Original Article

A Clinical Study On Geriatric Pruritus Among Patients Attending the Dermatology Outpatient Department in A Tertiary Care Center in South India

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Abstract

Background: Chronic pruritus, defined as persistent itching lasting more than six weeks, is a common and distressing symptom among the elderly population. With increasing life expectancy, geriatric dermatological conditions are gaining clinical importance. Pruritus in older adults is often multifactorial, arising from age-related skin changes, systemic diseases, neuropathic mechanisms, and polypharmacy. It significantly impairs quality of life by affecting sleep, emotional well-being, and daily functioning, thereby necessitating comprehensive evaluation and targeted management strategies. The aim is to assess the severity of pruritus using the 10-D pruritus scale among geriatric patients, to evaluate the association between systemic diseases and pruritus, and to determine epidemiological factors influencing pruritus in the elderly population. **Material and Methods:** This cross-sectional study was conducted among 104 geriatric patients aged ≥60 years attending the dermatology outpatient department of Sree Mookambika Institute of Medical Sciences, Kulasekharam, Tamil Nadu, over a period of 12–14 weeks. Data were collected using a pre-tested semi-structured questionnaire covering sociodemographic details, clinical history, and associated comorbidities. Pruritus severity was assessed using the validated 10-D pruritus scale. Clinical examination and relevant laboratory investigations, were performed where indicated. Statistical analysis was carried out using SPSS version 26, with chi-square test applied to assess associations, considering $p < 0.05$ as statistically significant. **Results:** The majority of patients belonged to the 60–69 years age group (48; 46.2%), with a slight male predominance (54; 51.9%). Dermatological causes were the most common etiology (50; 48.1%). Among dermatological conditions, infections (16; 32.0%) and eczema (13; 26.0%) predominated. Moderate pruritus was observed in 46 (44.2%) patients, followed by mild in 32 (30.8%) and severe in 26 (25.0%). A significant association was found between age and pruritus severity ($p = 0.014$), with increasing severity in older age groups. Comorbidities were significantly associated with systemic pruritus ($p < 0.001$). **Conclusion:** Geriatric pruritus is a multifactorial condition with dermatological causes predominating, though systemic associations remain significant. Increasing age and comorbidities contribute to greater severity. Comprehensive evaluation, including identification of underlying systemic conditions, is essential for effective management, thus improving the quality of life in elderly patients.

Keywords: Chronic pruritus; Elderly; Geriatric dermatology; Quality of life; Systemic diseases; Xerosis.

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Introduction

Chronic pruritus, defined as an unpleasant cutaneous sensation that provokes the urge to scratch and persists for more than six weeks, is an increasingly recognized clinical concern in the geriatric population.[1] With the global rise in life expectancy and a parallel increase in the elderly demographic, dermatological complaints in this age group are gaining prominence.[2] Among these, pruritus is one of the most frequent and distressing symptoms prompting consultation in dermatology outpatient departments.[3] Epidemiological studies estimate the prevalence of pruritus in older adults to range between 11% and 46%, highlighting its substantial burden and variability across populations.[4]

The etiology of chronic pruritus in the elderly is complex and often multifactorial. Age-related physiological changes in the skin, including reduced lipid content, impaired barrier function, and decreased hydration, contribute significantly to xerosis, which is considered the most common cause of pruritus in this age group.[5] Additionally, immunosenescence alters inflammatory responses, predisposing elderly individuals to both dermatological and systemic conditions associated with itching.[6]

Neuropathic mechanisms also play a crucial role, as degenerative changes in the peripheral and central nervous systems, along with

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comorbidities such as diabetes mellitus, stroke, and neurodegenerative disorders, can lead to chronic itch. Furthermore, systemic diseases including chronic kidney disease, liver disorders, endocrine abnormalities, and hematological conditions are well-established contributors to generalized pruritus.[7,8]

Polypharmacy, a common phenomenon in geriatric patients, further complicates the clinical scenario, as several medications are known to induce or exacerbate pruritus. The coexistence of multiple comorbidities often makes it challenging to delineate a single causative factor, thereby necessitating a comprehensive and multidisciplinary approach to diagnosis and management.[9]

In addition to physical discomfort, chronic pruritus exerts a profound impact on psychological well-being, frequently leading to sleep disturbances, anxiety, depression, and impaired quality of life.[10] Notably, the burden of chronic pruritus has been found to be comparable to that of chronic pain, with some patients expressing a preference for a shorter life over prolonged suffering from persistent itching.[11]

Despite its high prevalence and significant impact, chronic pruritus in the geriatric population remains under-recognized and inadequately studied, particularly in the Indian context. Regional factors such as climate, socioeconomic conditions, hygiene practices, and healthcare accessibility may influence both the prevalence and etiological spectrum of pruritus in elderly individuals. While existing literature provides a general overview of pruritus in the elderly, there is a paucity of comprehensive studies focusing on its multifactorial etiology and real-world clinical patterns in this population.

Aims and Objectives

- To estimate the degree of pruritus among geriatric patients using the 10-D pruritus scale attending dermatology OPD in a tertiary care hospital.
- To assess the relationship between systemic diseases and pruritus among the elderly population
- To determine the epidemiological factors associated with pruritus in the elderly population.

Materials and Methods

This cross-sectional study was conducted among Geriatric patients of more than 60 years of age group attending the dermatology outpatient Department in Sree Mookambika Institute of Medical Sciences, Kulasekharam, Tamil Nadu, India

Study duration: 12-14 weeks

Inclusion criteria:

1. All new Patients aged above 60 years with pruritus as their primary complaint (both with or without skin lesions) attending the Dermatology outpatient Department who have given consent.
2. Both males and females were included.

Exclusion criteria:

1. Patients below 60 years.
2. Patients who have not given consent.

Sample size and sampling technique

According to Thapa et al,[12] found that 7.3% were diagnosed with geriatric pruritus. The final estimated sample size with a 95% confidence interval and a 5% allowable error by using the formula

n = Z(1-α/2)2*P*Q/d2 [Z(1-α/2)2 =3.84, P = 7.3, Q = 92.7 (100-7.3), d = 5].

The expected final sample size was 104. All cases that fulfilled the inclusion criteria will be selected as convenience sampling in this study.

Data collection tool and technique: Data collection was carried out using a pre-tested semi-structured questionnaire designed specifically for the study. The questionnaire comprised three sections. The first section included sociodemographic details such as age, sex, educational status, occupation, and place of residence, along with personal history including smoking and alcohol intake. The second section focused on clinical history, including duration of pruritus, associated symptoms, and aggravating factors such as seasonal variation and diurnal changes. The severity and impact of pruritus were assessed using the validated 10-D Pruritus Scale. The third section included details regarding associated systemic illnesses, relevant laboratory investigations, and treatment history for pruritus. All participants were interviewed directly by the principal investigator in the local language (Tamil) to ensure better understanding and accurate data collection.

Statistical analysis: The obtained data was entered into Microsoft Excel and analysed with SPSS version 26 software. Frequency and percentage were used to represent qualitative data, whereas mean and standard deviation were used to represent quantitative data. The chi-square test was used to investigate the relationship between Geriatric pruritus and sociodemographic characteristics and pre-existing comorbidities. A p-value less than 0.05 was statistically significant.

Results

Majority of patients belonged to the 60–69 years age group (46.2%), with a slight male predominance (51.9%). [Table 1]

Table 1: Sociodemographic Distribution of Study Population

Variable	Category	n (%)
Age group (years)	60–69	48 (46.2%)
	70–79	40 (38.5%)
	≥80	16 (15.4%)
Gender	Male	54 (51.9%)
	Female	50 (48.1%)

Dermatological causes constituted the most common etiology (48.1%), followed by systemic causes (32.7%). [Table 2]

Table 2: Etiological Distribution of Pruritus

Etiology Type	n (%)
Dermatological	50 (48.1%)
Systemic	34 (32.7%)
Idiopathic	20 (19.2%)

Infections (32.0%) and eczema (26.0%) were the most common dermatological causes. Females showed higher proportion of eczema and photodermatoses. [Table 3]

Table 3: Distribution of Dermatological Causes with Gender (n = 50)

Disease	Male n (%)	Female n (%)	Total n (%)
Infections	9 (17.3%)	7 (14.0%)	16 (32.0%)
Eczema	5 (9.6%)	8 (16.0%)	13 (26.0%)
Psoriasis	4 (7.7%)	1 (2.0%)	5 (10.0%)
Lichen Planus	2 (3.8%)	0 (0%)	2 (4.0%)
Photodermatoses	2 (3.8%)	6 (12.0%)	8 (16.0%)
Urticaria	1 (1.9%)	1 (2.0%)	2 (4.0%)
Others*	3 (5.8%)	1 (2.0%)	4 (8.0%)
Total	26 (50.0%)	24 (48.0%)	50 (100%)

(*Others include vesiculobullous disorders, melasma)

No statistically significant association was observed between gender and dermatological causes of pruritus ($p > 0.05$). [Table 4]

Table 4: Association Between Gender and Dermatological Etiology

Gender	Dermatological n (%)	Non-dermatological n (%)	Total n (%)	p-value
Male	26 (25.0%)	28 (26.9%)	54 (51.9%)	0.910
Female	24 (23.1%)	26 (25.0%)	50 (48.1%)	
Total	50 (48.1%)	54 (51.9%)	104 (100%)	

A statistically significant association was found between age and severity of pruritus, with increasing severity observed in older age groups ($p < 0.05$). [Table 5]

Table 5: Severity of Pruritus (10-D Scale) Across Age Groups

Comorbidity	Systemic Cause n (%)	Non-systemic n (%)	Total n (%)	p-value
Present	28 (26.9%)	22 (21.2%)	50 (48.1%)	<0.001
Absent	6 (5.8%)	48 (46.2%)	54 (51.9%)	
Total	34 (32.7%)	70 (67.3%)	104 (100%)	

A highly significant association was observed between comorbidities and systemic causes of pruritus ($p < 0.001$), indicating the importance of systemic evaluation. [Table 6]

Table 7: Aggravating Factors of Pruritus

Factor	n (%)
Seasonal variation	38 (36.5%)
No variation	34 (32.7%)
Diurnal variation	32 (30.8%)

Seasonal variation was the most commonly reported aggravating factor (36.5%), suggesting environmental influence on pruritus. [Table 7]

Discussion

Chronic pruritus in the geriatric population represents a multifactorial clinical entity with significant impact on quality of life. In the present study of 104 patients aged ≥60 years, the majority belonged to the 60–69 years age group (48; 46.2%), followed by 70–79 years (40; 38.5%) and ≥80 years (16; 15.4%), with a slight male predominance (54; 51.9%). A similar demographic trend was observed by Kumar D et al.13 who reported a higher proportion of elderly males and a mean age of 67.87 years, suggesting increased exposure to environmental factors and healthcare-seeking behavior among this group.

Dermatological causes constituted the most common etiology in the present study (50; 48.1%), followed by systemic causes (34; 32.7%) and idiopathic pruritus (20; 19.2%). This pattern is comparable to the findings of Aboeldahab S et al,[14] where dermatological causes accounted for 54.2% and systemic causes for 29.8% of cases. Among cutaneous conditions, infections (16; 32.0%) and eczema (13; 26.0%) were predominant, which aligns with the observations of Sarac GA et al,[15] who also reported fungal infections and eczematous dermatitis as the leading dermatoses in geriatric patients. Gender-wise distribution in the present study showed infections to be more common in males and eczema more frequent in females, consistent with the gender-related trends described by Sarac GA et al,[15] although the

association was not statistically significant in our study.

The severity assessment using the 10-D pruritus scale revealed moderate pruritus in 46 (44.2%) patients, followed by mild (32; 30.8%) and severe (26; 25.0%) forms. A statistically significant association was observed between increasing age and severity ($p = 0.014$). In contrast, Kurmus GI et al,[16] reported that pruritus severity correlated more strongly with xerosis, frailty, and polypharmacy rather than age alone, indicating that multiple interacting factors contribute to symptom intensity in the elderly.

Systemic causes of pruritus showed a strong association with comorbidities in the present study, with 28 (26.9%) of patients with comorbid conditions exhibiting systemic pruritus compared to only 6 (5.8%) without comorbidities ($p < 0.001$). This finding is supported by Mazan P et al,[17] who demonstrated significant associations between pruritus and metabolic factors such as hyperglycemia, anemia, and medication use, emphasizing the importance of systemic evaluation. Similarly, Bollemeijer JF et al,[18] identified comorbidities and polypharmacy as major contributors to chronic pruritus.

Environmental and temporal factors also played a role, with seasonal variation (38; 36.5%) and diurnal variation (32; 30.8%) being common aggravating factors. Similarly, Günther M et al,[19] observed that chronic pruritus to be persistent with moderate-to-severe intensity and influenced by external and lifestyle factors, significantly impairing daily functioning and quality of life.

Furthermore, the predominance of dermatological causes in the present study is consistent with Javor S et al,[20] who reported that the majority of pruritus cases in elderly patients were attributable to cutaneous conditions. However, the proportion of idiopathic pruritus (20; 19.2%) in the present study highlights the diagnostic challenges in this population, likely due to overlapping etiologies and age-related physiological changes. The comparison with existing literature underscores the need for a comprehensive, multidisciplinary approach to evaluation and management in order to improve clinical outcomes and quality of life in elderly patients.

Conclusion

Chronic pruritus in the geriatric population is a common and multifactorial condition, with dermatological causes accounting for nearly half of the cases, particularly infections and eczema. Systemic causes were significantly associated with underlying comorbidities, emphasizing the need for thorough evaluation. Increasing age showed a significant correlation with greater severity of pruritus. Environmental factors such as seasonal variation also contributed to symptom exacerbation. Overall, these findings highlight the importance of a comprehensive clinical approach, including detailed dermatological and systemic assessment, to ensure accurate diagnosis and effective management, thereby improving quality of life in elderly patients.

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Conflicts of interest

There are no conflicts of interest.

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