ISSN : (Online): 1898-7249, ISSN (Print): 1898-7249
Abbreviation: J Derm Cse Rep

Journal of Dermatological Case Reports

Original Research

A cross sectional study on psychosocial functioning and associated factors in patients with senile pruritus

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Keywords:
Chronic pruritus; Itch; Quality of life; ItchyQoL; Stress; Dermatology; Cross-sectional study

Received: 12-04-2026

Accepted: 22-05-2026

Published: 10-06-2026

Abstract:

Background: Chronic pruritus is a persistent itching condition lasting longer than six weeks and is associated with substantial physical discomfort, emotional distress, sleep disturbances, and impaired daily functioning. Due to its multifactorial etiology, various demographic and itch-related factors may influence itch-specific quality of life (QoL). Understanding these predictive factors is important for improving patient-centered management and therapeutic outcomes.
Aim: The present study aimed to identify sociodemographic characteristics, itch-related clinical features, associated symptoms, and aggravating factors that predict impaired itch-specific quality of life among patients suffering from chronic pruritus.
Materials and Methods: A cross-sectional observational study was conducted among adult patients attending a tertiary itch clinic between 2021 and 2025. Patients aged 18 years and above with itching persisting for more than six weeks were included. Data regarding demographic characteristics, itch intensity, itch frequency, anatomical distribution, associated symptoms, aggravating factors, and diagnosis were collected using self-administered questionnaires. Quality of life was assessed using the ItchyQoL questionnaire consisting of symptomatic, functional, and emotional domains. Statistical analysis was performed using descriptive statistics and multivariable linear regression models to determine predictors of impaired QoL.
Results: A total of 519 patients were included in the final analysis. The mean age of participants was approximately 58 years, and females constituted the majority of cases. The average itch intensity score was high, indicating severe symptom burden. Female sex and multiracial ethnicity were significantly associated with poorer itch-specific QoL outcomes. Upper-limb itching and groin/buttock involvement demonstrated a substantial negative impact on symptomatic, emotional, and functional wellbeing. Associated symptoms including pain, sweating, rash, and cold sensation significantly worsened QoL scores. Stress emerged as one of the strongest aggravating factors associated with impaired quality of life. Increased itch intensity, persistent day-and-night itching, and higher itch frequency were also significant predictors of poor QoL outcomes.
Conclusion: Chronic pruritus exerts a profound negative effect on patients' quality of life through physical discomfort, emotional stress, and functional impairment. Female sex, severe itch intensity, stress, pain, and genital-region involvement were identified as major predictors of poorer itch-specific QoL. Early identification of these predictive factors may assist clinicians in developing individualized and multidisciplinary treatment strategies aimed at improving overall patient wellbeing and disease management.

Introduction

Chronic pruritus is a distressing clinical symptom defined as itching persisting for more than six weeks and is increasingly recognized as a major dermatological and systemic health concern worldwide [1,2]. The condition affects a substantial proportion of the general population, with epidemiological studies reporting prevalence rates ranging from 22% to 25.5% during an individual's lifetime [1,2]. Chronic pruritus is not merely a sensory symptom but a multidimensional disorder that exerts profound physical, psychological, emotional, and social consequences on affected individuals. Persistent itching often leads to repetitive scratching, skin damage, sleep disturbances, impaired concentration, emotional stress, and deterioration of overall wellbeing.

The etiology of chronic pruritus is highly heterogeneous and may involve dermatological, systemic, neurological, psychogenic, and mixed causes. Common dermatological disorders associated with chronic itch include atopic dermatitis, psoriasis, chronic urticaria, contact dermatitis, and prurigo nodularis [3]. Systemic conditions such as chronic kidney disease, liver disorders, endocrine abnormalities, hematological diseases, and malignancies may also present with persistent pruritus [4,5]. In addition, neuropathic and psychogenic mechanisms contribute significantly to chronic itch perception in many patients. Due to its multifactorial nature, the diagnosis and management of chronic pruritus remain clinically challenging.

Several studies have demonstrated that chronic pruritus significantly impairs patients' quality of life (QoL). Individuals suffering from persistent itch frequently report anxiety, depression, social embarrassment, disturbed sleep, sexual dysfunction, fatigue, reduced work productivity, and impaired interpersonal relationships [6]. The burden of chronic pruritus has been shown to be comparable to or even greater than that associated with chronic pain in certain patient populations. Sleep disturbances resulting from nocturnal itching further aggravate physical exhaustion and emotional instability, creating a vicious cycle that worsens symptom severity and psychological distress [7,8].

Previous research has explored the influence of itch intensity, itch frequency, and disease severity on itch-specific quality of life [9,10]. Higher itch intensity and more frequent episodes have consistently been associated with greater impairment in emotional wellbeing and daily functioning. Furthermore, associated symptoms such as pain, burning sensation, sweating, and cold sensitivity may contribute to increased discomfort and poorer quality of life outcomes [11,12,13]. However, despite growing awareness regarding the psychosocial burden of chronic itch, limited studies have comprehensively evaluated the sociodemographic and clinical predictors responsible for deterioration in itch-specific QoL.

Demographic variables including age, sex, ethnicity, and marital status may also influence patients' perception of itch and coping mechanisms [14,15]. Studies have suggested that women often report a greater emotional and psychological burden associated with chronic pruritus compared to men [16,17]. Similarly, racial disparities in symptom severity, healthcare access, and psychosocial impact have been observed among patients with chronic itch disorders [18,19]. The anatomical distribution of itching may further influence QoL, particularly when sensitive regions such as the genital or groin area are involved, due to associated embarrassment, stigmatization, and sexual dysfunction [20,21].

Stress has emerged as another important factor influencing chronic itch severity and quality of life. Psychological stress is known to aggravate inflammatory skin disorders such as psoriasis and atopic dermatitis, thereby intensifying itch symptoms and worsening emotional wellbeing [22]. Patients experiencing chronic stress frequently demonstrate increased scratching behavior, heightened itch perception, and reduced treatment satisfaction. Therefore, understanding the interaction between psychological factors and chronic pruritus is essential for developing comprehensive treatment approaches [23,24].

Given the multifaceted burden of chronic pruritus, identifying predictors of poor itch-specific quality of life is clinically important. Early recognition of these factors may enable clinicians to personalize management strategies, optimize therapeutic interventions, and improve patient outcomes. Therefore, the present cross-sectional study aimed to evaluate the sociodemographic characteristics, itch-related clinical factors, associated symptoms, and aggravating conditions that predict reduced itch-specific quality of life among patients suffering from chronic pruritus attending a tertiary care itch clinic between 2021 and 2025.

Materials and Methods

Study Design and Setting

The present investigation was conducted as a cross-sectional observational study aimed at identifying the clinical and sociodemographic factors influencing itch-specific quality of life among patients suffering from chronic pruritus. The study was carried out at a specialized tertiary care itch clinic affiliated with the Department of Dermatology and Cutaneous Surgery. Data collection was performed over a six-year period from 2021 to 2025. The tertiary referral nature of the center enabled the inclusion of patients with diverse dermatological and systemic causes of chronic pruritus.

Study Population

The study population consisted of adult patients presenting with chronic itching symptoms. Individuals aged 18 years and above who experienced pruritus for a duration exceeding six weeks were considered eligible for inclusion in the study. Both male and female participants were enrolled irrespective of ethnicity or underlying dermatological diagnosis.

Patients with incomplete questionnaires or missing essential clinical information were excluded from the final statistical analysis. Out of the total patients attending the clinic during the study period, only participants with adequately completed data forms were included to maintain the accuracy and reliability of the analysis.

Inclusion Criteria

The inclusion criteria for the study were as follows:

- Patients aged 18 years or older
- Presence of chronic pruritus lasting more than six weeks
- Ability to understand and complete the study questionnaire
- Willingness to participate in the study and provide informed consent

Exclusion Criteria

The exclusion criteria included:

- Patients with incomplete demographic or clinical data
- Individuals unable to complete the questionnaire independently
- Patients with acute itching symptoms lasting less than six weeks
- Subjects unwilling to participate in the study

Data Collection Procedure

Data were collected using structured self-administered questionnaires completed by participants during their clinic visits. The questionnaire was designed to evaluate sociodemographic characteristics, clinical presentation of itch, associated symptoms, aggravating factors, and itch-specific quality of life.

The collected demographic information included age, sex, ethnicity, and marital status.

Clinical information regarding the diagnosis and characteristics of chronic pruritus was also recorded. Diagnoses included atopic dermatitis, psoriasis, chronic urticaria, inflammatory dermatoses, neuropathic pruritus, psychogenic pruritus, and pruritus secondary to systemic diseases.

Assessment of Itch Characteristics

Participants were evaluated for various itch-related parameters including anatomical location, intensity, frequency, associated symptoms, and aggravating factors.

Anatomical Distribution of Itch

Initially, itch distribution was assessed across multiple anatomical sites including the scalp, face, neck, chest, abdomen, back, upper limbs, lower limbs, groin, buttocks, and feet. For statistical analysis, these regions were grouped into five major anatomical categories:

- Head and neck
- Upper limbs
- Lower limbs
- Groin and buttocks
- Trunk

Patients were allowed to report itching in multiple anatomical areas simultaneously.

Itch Intensity

The severity of itching was assessed using a numerical rating scale ranging from 1 to 10, where:

- 1 represented minimal itching
- 10 represented the most severe itching imaginable
- Higher scores indicated greater symptom severity.

Frequency of Itch Episodes

The daily frequency of itching episodes was categorized into four groups:

- ≤1 episode per day
- 2–4 episodes per day
- 5–10 episodes per day

The presence of itching during both daytime and nighttime was also documented.

Associated Symptoms and Aggravating Factors

Participants were questioned regarding symptoms accompanying the itch sensation. These included:

- Pain in the itching area
- Rash
- Sweating
- Heat sensation
- Cold sensation

In addition, patients identified factors that aggravated their itching symptoms, including:

- Psychological stress
- Sweating
- Dry skin
- Contact with irritants
- Exposure to allergens
- Certain foods
- Hot water
- Salt water
- Acidic beverages

Multiple aggravating factors could be selected by individual participants.

Assessment of Quality of Life

Quality of life was evaluated using the validated ItchyQoL questionnaire, a disease-specific assessment tool developed to measure the impact of chronic pruritus on patients' daily lives [7,9].

The questionnaire consisted of 22 items distributed across three domains:

- Symptomatic impact
- Functional limitation
- Emotional impact

Responses for each question were graded on a five-point Likert scale ranging from:

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

Scores for individual domains and total quality of life were calculated by summing the responses. Higher scores indicated poorer itch-specific quality of life and greater impairment in physical, emotional, and social functioning.

Statistical Analysis

All collected data were entered and analyzed using IBM Statistical Package for the Social Sciences (SPSS) software version 25.0. Descriptive statistics were used to summarize demographic and clinical characteristics of participants. Continuous variables were expressed as mean ± standard deviation, whereas categorical variables were represented as frequencies and percentages.

To identify factors associated with impaired itch-specific quality of life, both univariate and multivariable linear regression analyses were performed. Sociodemographic variables, itch characteristics, associated symptoms, and aggravating factors were included as predictor variables, while quality-of-life scores served as outcome variables.

Regression coefficients with 95% confidence intervals were calculated to determine the strength and direction of associations. Variables with significant associations were retained in the final regression model. Statistical significance was considered at a p-value less than 0.05.

Ethical Considerations

The study protocol was reviewed and approved by the Institutional Review Board of the participating institution. All participants provided written informed consent prior to enrollment in the study. Confidentiality and anonymity of patient information were maintained throughout the research process in accordance with ethical research guidelines.

Results

Among 519 participants included in the final analysis, females constituted the majority of cases. The average itch intensity score was high, indicating severe symptom burden. Upper limb itching was the most commonly reported site, followed by trunk and lower-limb involvement. Stress and dry skin were among the most common aggravating factors.

Table 1. Summary of Key Findings

Variable	Observation
Sample Size	519 patients
Female Participants	58.6%
Most Common Itch Site	Upper limb (79.2%)
Most Common Aggravating Factor	Dry skin (52.2%)
Mean Itch Intensity	7.76 ± 2.26

Table 1 summarizes the demographic and clinical characteristics of patients suffering from chronic pruritus included in the study. The majority of participants were females, and upper-limb itching was identified as the most common anatomical site affected. High itch intensity, frequent itching episodes, and aggravating factors such as stress and dry skin were commonly observed among the study population.

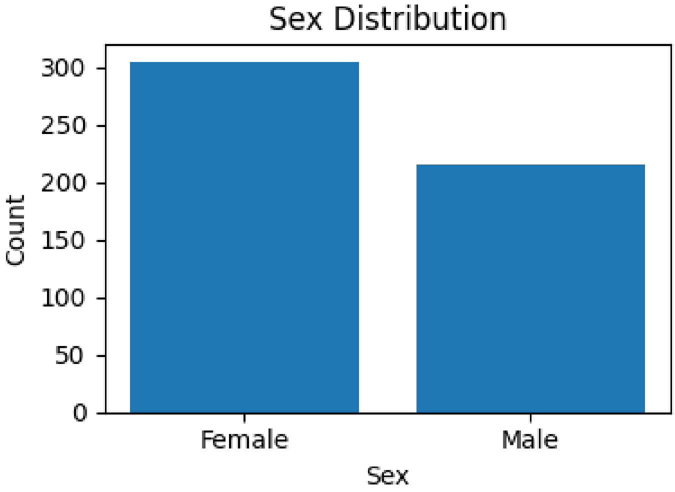

Figure 1. Sex Distribution

Figure 1 illustrates the sex distribution among patients included in the study population. Female participants constituted a higher proportion of cases compared to males, indicating a greater burden of chronic pruritus among women.

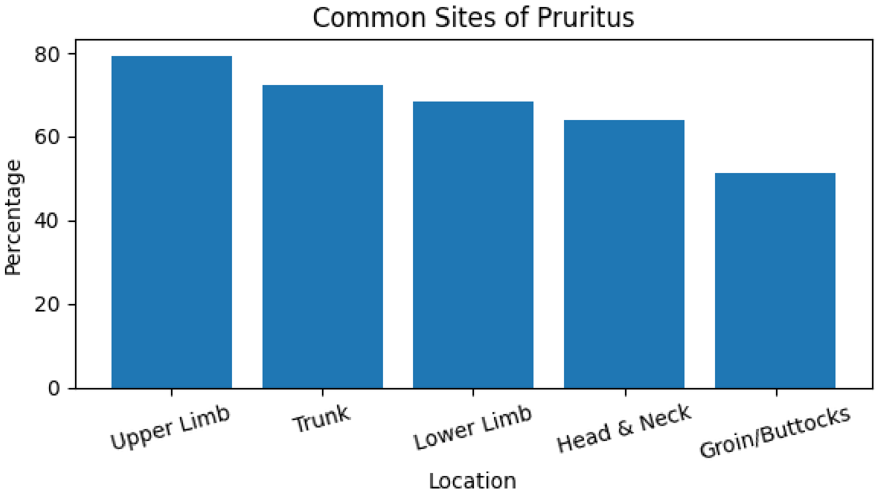

Figure 2. Common Sites of Pruritus

Figure 2 demonstrates the distribution of common anatomical sites affected by chronic pruritus among the study participants. The upper limbs represented the most frequently involved region, followed by the trunk and lower limbs. Groin and buttock involvement was also notable and was associated with a greater negative impact on quality of life.

Discussion

The present cross-sectional study evaluated the predictors influencing itch-specific quality of life among patients suffering from chronic pruritus attending a tertiary care itch clinic. Chronic pruritus is widely recognized as a distressing symptom that negatively impacts physical comfort, emotional wellbeing, sleep quality, social interaction, and occupational productivity. The findings of this study demonstrated that multiple sociodemographic and clinical factors contribute significantly to deterioration in itch-specific quality of life. Female sex, multiracial ethnicity, severe itch intensity, upper-limb involvement, groin and buttock itching, stress, pain, sweating, and persistent itching throughout the day and night emerged as major predictors of poor QoL outcomes.

One of the most important findings of the study was the strong association between itch intensity and impaired quality of life. Patients with higher itch severity scores reported significantly poorer symptomatic, emotional, and functional wellbeing. These findings are consistent with previous studies which demonstrated that increased itch severity correlates directly with worsening psychological distress, sleep impairment, and reduced daily functioning [7,10]. Chronic itching often leads to repetitive scratching behavior, resulting in skin excoriation, secondary infections, and further aggravation of symptoms. Persistent severe itch may also contribute to anxiety and frustration, thereby establishing a vicious cycle that intensifies disease burden.

The frequency and duration of itching episodes were also found to play a significant role in determining quality of life outcomes. Participants experiencing frequent itch episodes or continuous itching during both daytime and nighttime demonstrated greater impairment in functional and emotional domains. Previous research has similarly reported that nocturnal pruritus is strongly associated with disturbed sleep patterns, daytime fatigue, impaired concentration, and reduced work efficiency [19,20]. Sleep deprivation caused by chronic itching may additionally worsen mood disorders and decrease overall coping ability among affected individuals.

Anatomical location of itching was another important determinant of itch-specific QoL. Upper-limb involvement was associated with poorer symptomatic and functional outcomes, likely because itching in exposed areas may interfere with routine daily activities and social interactions. Furthermore, pruritus affecting the groin and buttock regions significantly impaired emotional and functional wellbeing. Genital and intertriginous itching can produce embarrassment, stigmatization, reduced self-confidence, and sexual dysfunction, ultimately leading to major psychosocial distress [17,18]. Similar observations have been reported in patients with genital psoriasis and chronic inflammatory dermatoses involving sensitive body areas.

The present study also highlighted the importance of associated sensory symptoms such as pain, sweating, rash, and cold sensation in predicting poor quality of life. Pain associated with itching was strongly linked to reduced QoL scores. This relationship may be explained by overlapping neurophysiological pathways involved in itch and pain transmission [11]. Chronic activation of peripheral nerve fibers and central sensitization mechanisms may enhance symptom severity and increase patient discomfort. Rash and inflammatory skin changes may further contribute to social embarrassment and emotional stress among affected individuals.

Sweating emerged as another aggravating factor associated with worsening itch-related quality of life. Excessive sweating can intensify skin irritation and itching, particularly in inflammatory conditions such as atopic dermatitis and psoriasis [6]. Similarly, cold sensation was found to negatively influence QoL. Although cooling agents are commonly used to relieve itching symptoms, recent studies suggest that cold stimuli may not uniformly suppress chronic itch and may even aggravate symptoms in certain individuals [12,13]. These findings indicate the complexity of sensory mechanisms involved in chronic pruritus.

Psychological stress was identified as one of the strongest predictors of impaired quality of life in this study. Patients reporting stress-related worsening of itching demonstrated poorer symptomatic, functional, and emotional outcomes. Stress is known to activate neuroimmune pathways and inflammatory mediators that exacerbate chronic dermatological conditions such as psoriasis and atopic dermatitis [14]. Moreover, chronic itch itself can generate emotional distress, thereby perpetuating a bidirectional relationship between stress and symptom severity. Psychological interventions including stress management, relaxation therapy, behavioral modification, and counseling have shown beneficial effects in improving chronic itch outcomes and patient wellbeing [14].

Sociodemographic factors also demonstrated significant associations with itch-specific QoL. Female patients experienced greater impairment across multiple quality-of-life domains compared to male participants. Similar findings have been reported in earlier studies where women expressed greater emotional burden, social embarrassment, and psychological distress related to chronic pruritus [8,22]. Hormonal influences, increased symptom perception, and greater psychosocial sensitivity may contribute to these observed sex differences.

Interestingly, multiracial ethnicity was associated with poorer symptomatic QoL outcomes in the present study. Previous literature has shown that non-White populations often experience greater itch severity, increased healthcare disparities, and reduced access to specialized dermatological care [23,24]. Cultural differences in symptom reporting, healthcare-seeking behavior, and psychosocial stressors may also contribute to variations in itch-related quality of life among different ethnic groups.

Another noteworthy finding was that patients diagnosed with chronic urticaria demonstrated comparatively better quality-of-life outcomes than individuals with other chronic itch disorders. This observation may be explained by fluctuations in symptom severity and intermittent disease activity commonly seen in moderate chronic urticaria cases. In contrast, conditions such as atopic dermatitis, neuropathic pruritus, and psychogenic itch often involve persistent symptoms and prolonged disease burden, resulting in more severe QoL impairment.

The findings of this study have important clinical implications. Identification of factors associated with poor itch-specific quality of life can help clinicians adopt individualized and multidisciplinary management approaches. Assessment of itch intensity, anatomical location, associated pain, sleep disturbance, and psychological stress should become an essential component of routine dermatological evaluation. Addressing these contributing factors through pharmacological therapy, psychological support, patient counseling, and lifestyle modifications may improve treatment outcomes and overall patient satisfaction.

Despite its strengths, the study had certain limitations. The research was conducted at a single tertiary care center with a predominantly non-Hispanic White patient population, which may limit generalizability to broader populations. Furthermore, the use of self-administered questionnaires introduces the possibility of recall bias and subjective variation in symptom reporting. The cross-sectional study design also prevents establishment of causal relationships between predictive factors and quality-of-life impairment. Residual confounding due to unmeasured variables cannot be completely excluded.

Overall, the present study reinforces the significant burden imposed by chronic pruritus on patients' physical, emotional, and social wellbeing. The results emphasize the need for early recognition of high-risk individuals and the implementation of comprehensive management strategies targeting both physical symptoms and psychosocial factors. Future longitudinal and multicenter studies are warranted to further clarify the mechanisms underlying itch-related quality-of-life impairment and to evaluate interventions capable of improving long-term patient outcomes.

Conclusion

Chronic pruritus is a multifactorial condition that significantly impairs the physical, emotional, and functional wellbeing of affected individuals. The present study demonstrated that several sociodemographic and clinical factors, including female sex, severe itch intensity, frequent itching episodes, stress, pain, sweating, cold sensation, and involvement of sensitive anatomical regions such as the groin and buttocks, are strongly associated with poorer itch-specific quality of life. Persistent itching occurring during both daytime and nighttime further contributes to sleep disturbances, emotional stress, and reduced daily functioning.

The findings emphasize the importance of comprehensive clinical evaluation in patients presenting with chronic pruritus. Identification of high-risk patients and recognition of aggravating factors may help clinicians develop individualized treatment strategies aimed at reducing symptom burden and improving overall quality of life. In addition to pharmacological management, psychological support, stress reduction techniques, and patient counseling should be considered essential components of chronic itch management.Although the study provides valuable insights into predictors of impaired quality of life in chronic pruritus, further multicenter and longitudinal studies involving more diverse populations are required to better understand the underlying mechanisms and long-term impact of chronic itching disorders. Early intervention and multidisciplinary management approaches may ultimately contribute to improved patient outcomes and enhanced quality of life among individuals suffering from chronic pruritus.

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