Original Article

A Study of Impact of Psoriasis on Quality of Life – A Cross-Sectional Study

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Abstract

Background: Psoriasis is an immune-mediated, chronic inflammatory skin disease characterised by patches of thick, red skin with silvery-white scales that itch or burn, typically on the elbows, knees, scalp, trunk, palms, and soles of the feet. It is known to significantly impair patients' psychological and social well-being. Quality of life impairment in psoriasis is influenced by a range of sociodemographic and clinical factors that remain under-studied in many populations. The current study aimed to assess the impact of psoriasis on quality of life among affected patients and to identify the sociodemographic and clinical factors associated with this impairment. **Material and Methods:** This hospital-based, cross-sectional study was conducted among 50 clinically diagnosed patients with psoriasis attending the dermatology department. The disease severity was assessed using the Psoriasis Area and Severity Index (PASI), and quality of life was evaluated using the Dermatology Life Quality Index (DLQI) questionnaire. Sociodemographic and clinical data were recorded on a pre-tested proforma, and associations were analyzed using appropriate statistical tests, with $p < 0.05$ considered significant. **Results:** The mean age of participants was 41.2 ± 12.6 years, with a male predominance (64.0%). Disease severity was mild in 36.0%, moderate in 38.0%, and severe in 26.0% of patients (mean PASI 9.8 ± 6.2). The mean DLQI score was 11.4 ± 6.3, with 50.0% of patients reporting a very large to extremely large effect on quality of life; the symptoms/feelings domain was most affected. Significant associations were observed between DLQI impairment (>10) and female sex (72.2% vs. 37.5%; $p = 0.048$), lower socioeconomic status (75.0%; $p = 0.036$), increasing PASI severity ($p < 0.001$), comorbid psoriatic arthritis (87.5%; $p = 0.012$), stress (65.4%; $p = 0.008$), and longer disease duration (66.7%; $p = 0.041$). A moderate positive correlation was found between PASI and DLQI scores ($r = 0.62$, $p < 0.001$). **Conclusion:** Psoriasis affects the quality of life considerably, particularly among female patients, lower socioeconomic status, and with greater disease severity or comorbid psoriatic arthritis. An integrated management approach addressing psychological and socioeconomic factors, alongside skin-directed therapy, is required to improve patient outcomes.

Keywords: Psoriasis, Quality of life, Dermatology Life Quality Index, Psoriasis Area and Severity Index, Cross-sectional study.

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INTRODUCTION

Psoriasis is a chronic, immune-mediated inflammatory skin disorder characterised by the appearance of well-demarcated erythematous plaques with silvery scales, typically on extensor surfaces, scalp and nails. It is common worldwide; the prevalence range is 0.09% to 11.4% across various populations. It is estimated that at least 100 million people across the globe are affected by it, and it has been officially declared a serious noncommunicable disease by the World Health Assembly.[1] Population-based studies revealed the general trend of high geographic variation in incidence and prevalence, and higher rates were found in adults than children, and higher rates were generally found in populations at greater distances from the equator.[2] The course of the disease is unpredictable, relapsing/remitting; it is not definitively cured, and the disease is often complicated by other conditions including psoriatic arthritis, cardiovascular disease, metabolic syndrome and inflammatory bowel disease.[3] In addition to the physical, visible symptoms of psoriasis, the disease also has a significant impact on people's physical, psychological, and social functioning. In an important preliminary study, the physical and mental disability of psoriasis was found to be equal to that of major medical conditions such as cancer, arthritis and heart disease.[4] To systematically measure this burden, the Dermatology Life Quality Index (DLQI) was developed, a simple instrument that has been validated and has shown that psoriasis has one of the strongest impacts on quality of life compared to the other common skin conditions,[5] and is today

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the most commonly used patient-reported outcome measure in dermatology. In a cross-sectional study using validated psychiatric and dermatological severity instruments, disease-related psychological distress was closely linked to poorer quality-of-life outcomes, independent of objective disease severity.[6] Similarly, higher DLQI scores, together with lower-limb lesion involvement and dyslipidaemia, are significantly associated with depressive symptoms in psoriasis patients, underscoring the bidirectional relationship between disease burden and mental health.[7] Evidence from a hospital-based study identified age, disease duration, lesion visibility, and nutritional and psychosocial status as independent predictors of quality of life, with even patients having clinically mild disease reporting substantial impairment in daily functioning.[8] The impact of the disease's visibility and unpredictability also affects other important life choices such as education, employment, relationships, and family planning.[9] Although there is an increasing amount of international literature documenting the multidimensional effects of psoriasis, the magnitude and determinants of quality-of-life (QoL) impairment vary widely across populations, partly due to disease severity distribution, partly due to cultural perceptions of visible skin disease, partly due to access to the health care system, and partly due to the methodological approach of the studies.[1,3] Region- and population-specific data therefore remain essential to guide holistic, patient-centred management strategies that extend beyond symptomatic skin treatment. Against this background, the present cross-sectional study was undertaken to assess the impact of psoriasis on the quality of life of affected patients and to identify the sociodemographic and clinical factors associated with this impairment, so as to inform more comprehensive, quality-of-life-oriented care for this population.

Materials and Methods

This cross-sectional, observational study was conducted in the Department of Dermatology, Venereology, and Leprosy at Bhaskar Medical College and General Hospital, Yenkapally, Moinabad, from December 2023 to May 2024 (6 months). Institutional Ethical permission was obtained for the study. Written informed consent was obtained from all participants, and confidentiality of patient data was maintained throughout the study.

Inclusion Criteria

1. Patients of either sex, aged ≥18 years
2. Clinically and/or histopathologically confirmed diagnosis of psoriasis
3. Patients willing to give informed consent and participate in the study

Exclusion Criteria

1. Patients aged <18 years
2. Patients with other coexisting chronic dermatological conditions (e.g., eczema, vitiligo) that could independently affect quality of life
3. Patients with known major psychiatric illness diagnosed prior to onset of psoriasis.
4. Patients unwilling to give consent

Study Population and Sample Size: A total of 50 clinically diagnosed patients with psoriasis, attending the dermatology outpatient department during the study period, were enrolled using a consecutive/purposive sampling technique after obtaining informed written consent.

The study utilized the following tools for assessment;

1. Pre-tested, semi-structured proforma – to record sociodemographic details (age, sex, occupation, education, marital status, socioeconomic status), disease-related variables (age at onset, duration of disease, family history, site of involvement, aggravating factors, comorbidities), and treatment history.
2. Psoriasis Area and Severity Index (PASI) – to clinically grade disease severity as mild, moderate, or severe.
3. Dermatology Life Quality Index (DLQI) – a validated 10-item questionnaire used to assess the impact of psoriasis on quality of life across domains of symptoms, daily activities, leisure, work/study, personal relationships, and treatment (Finlay & Khan, 1994) (5). Each item is scored from 0–3, giving a total score ranging from 0 (no impact) to 30 (maximum impact), interpreted as: 0–1: No effect; 2–5: Small effect; 6–10: Moderate effect; 11–20: Very large effect; 21–30: Extremely large effect.

Procedure: After obtaining approval from the Institutional Ethics Committee, patients meeting the inclusion criteria were enrolled after explaining the purpose of the study and obtaining informed consent. A detailed history and clinical examination were performed, disease severity was graded using PASI, and each patient was administered the DLQI questionnaire either by self-report or by interview (for patients with limited literacy). All data were recorded on the pre-designed proforma.

Statistical Analysis: Data were compiled in Microsoft Excel and analysed using SPSS (version 26). Descriptive statistics were expressed as frequencies, percentages, mean ± standard deviation, or median (IQR) as appropriate. The association between DLQI scores and sociodemographic/clinical variables was assessed using the Chi-square test and Student's t-test, and the correlation between PASI and DLQI scores was assessed using Pearson's correlation coefficient. A p-value <0.05 was considered statistically significant.

Results

A total of 50 patients with clinically diagnosed psoriasis were enrolled in the study. The mean age of participants was 41.2 ± 12.6 years (range 19–68 years), with the largest proportion falling in the 31–40-year age group (30.0%), followed by the 41–50-year group (26.0%) and the 18–30-year group (24.0%). Males constituted the majority of the study population (64.0%), with a male-to-female ratio of approximately 1.8:1 [Table 1]. The sociodemographic characteristics such as occupation, education and socioeconomic profile of the cohort is given in [Figure 1]. The clinical profile of the study participants is summarised in [Table 2]. The mean age at disease onset was 34.8 ± 11.4 years, and the mean duration of disease was 6.4 ± 5.1 years. A positive family history of psoriasis was reported in 12 patients (24.0%). With respect to the site of cutaneous involvement, the extensor surfaces of the limbs were most frequently affected (76.0%), followed by the scalp (60.0%) and trunk (56.0%), while nail

(36.0%), palmoplantar (20.0%), and facial (16.0%) involvement were comparatively less common; as multiple sites could be involved in a single patient, the cumulative percentages exceeded 100%. Aggravating factors, comorbidities, treatment history is given in [Figure 2].

Table 1: Sociodemographic profile of study participants (n = 50)

Variable	Category	N (%)/ Mean ± SD
Age (years)	Mean ± SD	41.2 ± 12.6
	Range	19-68
Age group	18-30	12 (24.0)
	31-40	15 (30.0)
	41-50	13 (26.0)
	51-60	7 (14.0)
	>60	3 (6.0)
Sex	Male	32 (64.0)
	Female	18 (36.0)

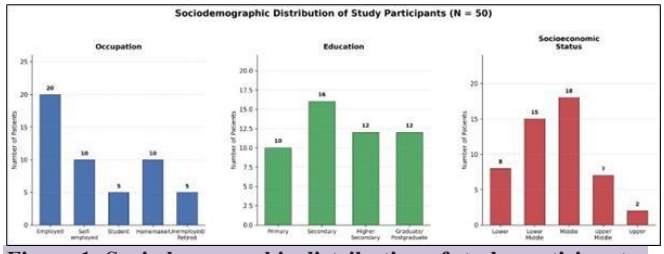


Figure 1: Sociodemographic distribution of study participants

Based on the Psoriasis Area and Severity Index (PASI), disease severity was classified as mild (<5) in 18 patients (36.0%), moderate (5–10) in 19 patients (38.0%), and severe (>10) in 13 patients (26.0%), with an overall mean PASI score of 9.8 ± 6.2 and a median of 8.5 (IQR 5.0–13.0) [Table 3].

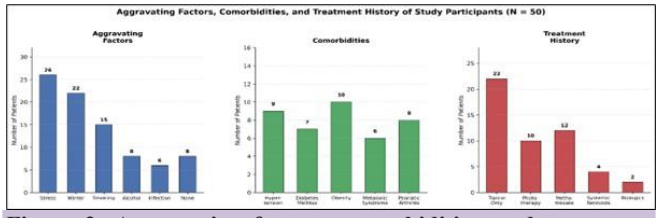


Figure 2: Aggravating factors, comorbidities, and treatment history of study participants.

Table 2: Distribution of Study Subjects by COPD Severity (GOLD Staging) (N=60)

GOLD stage	Severity (Based on FEVI)	Number of Patients (n)	Percentage (%)
Stage I	Mild (FEV1 ≥ 80% predicted)	12	20.00%
Stage II	Moderate (50% ≤ FEV1 < 80%)	24	40.00%
Stage III	Severe (30% ≤ FEV1 < 50%)	16	26.70%
Stage IV	very Severe (FEV1 < 30%)	8	13.30%
Total		60	100%

Table 3: Disease severity by PASI

PASI severity	N(%)	Mean PASI ± SD	Median (IQR)
Mild (<5)	18	-	-
Moderate (5-10)	19	-	-
Severe (>10)	13	-	-
Total	50	9.8	8.5 (5.0 – 13.0)
Note: Subgroup means were not computed separately			

The mean Dermatology Life Quality Index (DLQI) score for the cohort was 11.4 ± 6.3 (median 10.0, IQR 5.0–15.0; range 1–27), indicating a substantial overall impact of psoriasis on quality of life. When stratified by impact category, the majority of patients reported a "very large effect" on quality of life (40.0%), followed by a "moderate effect" (28.0%), while only a small proportion reported no or minimal impact (4.0% and 18.0%, respectively), and 10.0% reported an "extremely large effect" [Table 4].

Table 4: DLQI scores and impact categories

DLQI variable	Value
Mean DLQI ± SD	11.4 ± 6.3
Median DLQI (IQR)	10.0 (5.0-15.0)
Range	1.0-27
DLQI impact category	n (%)
0-1: No effect	2 (4.0)
2-5: Small effect	9 (18.0)
6-10: Moderate effect	14 (28.0)
11-20: Very large effect	20 (40.0)
21-30: Extremely large effect	5 (10.0)
Total	50 (100.0)

On a domain-wise analysis of the DLQI [Table 5], the symptoms/feelings domain showed the highest mean impairment (3.1 ± 1.5), followed by daily activities (2.2 ± 1.6) and personal relationships (1.8 ± 1.4), whereas the treatment domain was least affected (1.1 ± 0.9).

Table 5: Domain-wise DLQI Score

DLQI domain	Mean ± SD
Symptoms/feelings	3.1 ± 1.5
Daily activities	2.2 ± 1.6
Leisure	1.9 ± 1.5
Work/study	1.3 ± 1.1
Personal relationships	1.8 ± 1.4
Treatment	1.1 ± 0.9
Total DLQI	11.4 ± 6.3

In the bivariate analysis of factors associated with significant quality-of-life impairment (DLQI >10) [Table 6], female patients were significantly more likely to report impaired quality of life than males (72.2% vs. 37.5%; p = 0.048). A significant association was also observed with socioeconomic status, with impairment being most prevalent among patients of lower socioeconomic status (75.0%) and progressively decreasing across lower-middle (60.0%), middle (44.4%), and upper-middle (28.6%) strata, with no patients in the upper socioeconomic group reporting DLQI >10 (p = 0.036). Disease severity showed a strong positive association with quality-of-life impairment, increasing from 16.7% in mild disease to 57.9% in moderate disease and 84.6% in severe disease (p < 0.001). Similarly, the presence of psoriatic arthritis (87.5% vs. 50.0%; p = 0.012), stress as an aggravating factor (65.4% vs. 42.9%; p = 0.008), and longer disease duration of more than 5 years (66.7% vs. 34.6% for ≤5 years; p = 0.041) were each significantly associated with greater quality-of-life impairment. In contrast, age group (p = 0.312) and family history of psoriasis (50.0% in both positive and negative groups; p = 0.892) showed no statistically significant association with DLQI impairment.

Table 6: Association of DLQI impact with selected variables

Variable	DLQI >10 n/N (%)	p-value
Sex	Male: 12/32 (37.5)	0.048
	Female: 13/18 (72.2)	
Age group	18-30: 4/12 (33.3)	0.312
	31-40: 7/15 (46.7)	
	41-50: 713 (53.8)	
	51-60: 4/7 (57.1)	
	>60: 3/3 (100.0)	
Socioeconomic Status	Lower: 6/8 (75.0)	0.036
	Lower middle: 9/15 (60.0)	
	Middle: 8/18 (44.4)	
	Upper middle: 2/7 (28.6)	
	Upper: 0/2 (0.0)	
PASI severity	Mild: 3/18 (16.7)	<0.001
	Moderate: 11/19 (57.9)	
	Severe: 11/13 (84.6)	
Family history	Positive: 6/12 (50.0)	0.892
	Negative: 19/38 (50.0)	
Psoriatic arthritis	Negative: 19/38 (50.0)	0.012
	Present: 7/8 (87.5)	
Stress as an aggravating factor	Absent: 18/42 (42.9)	0.008
	Present: 17/26 (65.4)	
Disease duration	>5 years: 16/24 (66.7)	0.041
	≤5 years: 9/26 (34.6)	

Correlation analysis further confirmed a moderate-to-strong positive relationship between PASI and DLQI scores (r = 0.62, p < 0.001), reflecting a clear dose–response pattern: mean DLQI scores rose progressively across severity categories, from 5.8 ± 3.2 in mild disease to 10.6 ± 4.9 in moderate disease and 17.1 ± 5.7 in severe disease [Table 7], indicating that greater objective disease severity was consistently accompanied by poorer patient-reported quality of life.

Table 7: Correlation between PASI and DLQI Scores by Disease Severity

PASI Severity	n	Mean DLQI ± SD	Pearson's r	p-value
Mild (<5)	18	5.8 ± 3.2	—	—
Moderate (5–10)	19	10.6 ± 4.9	—	—
Severe (>10)	13	17.1 ± 5.7	—	—
Overall (PASI vs DLQI)	50	9.8 ± 6.2*	0.62	<0.001

Discussion

The present study was done to assess quality of life in patients with psoriasis reporting to our tertiary care teaching hospital. The results of our study showed that patients with psoriasis demonstrate a substantial burden of disease on quality of life, with a mean DLQI of 11.4 ± 6.3 and half the cohort (50.0%) reporting a very large or extremely large effect on daily life. Our findings are in concordance with other studies in this field, which have shown that psoriasis, despite being a visible rather than life-threatening disease, tends to produce psychosocial burden on the patients as compared to other systemic illnesses.[5] One of the important findings of this study was that a significantly greater quality of life impairment occurred in female patients as compared to male patients (72.2% vs. 37.5%; p = 0.048). Our results are in agreement with other international studies which have reported that women with psoriasis consistently report higher DLQI scores than men. This association was present in females even with lower severity of disease. This could be because of differences in symptom perception in females, greater social stigmatization, and differences in coping strategies between the sexes.[10] The results of the association between lower socioeconomic status and greater QoL impairment observed in our cohort are in agreement with a Korean cross-sectional study which found that patients with lower income groups experienced higher health-related QoL impairment. This may be because of reduced access to specialist care, higher economic burden and treatment costs, and greater occupational exposure of affected skin.[14]

The results of this study, which show a moderate positive correlation between PASI and DLQI scores (r = 0.62, p < 0.001), are similar to a multinational study that similarly demonstrated significant PASI–DLQI correlations across diverse geographic populations. (11) This reinforces that objective disease severity remains an important, though not sole, determinant of patient-perceived burden. Our correlation was higher as compared to other regional studies, where they found only a weak correlation between PASI and DLQI (r = 0.266). This shows that the PASI–DLQI relationship can vary across populations and the importance of using patient-reported outcome measures alongside clinical severity scores rather than relying on objective grading alone.[12] The greater quality of life impairment in patients with comorbid psoriatic arthritis (87.5% vs. 50.0%; p = 0.012) was found in this study, which is in agreement with previous studies that have reported that patients with psoriatic arthritis experience significantly worse quality of life than those with cutaneous psoriasis alone. It could be because of the increased burden of added joint pain, stiffness, and functional limitations.[13] Similarly, in our study there was a significant association between self-reported stress and greater DLQI impairment. This reflects the well-known bidirectional relationship between psychological distress and disease activity in psoriasis. Stress aggravates cutaneous symptoms, which in turn is worsened by the visible and chronic nature of the disease.[6] The present study has certain limitations, as with any other study. It was a cross-sectional, single-center design with a modest sample size (n = 50), which limits generalizability and excludes causal inference. Subgroup-level dispersion statistics for PASI could not be computed, and DLQI is a self-reported measure susceptible to recall and response bias. Larger, multicentric, longitudinal studies are required to validate these associations and to guide the development of holistic, quality-of-life-oriented management strategies for psoriasis.

Conclusion

Within the limitations of the present study, we found that psoriasis exerts a substantial impact on quality of life. Nearly fifty percent of the participants in this study reported large to extremely large effects on the DLQI. Female sex, lower socioeconomic status, greater disease severity, longer disease duration, comorbid psoriatic arthritis, and stress were significantly associated with poorer quality of life. A moderate correlation between PASI and DLQI confirmed that objective severity meaningfully predicts patient-perceived burden. These findings highlight that psoriasis management should extend beyond skin-directed therapy alone. It must include holistic, patient-centred care addressing psychological wellbeing, socioeconomic barriers, and comorbidity screening for optimal outcomes.

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Conflicts of interest

There are no conflicts of interest.

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