

Impact of Psoriasis on Quality of Life: The Hospital-Based Cross-Sectional Study

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ABSTRACT

Background: Psoriasis is a chronic immune-mediated inflammatory disease that can substantially impair physical, psychological, social, and occupational well-being, resulting in reduced quality of life (QoL).

Objectives: To assess QoL among patients with mild-to-moderate psoriasis and examine its association with age, disease duration, and disease severity.

Methods: This hospital-based cross-sectional study included 70 adults aged 18–65 years with mild-to-moderate psoriasis attending the outpatient clinic between July 2016 and April 2017. QoL was assessed using the Dermatology Life Quality Index (DLQI), while disease severity was evaluated using the Psoriasis Area and Severity Index (PASI). Associations between DLQI scores and demographic and clinical variables were analysed using Pearson's correlation coefficient and

appropriate statistical tests. A P-value <0.05 was considered statistically significant.

Results: The mean age of participants was 41.24 ± 11.56 years, with a mean disease duration of 5.09 ± 5.30 years. The mean DLQI score was 9.63, indicating a moderate effect on QoL. All participants experienced some degree of QoL impairment; 45% reported a very large effect and 3.3% reported an extremely large effect on their lives. DLQI scores showed no significant association with age, disease duration, or PASI score. However, female participants had higher DLQI scores than males.

Limitations: The single-centre setting, relatively small sample size, and cross-sectional design limit generalisability and preclude assessment of temporal changes or causal relationships. Although data were collected during 2016–2017, validated DLQI and PASI instruments support the continued relevance of the findings.

Conclusion: Mild-to-moderate psoriasis significantly affects QoL irrespective of clinical severity. Routine QoL assessment

alongside clinical evaluation may facilitate more comprehensive, patient-centred care, particularly among women.

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

INTRODUCTION

In medical history, psoriasis is one of the oldest known skin diseases.¹ The term was first used by Galen (133–200 AD), who derived it from the Greek word "psora," meaning a desquamative condition. He described psoriasis as a skin disorder marked by scaliness, especially around the eyelids, eye corners, and scrotum, and noted its association with itching and excoriations.² It is a long-standing, relapsing, immune-mediated, chronic inflammatory condition manifested by cycles of remission and flare-ups.³ Globally, it affects 2–3% of the population, with nearly 25% experiencing moderate-to-severe cases.^{4,5} Besides skin symptoms, psoriasis is linked to systemic diseases such as inflammatory joint disease and cardiovascular manifestations, neurological disorders, and inflammatory bowel syndrome, underscoring its multisystem impact.⁶ Despite progress with topical treatments, systemic agents, biologics, and phototherapy, many patients still face recurrent flare-ups, dissatisfaction with treatment, and ongoing disease burden.^{7–9} Psoriasis deeply affects patients' psychological, social, work, and economic well-being, beyond its physical symptoms.¹⁰ Visible skin lesions often lead to stigma, social withdrawal, low self-esteem, anxiety, depression, and limited participation in daily life, significantly reducing quality of life (QoL).^{11,12} Psychological stress can be both a result of psoriasis and a factor that worsens the disease, highlighting the complex two-way relationship between mental health and chronic skin inflammation.¹³ As a result, evaluating QoL has become a vital part of comprehensive

psoriasis care, alongside traditional clinical assessments of disease severity.^{14,15}

The subjective questionnaire DLQI¹⁶ is a well-established patient-reported instrument that offers valuable insights into patients' daily lives and helps to guide patient-centered clinical decisions.¹⁷ While multiple studies have examined QoL in patients with psoriasis, data specific to the Indian population, especially those with mild-to-moderate disease, are still limited. Consequently, the present study was undertaken to assess health-related quality of life in mild-to-moderate psoriatic patients and to explore its relationship with demographic factors, disease duration, and severity.

METHODOLOGY

(a) Study design and participants

The study adopted a hospital-based cross-sectional observational design, collecting baseline demographic, clinical, and quality of life data from the adult population with psoriasis who visited the outpatient department of a tertiary care hospital & research institute from July 2016 to April 2017, before starting of any treatment. Eligible participants were adult individuals aged between 18 and 65 years who were diagnosed with mild to moderate psoriasis by using the Psoriasis Area and Severity Index (PASI) scoring between 3 and 20.

Exclusion criteria included patients with erythrodermic, pustular, or guttate psoriasis; those with severe systemic illnesses; pregnant or breastfeeding women; individuals with known psychiatric conditions that might hinder questionnaire completion; or those unable to provide informed consent. Only participants who provided complete baseline data on demographics, clinical measures, PASI, and DLQI were included in the study.

Baseline demographic factors, duration of illness, smoking habits, and pertinent clinical information were documented using a predesigned case record form before the start of any treatment. Quality-of-life evaluations and clinical assessments took

place during the participants' initial study visit. The study protocol received approval from the Institutional Ethics Committee of the research institution. All participants who met the inclusion criteria provided written informed consent before the initiation of the study. Participant confidentiality and privacy were upheld throughout the study.

(b) Study Instruments

(i) Dermatology Life Quality Index (DLQI)¹⁶

The validated 10-item survey developed by Finlay & Khan was used to evaluate quality of life.¹⁶ We administered the survey in Kannada, Hindi, English, and Urdu, based on each participant's language preference.

The DLQI assesses six areas: symptoms and feelings, daily activities, leisure, work or school, personal relations, and treatment. Every question is rated on a 4-point Likert scale (0–3), with higher scores reflecting greater impact on patients' quality of life. The overall score ranges from 0 to 30 and is interpreted as follows: 0–1 (no effect), 2–5 (small effect), 6–10 (moderate effect), 11–20 (very large effect), and 21–30 (extremely large effect on patients' quality of life).¹⁶

(b) Psoriasis Area and Severity Index (PASI)¹⁸

The disease severity is evaluated by assessing the Psoriasis Area and Severity Index PASI, A well-recognized and widely utilized clinical tool for assessing the severity of psoriasis. PASI measures Erythema, induration, scaling, and the extent of skin involvement across 4 body regions: head, upper limb, trunk, and lower limb. Each clinical manifestation is rated on a scale from 0 to 4, while the extent of body surface area affected is scored from 0 to 6 for each region (head=0.1, upper limb =0.2, trunk=0.3, and lower limb=0.4), and these

weighted scores are combined to arrive at the total PASI score.¹⁸

(c) Analysis of statistics

R software version 3.2.2 and SPSS version 18.0 were used to analyse the data that had been entered into Microsoft Excel. Categorical data were shown as frequencies and percentages, whereas continuous variables were given as means $\pm$ standard deviation or median as applicable.

The independent Student's t-test was used to analyze differences in continuous variables between groups. The association between DLQI scores and age, duration of disease, and PASI scores was assessed using Pearson's correlation coefficient. Statistical significance was predefined as 2 tailed p-value < 0.05 .

RESULTS

(a) Baseline Demographic Data

A total of 70 patients with mild to moderate psoriasis were included in the study. Out of these, 46 (65.7%) were male, and 24 (34.3%) were female. The average age of participants was 41.24 ± 11.56 years, while the duration of disease was 5.09 ± 5.30 years.

Most participants (47, or 67.1%) had had psoriasis for less than 6 years, followed by 16 (22.9%) with a duration of 6–12 years, 4 (5.7%) with 12–18 years, and 3 (4.3%) with more than 18 years. Thirty-three (47.1%) participants used tobacco, including 32 (45.7%) who smoked cigarettes and one (1.4%) who chewed tobacco. Thirty-seven (52.9%) did not use tobacco. Two (2.8%) participants had a family history of psoriasis. Sixty-three (90.0%) had received previous treatment for psoriasis. The baseline demographic and clinical features of the participants are given in Table 1.

Table 1. Characteristics of Research Subjects and Their Relation with Quality of Life

Variable	Value	t-value	P-value
Total number of patients	70	–	–
Males	46 (65.7%)	–	–
Females	24 (34.3%)	–	–

Family history positive	2 (2.8%)	—	—
Addiction history positive	33 (47.1%)	—	—
Treatment history positive	63 (90.0%)	—	—
Mean age of patients (years)	41.24 ± 11.5	—	—
Mean duration of disease (years)	5.09 ± 5.3	—	—
Mean DLQI score	9.628 ± 3.01	—	—
DLQI score in females vs. males	10.51 ± 3.00 vs. 9.00 ± 2.73	2.050	0.0442*
DLQI score in married vs. unmarried patients	9.428 ± 3.009 vs. 11.571 ± 2.440	1.815	0.0739
DLQI score in smokers vs. non-smokers	9.969 ± 3.274 vs. 10.027 ± 3.167	0.0744	0.9409
DLQI score in patients with positive vs. negative treatment history	10.333 ± 3.14 vs. 7.00 ± 1.826	2.740	0.0078**

DLQI = Dermatology Life Quality Index. *P < 0.05, statistically significant. **P < 0.01, highly statistically significant.

(b) Quality of life and its relationship with demographic and clinical variables.

All participants experienced some level of impact on their quality of life as measured by DLQI. The average DLQI score was 9.63 ± 3.01 (ranging from 4 to 17). Based on the DLQI severity categories, 11 (15.7%) had a small effect on their quality of life, 25 (35.7%) had a moderate effect, 32 (45.7%) had a very large effect, and 2 (2.9%) had an extremely large effect. None of the participants had a DLQI score indicating no impact on quality of life. No significant differences in DLQI scores were found based on marital status or tobacco use. Female participants had higher average DLQI scores than males, and those with a

history of previous treatment also had higher scores. Detailed results are presented in Table 1.

(c) Association between disease severity, age and disease duration with quality of life

The average PASI score was 13.46 ± 2.90 (ranging from 7 to 19). Pearson's correlation analysis reveals no statistically significant association between PASI scores and overall DLQI Scores ($r = 0.229$, $p=0.559$). Analysis also found no statistically significant link between DLQI scores and age ($r = -0.155$, $p = 0.209$) or disease duration ($r=0.078$, $p=0.519$), as shown in Figure 1.

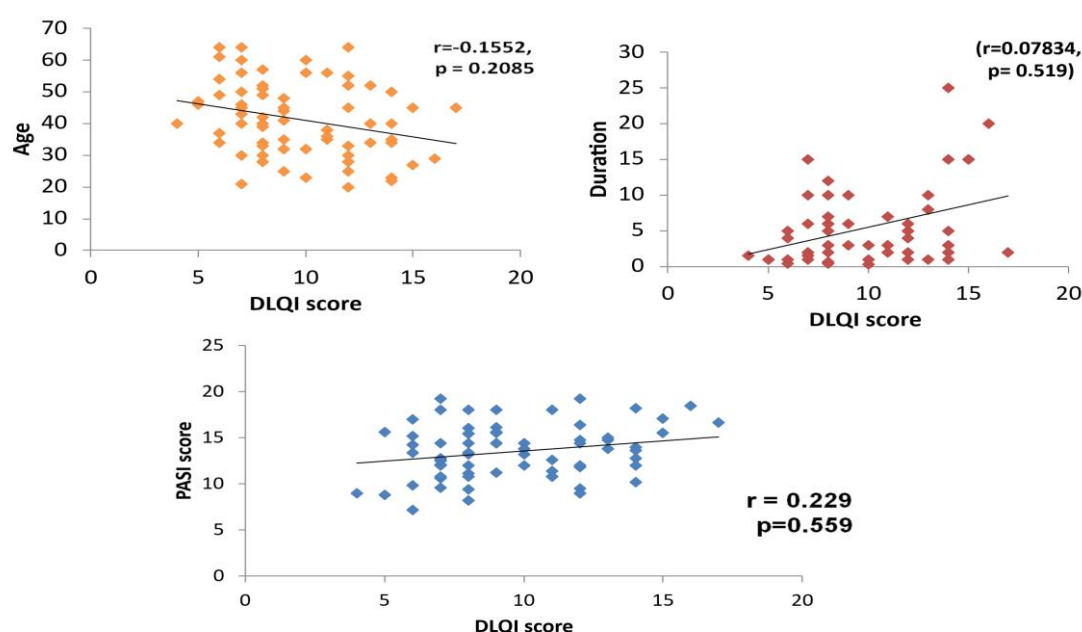


Fig. 1: Association between disease severity, age, and disease duration with quality of life

(d) Association between DLQI domains and Quality of life

Similarly, no statistically significant connection was found between PASI scores and any of the individual DLQI domains, such as symptoms and feelings, daily activities, leisure, work or school, personal relations, and treatment. Among the six DLQI domains, symptoms and feelings had

the highest average score (3.95 ± 1.20), followed by daily activities (1.95 ± 1.09), work or school (1.13 ± 0.44), personal relationships (1.04 ± 0.64), leisure (0.84 ± 0.82), and treatment (0.61 ± 0.54). This suggests that symptoms and emotional distress were the most affected aspects of quality of life in individuals with psoriasis, as shown in Table 2.

Table 2. Pearson's Correlation Coefficient to Assess the Relation Between DLQI Domains and PASI

DLQI domain	No. of affected patients (%)	Mean $\pm$ SD	Correlation with PASI
Symptoms and feelings	70 (100)	3.95 ± 1.20	$r = 0.177$; $P = 0.140$
Daily activities	65 (92.8)	1.95 ± 1.09	$r = 0.146$; $P = 0.227$
Leisure activities	43 (61.4)	0.84 ± 0.82	$r = -0.010$; $P = 0.931$
Work or school	67 (95.7)	1.128 ± 0.44	$r = 0.119$; $P = 0.323$
Personal relationship	59 (84.2)	1.04 ± 0.64	$r = 0.088$; $P = 0.464$
Treatment	41 (58.5)	0.61 ± 0.54	$r = 0.135$; $P = 0.263$

DISCUSSION

The current study, conducted in a hospital setting and using a cross-sectional design, assessed the quality of life (QoL) of patients with mild to moderate psoriasis. It also evaluated how factors like age, gender, and disease severity were associated with QoL. The demographic profile of the study population was comparable with previous reports. The mean age of patients was 41.24 years, with most individuals being in their 4th-5th decade of life, which aligns with findings from Dogra et al.¹⁹. A majority of the participants were male (65.7%), similar to previous studies in India that observed greater prevalence of psoriasis among men.^{19,20} Nearly half of the participants reported using tobacco, which supports earlier research indicating that smoking is a significant environmental factor associated with the onset, persistence, and flare-ups of psoriasis.^{21,22} Only 2.8% of participants had a family history of psoriasis. While this is in agreement with findings from Kaur et al.²³ it is lower than what has been reported in some population-based studies. This difference might be due to the smaller sample size, differences in the groups studied, or the possibility of underreporting family history. In the current study, 90% of patients had a positive treatment history, indicating that psoriasis is a chronic

condition and that patients often develop resistance to treatment over time. This finding aligns with the explanations provided by Susan Burge et al., Sarma N et al., and Kerdel F et al., who emphasize that treating psoriasis is difficult due to its long-term course, recurring remissions, treatment resistance, and the toxic effects of systemic treatments.^{24,25}

The results showed that psoriasis significantly affected patients' quality of life, with all participants experiencing some impairment, even though their condition was not severe. Every participant experienced a reduction in quality of life, with almost half reporting a very significant impact on their daily activities. These findings are similar to those reported by Ali Al-Raddadi et al.²⁶ and support the idea that psoriasis causes considerable psychosocial challenges. The condition's visible effects, recurring flare-ups, cosmetic issues, and ongoing treatment needs all contribute to emotional distress, difficulties in social interactions, and a lower overall quality of life, as reported by Pompili M et al.²⁷

Women in the study had higher DLQI scores than men, indicating a greater impact on their quality of life. This is consistent with previous research by Renata Petraskiene et al., that women with psoriasis often experience more psychosocial stress.

Women may feel more concern about appearance, face greater social judgment, and experience more emotional challenges due to visible skin lesions.²⁸ The psychological well-being of patients with psoriasis did not differ significantly according to marital status or smoking habits. Also, the study found that QoL was not strongly linked to age, how long the disease had been present, or the level of disease severity as quantified by the PASI objective scale. This suggests that psychological and social effects of psoriasis are influenced by various factors beyond basic demographic traits. This aligns with earlier observations made by Tomasz Hawro et al.²⁹

A key result from this study was that there wasn't a strong connection between PASI and DLQI scores. This means that how severe a patient's condition appears to a doctor might not fully show how much the disease is affecting their life. Similar results were found by Ahmed A et al.,³⁰ but other studies given by Pakran J et al. showed that PASI and quality of life issues do often go together.³¹ These different results might be because of differences in the people studied, cultural views, how long they've had the disease, how they deal with it, and the way the studies were done.

Among the six areas covered by the DLQI, the one about symptoms and feelings was the worst affected, followed by daily activities, work or school, personal relationships, leisure, and treatment. This has also been found by Vettuparambil A et al.³² and El-Moselhy EA et al.³³ These findings show that emotional stress and physical pain are the main reasons why quality of life is affected in people with psoriasis.

Declaration by Authors

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