Clinical, Cosmetic and Investigational Dermatology

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ORIGINAL RESEARCH

Analysis of Clinical Characteristics and Treatment Needs in Elderly Patients with Psoriasis Vulgaris: A Single-Centered Retrospective Study

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Background: Psoriasis is a chronic, immune-mediated skin disorder that causes physical, psychological, and social burdens. There is a growing need to better characterize the distinct clinical features and specific treatment needs of elderly patients with psoriasis, which remains an important area for further research to optimize care in this population.

Objective: To investigate the clinical characteristics, comorbidities, and treatment preferences of elderly patients with psoriasis vulgaris.

Methods: Patients with psoriasis vulgaris were included in this retrospective study. Data on demographics, disease characteristics, including age at diagnosis, body surface area (BSA), Psoriasis Area and Severity Index (PASI), Dermatology Life Quality Index (DLQI), comorbidities, and treatment needs were collected. Patients at the visit over 60 years of age were defined as elderly patients. Patients who were diagnosed before 40 years of age were defined as early-onset psoriasis (EOP), and patients who were diagnosed over 40 years of age were defined as late-onset psoriasis (LOP). Continuous variables were compared using t-tests or Mann–Whitney *U*-tests, categorical variables using Chi-square or Fisher's exact tests. Spearman correlation was used for association analysis. Statistical significance was set at $P<0.05$.

Results: A total of 375 patients were included, comprising 70 (18.67%) elderly and 305 (81.33%) non-elderly patients. The elderly group had a significantly higher proportion of LOP (87.14% vs 48.76%, $P<0.05$). A higher percentage of elderly patients had moderate-to-severe (27.14% vs 20.98%, $P<0.05$) and severe (1.43% vs 0.66%, $P<0.05$) disease. Comorbidities were more prevalent in the elderly, including cardiovascular disease (12.86% vs 3.93%, $P<0.05$) and diabetes (12.86% vs. 1.31%, $P<0.05$). Despite this, elderly patients reported lower DLQI scores (median 2.00 vs. 3.00, $P<0.05$). Regarding treatment needs, elderly patients were less likely to prioritize reducing treatment costs (10.00% vs 20.98%, $P<0.05$) and preventing disease recurrence (30.00% vs 44.26%, $P<0.05$) compared to non-elderly patients. Within the elderly cohort, EOP patients exhibited more severe disease (median BSA: 3.00 vs 2.00; median PASI: 3.30 vs 0.80, $P<0.05$), a higher rate of familial psoriasis (33.33% vs 4.92%, $P<0.05$), and a greater demand for reducing treatment costs (33.3% vs 6.56%, $P<0.05$) compared to LOP patients.

Conclusion: Elderly patients with psoriasis present a distinct clinical profile characterized by a high prevalence of late-onset disease, a significant comorbidity burden, and differing treatment priorities focused less on cost and recurrence. Despite the increased clinical severity, their perceived quality-of-life impact is lower. Besides, they report higher dissatisfaction linked to unmet needs in itch relief, drug safety, and long-term control. Within the elderly cohort, early-onset patients had more severe disease, stronger familial predisposition, and greater cost-related concerns. The findings highlight the necessity for age-specific, multidimensional management strategies for this population.

Keywords: psoriasis, elderly, clinical characteristics, comorbidities, treatment needs

Introduction

Psoriasis is a chronic immune-mediated inflammatory skin disease. The most frequent phenotype of psoriasis is plaque psoriasis or psoriasis vulgaris. It is characterized by erythematous and scaly plaques accompanied by systemic manifestations, contributing to significant physical, psychological, and social burden. Data from systematic review and meta-

https://doi.org/10.2147/CCID.S569554
Received: 24 September 2025
Accepted: 12 March 2026
Published: 7 April 2026

analysis demonstrated that average prevalence of psoriasis varied from 0.14% to 1.99% among different countries.[1] Psoriasis affects men and women equally, with an average onset age of 33 years. The age of onset was followed by a bimodal distribution with peaks between 16–22 years and 55–60 years.[2–4] Psoriasis is primarily driven by the IL-23/Th17 axis. Diagnosis is primarily clinical, based on characteristic skin lesions (erythematous plaques with silvery scales), with histopathological examination reserved for atypical cases.[5] The therapeutic arsenal for psoriasis ranges from topical agents (corticosteroids, vitamin D analogues) and phototherapy for mild-moderate disease to systemic conventional agents (methotrexate or cyclosporine) and advanced biologics targeting specific immune pathways for moderate-severe cases.[6]

Studies have found increasing prevalence of psoriasis was shown in the elderly population.[7,8] In the elderly population, distinct clinical features and therapeutic challenges were shown. Aging is associated with alterations in skin structure and function, and a higher prevalence of comorbidity such as cardiovascular disease, diabetes, and metabolic syndrome.[9–11] These age-related changes not only influence the clinical course of psoriasis but also post challenges to treatment decisions and outcomes. Recent studies have focused on the epidemiology and clinical features of psoriasis in elderly populations, and distinct clinical characteristics were exhibited.[12] Comprehensive analysis of the clinical characteristics and treatment needs of elderly patients with psoriasis vulgaris remain unclear. It is still unclear whether the profile of psoriasis-associated complications and psychosocial impact differs substantively between older and younger adults. Notable gaps exist in specific treatment preferences and requirements of elderly patients. Filling these gaps is essential for improving treatment strategies and outcomes for older individuals with psoriasis.

This study aimed to systematically compare the clinical characteristics, comorbidity profiles, treatment needs, and satisfaction levels between elderly (≥60 years) and non-elderly patients with psoriasis vulgaris. By identifying age-specific differences and unmet needs, we seek to provide a foundation for developing more effective, personalized management strategies for elderly individuals.

Study Population and Methods

Patients with psoriasis vulgaris who visit Department of Dermatology in Beijing Anzhen Hospital, Capital Medical University were included in this study. Patients were consecutively identified through the hospital's electronic medical record system using diagnostic code for psoriasis (ICD-10: L40) between 2021.1.1 and 2024.12.31. Patients under 18 years old, with incomplete medical records, and concurrent diagnosis of psoriatic arthritis, pustular psoriasis, erythrodermic psoriasis were excluded. There were no restrictions on the treatment modalities.

The following information was recorded at the first visit: gender, age of visit, age of first diagnosis, course of disease, body mass index (BMI), smoking status, family history, body surface area (BSA) score, psoriasis area and severity index (PASI) score, severity level, comorbidity, including cardiovascular disease and diabetes, and dermatology life quality index (DLQI) score. The PASI score, ranging from 0 to 72, was calculated by assessing the severity of erythema, induration, and desquamation, weighted by the affected body surface area across four body regions. Disease severity level was assessed using the PASI score, and severity levels (mild, moderate, severe) were classified based on PSAI score cut-offs (mild: PASI <5, moderate: 5–10, severe: >10). The DLQI, a patient-reported outcome, was used to evaluate the impact on quality of life through a 10-item questionnaire, yielding a total score from 0 to 30.

The treatment needs status, which reflecting the patient's desire, including rapid regeneration of skin, reduction of social stigmatization, improvement in psychological well-being, reduction in treatment costs, relief from pain or burning, reduction of medical visits or treatment duration, reduction in pruritus, normal participation in social activities or employment, reduction in adverse drug reactions, reduction in disease recurrence were recorded. Satisfaction evaluation in the past one year were also recorded.

Patients at the visit who were over 60 years of age were defined as elderly patients, otherwise, non-elderly were defined. Based on the age of first diagnosis, patients who were diagnosed before 40 years of age were defined as early-onset psoriasis (EOP), and patients who were diagnosed over 40 years of age were defined as late-onset psoriasis (LOP).[13] Informed consent was obtained from all the patients included. This study complies with the Declaration of Helsinki and was approved by the Ethics Committee of Beijing Anzhen Hospital, Capital Medical University with the No. KS2025098.

Statistical Analysis

For continuous variables, means ± standard deviation or medians with interquartile range was shown, and t-tests or non-parametric tests (Mann–Whitney *U*-test) was applied respectively, depending on the distribution. For categorical variables, frequencies and percentages were shown, and Fisher's exact test was applied. $P<0.05$ indicates statistical significance. The correlation between datasets was evaluated using Spearman correlation analysis. An absolute correlation coefficient |Rho| between 0.3 and 0.6 suggests the correlation, with a positive Rho indicating a positive correlation and a negative Rho indicating a negative correlation. An absolute |Rho|>0.6, and/or $P<0.05$, signifies a strong correlation. Data completeness was high for all analyzed variables. For the minimal missing data (<1% of entries for any variable), a complete-case analysis was applied, where records with missing values for a specific variable were excluded only from analyses involving that variable.

All analyses were conducted through IBM SPSS Statistics 26 software. Graphs were generated using Prism GraphPad 9.0 software.

Results

Characteristics of Elderly and Non-Elderly Patients with Psoriasis Vulgaris

Initially, 473 patients with psoriasis were enrolled. From this cohort, 88 patients were excluded due to incomplete or unclear documentation of key information. Subsequently, 10 patients diagnosed with non-vulgaris subtypes of psoriasis, including isolated psoriatic arthritis, erythrodermic, or pustular psoriasis, were excluded. A total of 375 patients were included in this cohort, of which 70 (18.67%) were elderly patients and 305 (81.33%) were non-elderly patients. The median age was 68.00 in the elderly, while 37.00 in the non-elderly ($P<0.05$). The median age of first diagnosis was 59.50 in the elderly, while 29.00 in the non-elderly ($P<0.05$). The median course of disease was 6.50 years in the elderly, while 5.00 in the non-elderly ($P<0.05$). In the elderly, the proportion of LOP is higher (87.14% vs 48.76%), and the proportion of EOP is lower (12.86% vs 51.24%) compared to the non-elderly, with statistically significant differences ($P<0.05$).

There was no significant difference in the BSA score and PASI score in elderly and non-elderly patients. However, the proportions of moderate-to-severe (27.14% vs 20.98%) and severe (1.43% vs 0.66%) cases were higher in the elderly ($P=0.063$). In the elderly, the proportions of those with comorbidities (20.00% vs 7.21%), cardiovascular disease (12.86% vs 3.93%), and diabetes (12.86% vs 1.31%) were all significantly higher compared to non-elderly patients, with statistically significant differences ($P<0.05$). The elderly patients had a lower median DLQI score compared to the non-elderly (2.00 vs 3.00), with statistically significant differences ($P<0.05$). The details were shown in Table 1.

Analysis of Treatment Needs in the Elderly and Non-Elderly Patients

In the elderly, the proportion with the need of "reduction in treatment costs" was lower, while a higher proportion was shown in the non-elderly group (10.00% vs 20.98%), with a statistically significant difference ($P<0.05$). Meanwhile, the proportion with the need of "reduction in disease recurrence" was also lower in the elderly and higher in the non-elderly (30.00% vs 44.26%), with a statistically significant difference ($P<0.05$). Apart from both, no significant differences were shown in other needs. There were significant differences in the satisfaction evaluation in the past year among both populations. In the elderly, the proportions of "very satisfied" (20.00% vs 10.51%) and "not satisfied" (16.92% vs 11.67%) were higher, while that of "satisfied" (9.23% vs 22.18%) was lower ($P<0.05$). The details were shown in Table 2.

Relationships between satisfaction evaluation and treatment needs were further analyzed. In the elderly, satisfaction is significantly negatively correlated with treatment needs of "reduction in pruritus", "reduction in adverse drug reactions", and "reduction in disease recurrence". In the non-elderly, satisfaction is significantly negatively correlated with treatment needs of "rapid regeneration of skin", "reduction of medical visits or treatment duration", and "reduction in pruritus" (Figure 1).

Table 1 Basic and Clinical Characteristics of Elderly and Non-Elderly Patients

	Elderly	Non-Elderly	χ^2 or |Z|	*P*
N	70	305	-	-
Gender			χ^2 =1.512	0.228
Male	46 (65.71%)	176 (57.70%)		
Female	24 (34.29%)	129 (42.30%)		
Age of Visit (year)	68.00 [64.00, 71.00]	37.00 [30.00, 47.00]	|Z|=13.056	<0.001*
Age of First Diagnosis (year)	59.50 [49.25, 65.25]	29.00 [22.00, 37.00]	|Z|=11.408	<0.001*
Course of Disease (year)	6.50 [4.00, 19.50]	5.00 [3.00, 12.00]	|Z|=2.629	0.009*
BMI (kg/m^2)	24.84 [22.04, 26.21]	23.80 [20.97, 26.08]	|Z|=1.710	0.087
Onset of Psoriasis			χ^2 =120.268	<0.001*
EOP	9 (12.86%)	246 (80.66%)		
LOP	61 (87.14%)	59 (19.34%)		
For patients over 40			χ^2 =27.973	<0.001*
EOP	9 (12.86%)	62 (51.24%)		
LOP	61 (87.14%)	59 (48.76%)		
Smoking Status			χ^2=3.801	0.309
Never	55 (78.57%)	254 (83.28%)		
Quitted	4 (5.71%)	8 (2.62%)		
Usually	11 (15.71%)	37 (12.13%)		
Occasionally	0	6 (1.97%)		
Family History			χ^2=0.162	0.826
Yes	6 (8.57%)	31 (10.16%)		
No	64 (91.43%)	274 (89.84%)		
Family History of Father			χ^2=1.697	0.324
Yes	1 (1.43%)	15 (4.92%)		
No	69 (98.57%)	290 (95.08%)		
Family History of Mother			χ^2=0.002	1
Yes	2 (2.86%)	9 (2.95%)		
No	68 (97.14%)	296 (97.05%)		
Family History of Other Relatives			χ^2=2.338	0.130
Yes	4 (5.71%)	7 (2.30%)		
No	66 (94.29%)	298 (97.70%)		
BSA Score	2.00 [1.00, 3.00]	2.00 [1.00, 3.00]	|Z|=0.964	0.335
PASI Score				
Head and neck	0.50 [0, 2.00]	0 [0, 3.00]	|Z|=0.187	0.852
Upper limbs	1.00 [0, 3.00]	1.00 [0, 3.00]	|Z|=1.246	0.213
Trunk	1.00 [0, 3.00]	2.00 [0, 4.00]	|Z|=1.379	0.168
Lower limbs	1.00 [0, 3.00]	1.00 [0, 4.00]	|Z|=1.026	0.305
Total	1.15 [0.50, 3.23]	1.40 [0.60, 3.80]	|Z|=1.476	0.140
Severity level			χ^2=6.041	0.063
Mild	35 (50.00%)	128 (41.97%)		
Moderate	15 (21.43%)	111 (36.39%)		
Moderate-severe	19 (27.14%)	64 (20.98%)		
Severe	1 (1.43%)	2 (0.66%)		
Comorbidity			χ^2=10.591	0.003*
Yes	14 (20.00%)	22 (7.21%)		
No	54 (77.14%)	272 (89.18%)		
Cardiovascular Disease			χ^2=8.574	0.007*
Yes	9 (12.86%)	12 (3.93%)		
No	61 (87.14%)	293 (96.07%)		

(*Continued*)

Table 1 (Continued).

	Elderly	Non-Elderly	χ^2 or |Z|	*P*
Diabetes			χ^2=22.679	<0.001*
Yes	9 (12.86%)	4 (1.31%)		
No	61 (87.14%)	301 (98.69%)		
DLQI Score	2.00 [1.00, 6.00]	3.00 [2.00, 9.00]	|Z|=2.043	0.041*

Notes: * *P*<0.05.

Table 2 Treatment Needs of Elderly and Non-Elderly Patients

	Elderly	Non-Elderly	χ^2	*P*
N	70	305	-	-
Rapid Regeneration of Skin			χ^2=0.828	0.439
Yes	63 (90.00%)	262 (85.90%)		
No	7 (10.00%)	43 (14.10%)		
Reduction of Social Stigmatization			χ^2=0.199	0.771
Yes	19 (27.14%)	91 (29.84%)		
No	51 (72.86%)	214 (70.16%)		
Improvement in Psychological Well-being			χ^2=2.568	0.138
Yes	14 (20.00%)	90 (29.51%)		
No	56 (80.00%)	215 (70.49%)		
Reduction in Treatment Costs			χ^2=4.475	0.041*
Yes	7 (10.00%)	64 (20.98%)		
No	63 (90.00%)	241 (79.02%)		
Relief from Pain or Burning			χ^2=2.640	0.114
Yes	21 (30.00%)	64 (20.98%)		
No	49 (70.00%)	241 (79.02%)		
Reduction of Medical Visits or Treatment Duration			χ^2=0.002	1
Yes	16 (22.86%)	69 (22.62%)		
No	54 (77.14%)	236 (77.38%)		
Reduction in Pruritus			χ^2=0.727	0.456
Yes	16 (22.86%)	85 (27.87%)		
No	54 (77.14%)	220 (72.13%)		
Normal Participation in Social Activities or Employment			χ^2=1.212	0.343
Yes	7 (10.00%)	46 (15.08%)		
No	63 (90.00%)	259 (84.92%)		
Reduction in Adverse Drug Reactions			χ^2=0.007	1
Yes	15 (21.43%)	64 (20.98%)		
No	55 (78.57%)	241 (79.02%)		
Reduction in Disease Recurrence			χ^2=4.767	0.032*
Yes	21 (30.00%)	135 (44.26%)		
No	49 (70.00%)	170 (55.74%)		
Satisfaction Evaluation in The Past one Year	n=65 (92.86%)	n=257 (84.26%)	χ^2=9.638	0.041*
Very satisfied	13 (20.00%)	27 (10.51%)		
Satisfied	6 (9.23%)	57 (22.18%)		
Average	33 (50.77%)	134 (52.14%)		
Not satisfied	11 (16.92%)	30 (11.67%)		
Very dissatisfied	2 (3.08%)	9 (3.50%)		

Notes: * *P*<0.05.

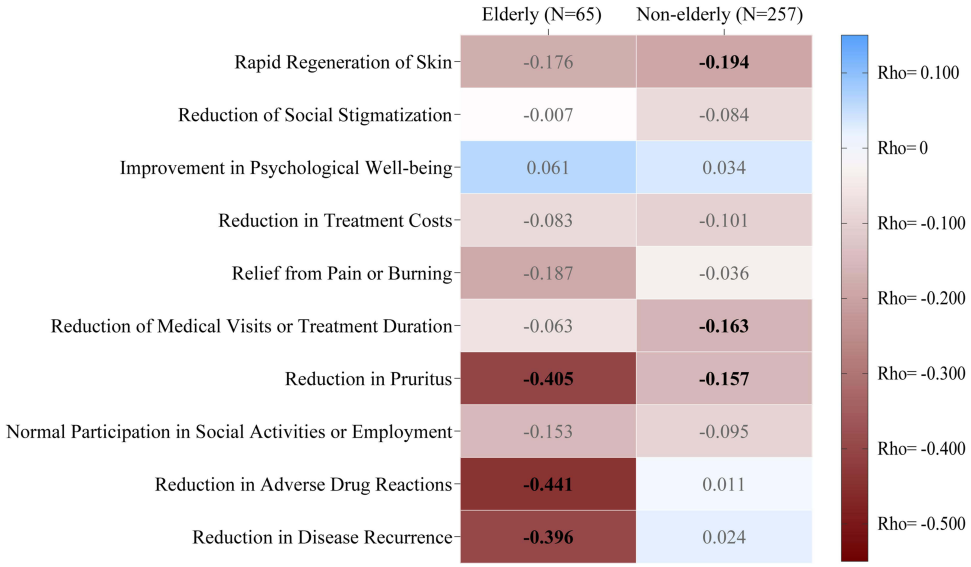

Figure 1 Relationship evaluation between satisfaction evaluation and treatment needs. Values in bold black indicate statistically significant correlations ($P<0.05$).

Characteristics of EOP and LOP Patients in the Elderly

In the elderly, there were 9 EOP patients (12.86%) and 61 LOP patients (87.14%). The median age was 66.00 in the EOP, and 68.00 in the LOP, with no significant difference. The median age of first diagnosis was 35.00 in EOP ones, while 60.00 in the LOP ($P<0.05$). The median course of disease was 31.00 years in EOP patients, while 6.00 in the LOP ($P<0.05$). The EOP patients had a higher proportion of positive family history than LOP ones (33.33% vs 4.92%), with a significant difference ($P<0.05$). In detail, EOP patients had a higher proportion of positive family history of other relatives (apart from parents, 33.33% vs 1.64%) ($P<0.05$). The median BSA score was higher in EOP patients compared to LOP patients (3.00 vs 2.00), with a statistically significant difference ($P<0.05$). The median total PASI score was higher in EOP patients compared to LOP patients (3.30 vs 0.80, $P=0.060$). In detail, the median PASI scores of trunk (3.00 vs 1.00) and lower limbs (4.00 vs 1.00) were significantly higher in EOP patients, with significant differences ($P<0.05$). The details were shown in Table 3.

Table 3 Basic and Clinical Characteristics of EOP and LOP Patients in the Elderly

	EOP of Elderly	LOP of Elderly	χ^2 or |Z|	*P*
N	9	61	–	–
Gender			χ^2=0.473	0.481
Male	5 (55.56%)	41 (67.21%)		
Female	4 (44.44%)	20 (32.79%)		
Age of Visit (year)	66.00 [62.00, 69.50]	68.00 [64.00, 71.50]	|Z|=1.153	0.249
Age of Initial Diagnosis (year)	35.00 [32.50, 37.00]	60.00 [54.50, 66.00]	|Z|=4.820	<0.001*
Course of Disease (year)	31.00 [29.00, 33.50]	6.00 [3.50, 13.00]	|Z|=4.572	<0.001*
BMI (kg/m^2)	25.95 [21.50, 27.34]	24.77 [22.03, 25.95]	|Z|=0.597	0.551
Smoking Status			χ^2=0.869	0.792
Never	7 (77.78%)	48 (78.69%)		
Quitted	0	4 (6.56%)		
Usually	2 (22.22%)	9 (14.75%)		
Occasionally	0	0		
Family History			χ^2=8.081	0.025*
Yes	3 (33.33%)	3 (4.92%)		
No	6 (66.67%)	58 (95.08%)		

(*Continued*)

https://doi.org/10.2147/CCID.S569554

Table 3 (Continued).

	EOP of Elderly	LOP of Elderly	χ^2 or |Z|	*P*
Family History of Father			χ^2=0.150	1
Yes	0	1 (1.64%)		
No	9 (100.00%)	60 (98.36%)		
Family History of Mother			χ^2=2.535	0.242
Yes	1 (11.11%)	1 (1.64%)		
No	8 (88.89%)	60 (98.36%)		
Family History of Other Relatives			χ^2=14.622	0.006*
Yes	3 (33.33%)	1 (1.64%)		
No	6 (66.67%)	60 (98.36%)		
BSA Score	3.00 [2.00, 10.00]	2.00 [1.00, 3.00]	|Z|=2.237	0.025*
PASI Score				
Head and neck	2.00 [0, 5.50]	0 [0, 2.00]	|Z|=1.648	0.099
Upper limbs	1.00 [0, 6.00]	1.00 [0, 2.50]	|Z|=1.426	0.154
Trunk	3.00 [1.00, 7.00]	1.00 [0, 3.00]	|Z|=2.055	0.040*
Lower limbs	4.00 [1.00, 6.00]	1.00 [0, 2.50]	|Z|=2.413	0.016*
Total	3.30 [0.85, 5.95]	0.80 [0.45, 2.80]	|Z|=1.883	0.060
Severity level			χ^2=0.360	0.910
Mild	4 (44.44%)	31 (50.82%)		
Moderate	2 (22.22%)	13 (21.31%)		
Moderate-severe	3 (33.33%)	16 (26.23%)		
Severe	0	1 (1.64%)		
Comorbidity			χ^2=0.017	1
Yes	2 (22.22%)	12 (19.67%)		
No	7 (77.78%)	47 (77.05%)		
Cardiovascular Disease			χ^2=0.028	1
Yes	1 (11.11%)	8 (13.11%)		
No	8 (88.89%)	53 (86.89%)		
Diabetes			χ^2=0.028	1
Yes	1 (11.11%)	8 (13.11%)		
No	8 (88.89%)	53 (86.89%)		
DLQI Score	3.00 [2.50, 16.50]	2.00 [1.00, 6.00]	|Z|=1.596	0.111

Notes: * *P*<0.05.

Comparison of Treatment Needs of EOP and LOP Patients in the Elderly

In the EOP, the proportion with the need of "reduction in treatment costs" was higher, while a lower proportion was shown in the LOP group (33.33% vs 6.56%), with a significant difference ($P<0.05$). Besides, no significant differences were shown in other needs. In terms of evaluation of satisfaction, LOP patients reported lower satisfaction levels, with a statistically significant difference ($P<0.05$). The details were shown in Table 4.

Table 4 Treatment Needs of EOP and LOP Patients in the Elderly

	EOP of Elderly	LOP of Elderly	χ^2	*P*
N	9	61	–	–
Rapid Regeneration of Skin			χ^2=0.014	1
Yes	8 (88.89%)	55 (90.16%)		
No	1 (11.11%)	6 (9.84%)		

(*Continued*)

Table 4 (Continued).

	EOP of Elderly	LOP of Elderly	χ^2	*P*
Reduction of Social Stigmatization			χ^2=1.563	0.241
Yes	4 (44.44%)	15 (24.59%)		
No	5 (55.56%)	46 (75.41%)		
Improvement in Psychological Well-being			χ^2=0.032	1
Yes	2 (22.22%)	12 (19.67%)		
No	7 (77.78%)	49 (80.33%)		
Reduction in Treatment Costs			χ^2=6.248	0.041*
Yes	3 (33.33%)	4 (6.56%)		
No	6 (66.67%)	57 (93.44%)		
Relief from Pain or Burning			χ^2=0.055	1
Yes	3 (33.33%)	18 (29.51%)		
No	6 (66.67%)	43 (70.49%)		
Reduction of Medical Visits or Treatment Duration			χ^2=0.002	1
Yes	2 (22.22%)	14 (22.95%)		
No	7 (77.78%)	47 (77.05%)		
Reduction in Pruritus			χ^2=2.730	0.195
Yes	4 (44.44%)	12 (19.67%)		
No	5 (55.56%)	49 (80.33%)		
Normal Participation in Social Activities or Employment			χ^2=1.714	0.219
Yes	2 (22.22%)	5 (8.20%)		
No	7 (77.78%)	56 (91.80%)		
Reduction in Adverse Drug Reactions			χ^2=3.249	0.091
Yes	4 (44.44%)	11 (18.03%)		
No	5 (55.56%)	50 (81.97%)		
Reduction in Disease Recurrence			χ^2=1.026	0.437
Yes	4 (44.44%)	17 (27.87%)		
No	5 (55.56%)	44 (72.13%)		
Satisfaction Evaluation in The Past one Year	n=8 (88.89%)	n=57 (93.44)	χ^2=9.850	0.020*
Very satisfied	0	13 (22.81%)		
Satisfied	1 (12.50%)	5 (8.77%)		
Average	4 (50.00%)	29 (50.88%)		
Not satisfied	1 (12.50%)	10 (17.54%)		
Very dissatisfied	2 (25.00%)	0		

Notes: * *P*<0.05.

Discussion

Psoriasis has become an increasingly significant concern among the elderly population due to global demographic shifts. The bimodal age-of-onset distribution of psoriasis, with peaks in early adulthood and later life, is well recognized.[2,3] Our study found that psoriasis in older adults exhibits distinct clinical features, comorbidities, and treatment needs compared to younger patients. These results highlight clinical heterogeneity among elderly patients and underscore the need for individualized management strategies.

Psoriasis in elderly patients presents unique challenges due to age-related factors and comorbidities. These patients often experience a later onset of the disease and exhibit different clinical presentations, such as a lower frequency of plaque psoriasis and higher occurrences of guttate and inverse psoriasis. Additionally, there is an increased prevalence of comorbid conditions, including hypertension, diabetes, dyslipidemia, and major cardiovascular events, which complicate management strategies.[14,15] Despite the higher burden of comorbidities, systemic and biological therapies are less frequently utilized in elderly patients, possibly due to concerns about potential adverse effects and drug interactions.[16]

In our study, elderly patients accounted for 18.67% of the cohort, reflecting the substantial burden psoriasis imposes on this demographic. A higher prevalence of late-onset psoriasis (LOP) was shown among the elderly, corroborating previous studies that have reported a higher frequency of LOP in older populations.[14]

Psoriasis is associated with an elevated risk of cardiovascular diseases, including myocardial infarction and stroke. The chronic inflammatory state inherent in psoriasis contributes to the development of atherosclerosis, thereby increasing cardiovascular risk. Furthermore, metabolic syndrome components such as obesity, insulin resistance, and dyslipidemia are more prevalent in patients with psoriasis, compounding their cardiovascular risk profile.[17,18] Our data revealed that elderly psoriasis patients have a significantly higher prevalence of comorbidity conditions such as cardiovascular disease and diabetes. This underscores the importance of a multidisciplinary approach to managing psoriasis in elderly patients, which should integrate dermatologic care with management of comorbid conditions. Therefore, our results revealed that the management of elderly psoriasis patients must be multidisciplinary and holistic. Clinical practice cannot be confined to skin-directed therapy but must proactively screen and co-manage concurrent systemic conditions, for example, by integrating cardiovascular and metabolic risk assessments into routine follow-up.

Despite exhibiting a higher proportion of moderate-to-severe cases and a greater burden of comorbidities, elderly patients reported lower DLQI scores than younger patients. This suggests a complex, non-linear relationship between objective disease severity, comorbidity load, and perceived quality of life impairment. While our study did not specifically delineate the independent contribution of each comorbidity to QoL, this paradox may be explained by shifting health priorities with age, where management of systemic conditions like cardiovascular or metabolic diseases takes precedence over skin symptoms.[19,20] Furthermore, elderly patients may develop a greater adaptation to chronic illness, recalibrating their expectations and shifting health priorities over time. This finding underscores a critical implication for clinical practice that generic dermatology-specific tools like the DLQI may be insufficient to fully capture the disease burden in the elderly. Their assessment should be complemented by more comprehensive evaluations of health-related quality of life and patient priorities to guide truly patient-centered, holistic management.

A key finding of our study is the distinct treatment priorities observed in elderly patients. Compared to younger patients, the elderly placed significantly less emphasis on reducing treatment costs and preventing disease recurrence. This shift in focus likely indicates that their primary concerns have moved toward treatment safety, ease of administration, and short-term symptom control, rather than long-term cure, which is a pragmatic adjustment that may be influenced by factors such as polypharmacy, comorbidities, and evolving health perspectives with age. Despite this realignment of priorities, elderly patients reported higher levels of dissatisfaction with treatment outcomes. This suggests that current therapeutic approaches may not adequately meet their expressed needs, particularly in terms of tolerability, rapid symptom relief, and day-to-day livability. Accordingly, clinical communication with elderly patients should be tailored to address these specific concerns. Greater attention should be given to discussing potential drug interactions with existing conditions, administration methods that support adherence, and short-term safety profiles, to better align treatment strategies with patient priorities and improve overall satisfaction.

Furthermore, in our study, relationships between satisfaction evaluation and treatment needs were analyzed. In the elderly, satisfaction is significantly negatively correlated with treatment needs of "reduction in pruritus", "reduction in adverse drug reactions", and "reduction in disease recurrence". This dissatisfaction correlated significantly with unmet needs, including inadequate relief from pruritus, increased adverse drug reactions, and suboptimal long-term disease control. A cross-sectional study in Greece involving 314 adults with moderate to severe psoriasis revealed that 41.1% of participants were not satisfied with their current treatment, primarily due to insufficient improvement and unmet therapeutic goals.[21] Similarly, a study assessing unmet treatment needs in psoriasis patients found that 24.5% of respondents were slightly or not at all satisfied with their current therapy, while lack of efficacy and adverse side effects were primary concerns.[22] Consequently, the development of age-appropriate therapeutic strategies that are more targeted against pruritus, possess superior safety profiles, and can provide more stable long-term disease control for elderly should be the future directions for both research and clinical practice.

Within the elderly cohort, EOP patients exhibited a more severe disease phenotype, with higher PASI scores and greater involvement of trunk and lower limb lesions compared to LOP patients. This clinical distinction was further underscored by a significantly higher prevalence of familial psoriasis among early-onset patients, reinforcing the

established association between early-onset disease and a stronger genetic predisposition, a pattern consistently observed across younger age groups as well. Furthermore, a significantly higher proportion of early-onset patients expressed a need for reduced treatment costs, likely reflecting the prolonged and intensive therapeutic interventions often required for managing their more severe and persistent disease. Collectively, these pronounced differences in clinical presentation, genetic loading, and treatment-related concerns suggest that early-onset and late-onset psoriasis in the elderly may be driven by distinct pathogenic mechanisms. This has important implications for treatment stratification and prognosis and highlights the value of comparing genetic and molecular profiles between age-defined subgroups of early-onset psoriasis in future research to further elucidate its underlying etiology.

Our findings provide valuable real-world evidence regarding the clinical characteristics, comorbidities, and treatment needs of elderly psoriasis patients in China. The heterogeneity observed in this population reinforces the need for a personalized, multidisciplinary approach that integrates dermatology with cardiology, endocrinology, and psychosocial support. In clinical practice, physicians should carefully consider age-related changes in drug metabolism, polypharmacy risks, and the unique treatment preferences of elderly patients when designing therapeutic plans.[9,23]

This study has several limitations. The single-center, cross-sectional design may affect the generalizability of our findings to other populations and healthcare settings, and it precludes causal inference. The modest sample size of the elderly cohort (n=70), particularly within the early-onset subgroup (n=9), limited the statistical power for detailed within-elderly comparisons and more complex multivariate analyses. Our primarily descriptive, univariate approach was a necessary first step for characterization, but the reported associations are unadjusted for potential confounders. Future studies with larger cohorts should employ multivariate techniques to identify independent predictors. Furthermore, the use of a 40-year cutoff to define early-onset disease, while standard in much of the literature, may not be universally applicable, as this threshold can vary across different ethnic and geographic populations. It is important to note that the aim of this work is not to provide definitive clinical guidelines, but to offer the necessary empirical evidence to inform the design of future trials and integrated care frameworks aimed at this growing patient population. Future research should focus on longitudinal studies to assess the long-term safety and efficacy of tailored therapeutic interventions in elderly patients. Additionally, investigating the molecular and genetic differences between EOP and LOP in the elderly could offer deeper insights into disease pathogenesis and help identify novel, targeted therapies.

Conclusion

This study delineates a distinct clinical and therapeutic profile of elderly patients with psoriasis. Compared to younger patients, the elderly exhibited a higher prevalence of late-onset disease, a greater burden of comorbidities, and a higher proportion of moderate-to-severe cases. Despite the increased clinical severity, they reported lower Dermatology Life Quality Index (DLQI) scores. The treatment priorities also differed, with less emphasis on reducing treatment costs and preventing recurrence in the elderly, yet they expressed higher levels of dissatisfaction with outcomes. This dissatisfaction was significantly linked to unmet needs, including inadequate pruritus relief, adverse drug reactions, and suboptimal long-term disease control. Within the elderly cohort, patients with early-onset psoriasis presented with more severe disease, stronger familial predisposition, and greater concern regarding treatment costs. These findings underscore the necessity for personalized, multidisciplinary management strategies tailored to the specific clinical features and evolving priorities of elderly psoriasis patients.

Data Sharing Statement

The datasets are available from the corresponding author on reasonable request.

Funding

This study was supported by Beijing Anzhen Hospital High Level Research Funding, No. 2024AZC4004.

Disclosure

The authors report no conflicts of interest in this work.

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