submissive approach. The scale uses a 4-point Likert scoring system (0=does not apply and/or not used, 3=used a great deal). Reliability testing performed by Şahin and Durak yielded a Cronbach alpha value of 0.62-0.80 for self-confident approach, 0.49-0.68 for optimistic approach, 0.64-0.73 for helpless approach, 0.47-0.72 for submissive approach, and 0.45-0.47 for seeking social support. In our study, the Cronbach alpha value was 0.74 for self-confident approach, 0.56 for optimistic approach, 0.68 for helpless approach, 0.45 for submissive approach, and 0.41 for seeking social support.

Data analysis

The sociodemographic characteristics of patients were evaluated as independent variables and the scale data were evaluated as dependent variables. Descriptive analysis methods were used in all of the statistical analysis. A comparison of dependent and independent variables, one-way analysis of variance, and Pearson's correlation tests were used in parametric independent groups. A p value of <0.05 was considered statistically significant in comparative analysis.

Limitations and Generalizability of the Study

The study sample consisted of patients who had presented at an outpatient clinic with the complaint of chronic itching in a single city. The small sample size is an important limitation of this research, as some patients with severe itching elected not to participate in the study. The findings can only be generalized to the sample.

Results

Our findings were drawn from the results of analysis of self-reported sociodemographic and itching characteristics of patients and the PSS and CSS scores.

Of the patient group, 64.8% were female, with a mean age of 47.13±17.81 years (range: 18-85 years). In all, 56.0% were primary school graduates, 78.4% were married, and 75.2% were actively working. It was determined that 39.2% of the patients had a chronic disease and 16.8% consumed an average of 1 pack of cigarettes per day (Table 1).

The disorders causing itching were dermatitis in 44.8% of the patients and urticaria in 31.2%. The mean duration of the dis-

Table 1. Distribution of itch characteristics of patients (n=125)

Variables	n	%
Disease that causes itching		
Dermatitis	56	44.8
Urticaria	39	31.2
Idiopathic	17	13.6
Xerosis	9	7.2
Psoriasis	4	3.2
Duration of the disease causing itching (months)	32.13±51.23 (6-360)	
Duration of itching (months)	27.11±49.74 (6-360)	
Severity of itching (VAS)	6.52±2.05 (2.0-10.0)	
Itching in the prior week		
Intermittent	90	72.0
Continuous	35	28.0
Daily itching		
<6 hours	86	68.8
6-12 hours	31	24.8
>12 hours	8	6.4
When the itching is most intense		
Day	41	32.8
Evening	45	36.0
Night/when asleep	39	31.2
Lesion due to itching		
Yes	48	38.4
No	77	61.6
Biodistribution of the itching		
Local	81	64.8
General	44	35.2
Regular use of medication for itching		
Yes	19	15.2
No	107	84.8
Conditions that increase itching ¹		
Spicy food consumption	101	80.8
Presence of stress	80	64.0
Night time	73	58.4
Increased temperature	63	50.4
Weather change	32	25.6
Woolen clothing	31	24.8
Bathing	4	4.0
Negative side effects of itching ¹		
Wake up during the night	85	68.0
Difficulty doing daily activities	67	53.6
Disrupts family relationships	40	32.0
Disrupts social relations	35	28.0
Disrupts school/work life	16	12.8

¹More than 1 answer permitted. VAS: Visual analogue scale.

order and itching was 32.13±51.23 months and 27.11±49.74 months, respectively. The mean itching intensity (VAS) score was 6.52±2.05. It was observed that 72.0% of the patients

had suffered from intermittent itching in the last week and 68.8% reported itching for <6 hours each day. Among the participants, 36.0% stated that itching was worst in the evening hours, 38.4% had lesions on their body due to itching, 64.8% reported that the itching had a local spread, and 58.0% indicated that the itching occurred mostly in the extremities. Only 15.2% regularly used a drug for itching, and 68.4% of that subset used an antihistaminic agent (Table 2).

The mean PSS score was 29.71±7.2 (min-max: 14-47), which is higher than the median possible score (Table 3).

Assessment of the mean PSS score revealed a statistically higher mean in female patients with an intense itching sensation (VAS ≥7) (p<0.05). The mean PSS score was highest in patients who had experienced an itching problem for >7 years (34.25±8.74). There was a statistically significant difference in the mean PSS score according to the time of day the itching was most intense (p>0.05). Patients who experienced itching at night (30.62±6.98) had a higher mean PSS score than those reporting itching during the daytime and evening hours (p>0.05) (Tables 4 and 5).

The mean CSS subscale scores were 15.18±3.85 for self-confident approach, 9.74±2.98 for an optimistic approach, 7.51±2.50 for seeking social support, 10.17±2.90 for a helpless approach and 10.74±4.81 for a submissive approach (Table 3). We observed that patients with an itching problem lasting >4-6 years used a helpless approach, a passive coping method, more frequently than patients in other groups (p<0.05). We also found that the mean optimistic approach score was higher in patients who reported continuous itching in the previous week, in comparison with those who had experienced intermittent itching (p<0.05). In addition, we noted that seeking social support was a method used by patients who had itching in the evening hours more often than other groups (p<0.05). Our evaluation showed that an optimistic approach, which is an active coping method, was significantly more common in patients who regularly used medication for their chronic itching (p<0.05) (Tables 4 and 5).

A correlation matrix of the PSS and CSS subscales of the patients is summarized in Table 4. A positive correlation was observed between itching intensity and the mean PSS score (r=0.210; p<0.05). We also investigated the relationship between the PSS and CSS scores and found a weak positive correlation between the PSS score and submissive approach scores (r=0.292; p<0.001). Furthermore, a weak negative correlation was observed between the PSS score and seeking social support (r=-0.182; p<0.05) (Table 6).

There was also a weak positive correlation between the age of patients and the optimistic approach score, an active approach subscale of CSS (r=0.275; p<0.01). A weak negative correlation was determined between the duration of itching and a self-confident approach (r=-0.177; p<0.05) and seeking social support (r=-0.216; p<0.05). A weak negative correlation was also seen between the duration of the itching disorder

Table 2. Distribution of Perceived Stress Scale and Coping Style Scale scores

	Number	Mean±Standard deviation	Minimum	Maximum
Perceived Stress Scale (0-56)	125	29.71±7.22	14.00	47.00
Coping Style Scale subdimensions				
1. Confident approach (0-21)	125	15.18±3.85	6.00	21.00
2. Optimistic approach (0-24)	125	9.74±2.98	0.00	17.00
3. Seeking social support (0-15)	125	7.51±2.50	2.00	12.00
4. Helpless approach (0-12)	125	10.17±2.90	3.00	12.00
5. Submissive approach (0-18)	125	10.74±4.81	0.00	18.00

Table 3. Distribution of Perceived Stress Scale and Coping Style Scale scores according to itch characteristics

Variables	Perceived Stress Scale	Coping Style Scale				
		Self-confident approach		Helpless approach		
		Self-confident approach	Helpless approach	Submissive approach	Optimistic approach	Seeking social support
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Itching in the prior week						
Intermittent	30.11±7.64	10.13±2.69	10.86±4.85	15.29±3.66	9.41±2.88	7.41±2.61
Continuous	28.69±5.98	10.26±3.41	10.43±4.75	15.77±7.44	10.60±3.12	7.77±2.18
Test*	0.991	0.193	0.444	0.484	2.027	0.772
P	0.323	0.848	0.658	0.629	0.045	0.472
Daily itching						
<6 hours	30.20±6.63	10.71±4.68	9.35±3.05	15.02±3.74	9.99±2.78	7.53±2.49
6-12 hours	32.00±6.47	10.52±5.10	10.52±2.57	17.00±7.49	10.90±3.10	7.48±2.71
>12 hours	31.00±10.41	11.88±5.51	11.00±3.12	13.63±3.70	9.25±3.20	7.37±1.84
Test***	2.204	0.447	3.340	4.024	3.442	0.017
P	0.332	0.800	0.188	0.134	0.179	0.983
When the itching is most intense						
Day	29.98±7.79	9.93±3.21	10.76±5.34	15.15±7.08	9.80±3.23	6.71±2.84
Evening	28.69±6.90	10.02±2.6	9.78±4.37	14.87±3.81	9.29±2.98	8.06±2.11
Night/when asleep	30.62±6.98	10.59±2.91	11.82±4.59	16.36±3.21	10.21±2.69	7.69±2.37
Test**	0.782	0.608	1.913	1.030	1.000	3.325
P	0.460	0.546	0.152	0.360	0.371	0.039
Lesion due to itching						
Yes	29.78±7.72	10.43±2.89	10.73±5.40	15.71±5.56	9.96±2.76	7.29±2.59
No	29.60±6.41	9.75±2.88	10.75±3.73	14.96±3.91	9.40±3.31	7.64±2.59
Test*	0.131	1.276	0.028	0.823	1.031	0.777
P	0.896	0.204	0.978	0.412	0.304	0.439
Biodistribution of itching						
Local	29.15±6.88	10.22±2.74	10.47±4.59	15.38±3.80	9.62±2.79	7.48±2.45
General	30.75±7.77	10.07±3.20	11.23±5.21	15.50±6.70	9.98±3.33	7.56±2.61
Test*	1.187	0.283	0.841	0.125	0.643	0.184
P	0.237	0.778	0.402	0.901	0.521	0.854
Regular use of medication for itching						
Yes	29.43±7.23	10.07±2.93	10.69±4.93	15.24±5.16	9.97±2.89	8.38±2.50
No	31.39±7.13	10.72±2.72	11.00±4.13	16.50±3.78	8.39±3.22	7.36±2.48
Test*	1.066	0.876	0.251	0.989	2.114	1.619
P	0.288	0.383	0.802	0.325	0.037	0.108

*Independent sample t-test; **One-way analysis of variance; ***Kruskal-Wallis analysis of variance. SD: Standard deviation.

Table 4. Correlation matrix of Perceived Stress Scale and Coping Style Scale subscale scores

Relationship	Perceived Stress Scale				Coping Style Scale							
			Self-confident approach		Helpless approach		Submissive approach		Optimistic approach		Seeking social support	
	r_p	P	r_p	P	r_p	P	r_p	P	r_p	P	r_p	P
Age	-0.150	0.095	-0.05	0.582	0.102	0.256	-0.123	0.170	0.275	0.002	-0.025	0.784
Duration of itching	-0.096	0.288	-0.177	0.049	0.022	0.811	0.018	0.839	-0.062	0.489	-0.216	0.016
Disease duration	-0.103	0.252	-0.148	0.100	-0.004	0.967	0.086	0.340	-0.40	0.658	-0.224	0.012
Severity of itching	0.210*	0.019	0.081	0.369	0.117	0.194	0.150	0.095	0.134	0.135	0.052	0.563
Perceived Stress Scale	-	-	0.021	0.819	0.158	0.079	0.292	0.001	-0.131	0.144	-0.182	0.042

r_p : Pearson correlation coefficient.

and the score for seeking social support, another active stress coping method ($r=-0.224$; $p<0.05$) (Table 6).

Discussion

Stress is a factor that can play a critical role in the triggering and exacerbation of itching, and can be associated with skin disorders like dermatitis, urticaria, and psoriasis. However, the itching and scratching accompanying such a disorder may also be a source of stress, potentially creating a vicious circle with a significant impact on quality of life. The relationship between stress and chronic itching is bidirectional: a skin disorder may emerge as a result of stress and stress may emerge as a result of the chronic skin disease.^[8,26] In this study that examined perceived stress levels and methods of coping with stress in patients with chronic itching, we found out that the perceived stress level was greater than the median possible score. More than half of the patients stated that stress was a factor that initiated and increased itching. Dermatitis and urticaria are skin diseases that often cause chronic itching, and the itching-scratching cycle is affected by stress. It has been reported that 46.0% of the patients with acute dermatitis in one study indicated that stress was the main factor in exacerbation of the disease and a trigger for itching.^[27] Another study confirmed a correlation between stress, itching, and postawakening cortisol levels.^[28] Individuals who cannot easily express their feelings and reactions verbally are particularly vulnerable to increased perception of stress, the emergence of disease, and the development of itching.^[4,11] Ograczyk-Piotrowska et al.^[26] found that stress levels were significantly high in patients with chronic itching. Studies of dermatitis patients have also examined the degree of anxiety and depression along with stress using various scales, and stress was determined to be the main triggering factor.^[29,30] Acute and chronic stress can significantly affect pruritus in healthy individuals and those diagnosed with systemic as well as pruritic skin diseases, resulting in a complex cycle where the factors of stress and itching each exacerbate the other.^[31]

Our results indicated that as the severity of itching increased, the perception of stress also increased; the stress of the patients who experienced severe itching ($VAS \geq 7$) was higher. Similarly, the literature demonstrates that severe itching can lead to or worsen lesions, have an adverse effect on mental state, cause embarrassment, stigmatization, and social isolation, thereby exacerbating both the disease and the level of perceived stress.^[26,28] In a study on the effect of chronic itching in psoriasis, most of the patients rated the itching the most important, most severe, and most disturbing symptom of the disease, noting that itching caused stress and affected their daily activities (concentration, sleep, going to school and work, etc.).^[32] Stress is a factor that can both initiate and exacerbate itching in patients with chronic pruritus. Studies have also shown that feelings of helplessness and lack of control contribute to perceived stress and may affect the itching experienced in patients with chronic pruritus.^[11,32] The results of our study are consistent with literature data pointing to the role of emotional stress in pruritus.

Our study results indicated that among the subdimensions of the stress coping styles in patients with chronic itching, active coping styles, such as a self-confident approach and seeking social support, were used at a moderate level, the optimistic approach was used at a low level, and passive and submissive approaches were used at a high level. In addition, patients with a pruritus duration of 4-6 years and those with high perceived stress levels used passive coping methods more often than other patients. Other studies have also reported that a high perception of stress can lead to greater use of passive coping methods among patients with chronic itching and less use effective coping methods.^[15,33] Studies have shown that as patients' ability to cope with stress increases, the level of shame, stigmatization, and unhappiness related to itching and the resulting lesions decreases. Literature reports suggest that long-term itching can create a feeling of burnout in patients, resulting in less ability to cope adequately with stress.^[9,11] Prolonged disease and an increased stress level contribute to the use of passive coping methods.

One study of patients with chronic pruritus determined that nearly half of the patients used active coping methods in coping with skin diseases.^[11] A recent meta-analysis reported that the use of active coping methods in patients with chronic pruritus had a positive effect on reducing the severity of itching and the skin disease that causes the itching.^[34] The literature suggests that when patients with chronic pruritus use social support systems, stress, anxiety, and depression are reduced, and coping with itching becomes easier.^[9,11,35,36] Among the patients who participated in this study, the patients who had constant itching in the prior week, who had itching in the evening, and who used regular medication reported greater use of active coping methods. The literature findings suggest that patients may experience more severe itching and seek social support more in the evening in part because body temperature increases slightly in the evening and some itch mediators are associated with the circadian rhythm. The findings of the study showed that individuals who were more mature in age and who used drugs for chronic itching used more active coping methods and had lower stress levels. The life experience that comes with age and reducing the severity of itching with drugs can make it easier for patients to cope with stressors.^[37,38] Additional studies with large samples that further examine the effects of these factors will be valuable.

Conclusion

The perceived stress level of patients with chronic pruritus was above average, and stress was a factor that initiated and intensified itching in more than half of the patients studied. It was found that as the severity of itching increased, the perceived stress of the patients also increased, and the increased stress level, in turn, triggered itching. The results indicated that patients with chronic pruritus used active coping methods such as a self-confident approach and seeking social support at a moderate level and a optimistic approach at a low level, while a passive or submissive approach was used more frequently in response to perceived stress. As the the duration and severity of itching increased, helpless approach behavior increased and the use of active coping methods decreased. A multidisciplinary approach should be used to evaluate patients with chronic pruritic skin diseases that are unresponsive to treatment. The healthcare team nurse should evaluate the severity of itching, perceived stress level, and stress coping behaviors. Coping with stress is a conscious process that is learned and new coping methods can be adopted.^[33,34,39] In addition to cognitive and physical efforts made by the patients, social support groups and the society they live in can support active stress coping methods and can empower them to manage itching effectively by reducing their perceived stress level.^[34] Nurses should plan training that encourages the development of active coping behaviors for stress. This is consistent with the principles of individualized care. Further studies of larger populations that include nursing interventions to improve active stress coping behaviors in patients with chronic pruritus are recommended.

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

Peer-review: Externally peer-reviewed.

References

1. Kiliç Akça N, Taşci S. An important problem among hemodialysis patients: Uremic pruritus and affecting factors. *Turkish J Nephrol* 2014;23:210–6.
2. Steinhoff M, Bienenstock J, Schmelz M, Maurer M, Wei E, Bíró T. Neurophysiological, neuroimmunological, and neuroendocrine basis of pruritus. *J Invest Dermatol* 2006;126:1705–18.
3. Alpsoy E. Paraneoplastic pruritus and paraneoplastic erythroderma. *Turkderm* 2013;47:65–8. [Turkish]
4. Van Os-Medendorp H, Ros W, Kok P, Kennedy C, Thio BH, Van Der Schuur-van Der Zande A, et al. Effectiveness of the nursing programme 'Coping with itch': A randomized controlled study in adults with chronic pruritic skin disease. *Br J Dermatol* 2007;156:1235–44.
5. Matteredne U, Apfelbacher C, Loerbroks A, Schwarzer T, Büttner M, Ofenloch R, et al. Prevalence, correlates and characteristics of chronic pruritus: A population-based cross-sectional study. *Acta Derm Venereol* 2011;91:674–9.
6. Callahan S, Lio P. Current therapies and approaches to the treatment of chronic itch. *CML – Dermatology* 2012;17:29–40.
7. Weisshaar E, Dalgard F. Epidemiology of itch: Adding to the burden of skin morbidity. *Acta Derm Venereol* 2009;89:339–50.
8. Golpanian RS, Kim HS, Yosipovitch G. Effects of stress on itch. *Clin Ther* 2020;42:745–56.
9. Tey HL, Wallengren J, Yosipovitch G. Psychosomatic factors in pruritus. *Clin Dermatol* 2013;31:31–40.
10. Schut C, Weik U, Tews N, Gieler U, Deinzer R, Kupfer J. Psychophysiological effects of stress management in patients with atopic dermatitis: A randomized controlled trial. *Acta Derm Venereol* 2013;93:57–61.
11. Kim HS, Yosipovitch G. An aberrant parasympathetic response: A new perspective linking chronic stress and itch. *Exp Dermatol* 2013;22:239–44.
12. Grandgeorge M, Misery L. Mediators of the relationship between stress and itch. *Exp Dermatol* 2015;24:334–5.
13. Dalgard F, Svensson A, Sundby J, Dalgard OS. Self-reported skin morbidity and mental health. A population survey among adults in a Norwegian city. *Br J Dermatol* 2005;153:145–9.
14. Cowdell F. Care and management of patients with pruritus. *Nurs Older People* 2009;21:35–41.
15. Schut C, Mollanazar NK, Kupfer J, Gieler U, Yosipovitch G. Psychological interventions in the treatment of chronic itch. *Acta Derm Venereol* 2016;96:157–61.
16. Dalgard F, Stern R, Lien L, Hauser S. Itch, stress and self-efficacy among 18 year old boys and girls: A Norwegian population-based cross-sectional study. *Acta Derm Venereol* 2012;92:547–52.
17. Yaremkevich, RR. Psychological patterns for stress release in dermatological patients with chronic itch syndrome. *J Educ*

- Health Sport 2019;9:627–34.
18. Michelle LW, Yan L, Soon-Leong AT, Liang TH. Effectiveness of a multidisciplinary itch clinic in the management of chronic pruritus. *Indian J Dermatol* 2015;60:218.
 19. Price DD, McGrath PA, Rafii A, Buckingham B. The validation of visual analogue scales as ratio scale measures for chronic and experimental pain. *Pain* 1983;17:45–56.
 20. Kiliç Akça N, Taşçı S, Karataş N. Effect of acupressure on patients in Turkey receiving hemodialysis treatment for uremic pruritus. *Altern Ther Health Med* 2013;19:12–8.
 21. Narita I, Iguchi S, Omori K, Gejyo F. Uremic pruritus in chronic hemodialysis patients. *J Nephrol* 2008;21:161–5.
 22. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav* 1983;24:385–96.
 23. Eskin M, Harlak H, Demirkiran F, Dereboy Ç. The adaptation of the perceived stress scale into Turkish: A reliability and validity analysis. *New Symposium J* 2013;51:132–40. [Turkish]
 24. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. *J Health Soc Behav* 1980;21:219–39.
 25. Şahin NH, Durak A. Stresle başa çıkma tarzları ölçeği: Üniversite öğrencileri için uyarlanması. *Türk Psikolojisi Dergisi* 1995;10:56–73. [Turkish]
 26. Ograczyk-Piotrowska A, Gerlicz-Kowalczyk Z, Pietrzak A, Zalewska-Janowska A. Stress, itch and quality of life in chronic urticaria females. *Adv Dermatol Allergol* 2018;35:156–60.
 27. Ograczyk-Piotrowska A, Malec J, Miniszewska J, Zalewska-Janowska A. Psychological aspects of atopic dermatitis and contact dermatitis: Stress coping strategies and stigmatization. *Post Dermatol Allergol* 2012;29:14–8.
 28. Schut C, Weik U, Tews N, Gieler U, Deinzer R, Kupfer J. Coping as mediator of the relationship between stress and itch in patients with atopic dermatitis: A regression and mediation analysis. *Exp Dermatol* 2015;24:148–50.
 29. Misery L, Touboul S, Vinçot C, Dutray S, Rolland-Jacob G, Consoletti SG, et al. Stress and seborrheic dermatitis. *Ann Dermatol Venereol* 2007;134:833–7.
 30. Kaneko S, Sumikawa Y, Murota H, Tabara M, Katayama I, Morita E. Trends of stress and stress coping in patients with atopic dermatitis: Analysis using the brief coping orientation to problems experienced inventory. *J Cutan Immunol Allergy* 2020;3:4–9.
 31. Jafferany M, Davari ME. Itch and psyche: Psychiatric aspects of pruritus. *Int J Dermatol* 2019;58:3–23.
 32. Globe D, Bayliss MS, Harrison DJ. The impact of itch symptoms in psoriasis: Results from physician interviews and patient focus groups. *Health Qual Life Outcomes* 2009;7:62.
 33. Pereira MP, Ständer S. Chronic pruritus: Current and emerging treatment options. *Drugs* 2017;77:999–1007.
 34. Lavda AC, Webb TL, Thompson AR. A meta-analysis of the effectiveness of psychological interventions for adults with skin conditions. *Br J Dermatol* 2012;167:970–9.
 35. Altunay IK, Atis G, Esen K, Kucukunal A. Impact of functional pruritus compared with mild psoriasis on quality of life: A cross-sectional questionnaire study in Turkey. *Am J Clin Dermatol* 2014;15:365–70.
 36. Eraslan M, Karafil A, Atay E. Evaluation of strategies for managing stress among muay thai sportsmen participating in inter- varsity sports competitions. *J New Results Sci* 2017;14:2915–24. [Turkish]
 37. Çakırca G, Manav V, Çelik H, Saraçoğlu G, Yetkin EN. Effects of anxiety and depression symptoms on oxidative stress in patients with alopecia areata. *Adv Dermatol Allergol* 2020;37:412–6.
 38. Reszke R, Bialynicki-Birula R, Lindner K, Sobieszkańska M, Szepietowski J. Itch in elderly people: A cross-sectional study. *Acta Derm Venereol* 2019;99:1016–21.
 39. Van Os-Medendorp H, Eland-de Kok P, Grypdonck M, Bruijnzeel-Koomen C, Ros WJG. Prevalence and predictors of psychosocial morbidity in patients with chronic pruritic skin diseases. *J Eur Acad Dermatol Venereol* 2006;20:810–7.