

RESEARCH ARTICLE



A Prospective Study of Health-Related Quality of Life Impairment and Psychosocial Burden in Patients with Psoriasis at a Tertiary Hospital in Andhra Pradesh

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Abstract: Psoriasis is a prevalent chronic, immune-mediated inflammatory disorder affecting both cutaneous surfaces and joints. Its recurrent nature inflicts significant negative impacts on the physical, psychosocial, and emotional health of those affected. Symptoms frequently deteriorate if left unmanaged, often leading to psoriatic arthritis in up to 40% of cases. The Dermatology Life Quality Index (DLQI) serves as a standardized tool for quantifying these negative effects through ten specific parameters encompassing symptoms, daily habits, leisure, and social interactions. This prospective observational study involved 120 patients over a six-month period to measure lifestyle impacts. Analysis of the demographic data reveals that the 46–60 age group represents the most affected demographic, accounting for 37% of cases, with a higher prevalence in males at 55%. Socioeconomic evaluation indicates that 50% of the cohort belongs to the lower economic class. Among the specific DLQI metrics, pruritus and pain alongside the financial burden of treatment emerged as the primary drivers of quality-of-life impairment. While 60% of patients experienced a small effect on their daily life, significant proportions faced moderate to very large impairments. Clinical pharmacist interventions focusing on education and lifestyle modification, proves essential in mitigating the systemic burden of the disease.

Keywords: Psoriasis; Dermatology Life Quality Index; Psoriatic arthritis; Quality of Life; Psychosocial burden.

1. Introduction

Psoriasis is a chronic, relapsing inflammatory skin disorder driven by complex immune system dysregulation. Apart from the visible cutaneous plaques, it is increasingly recognized as a systemic condition that necessitates a holistic management approach [1]. The disease pathophysiology involves the overactivation of the IL-23/Th17 axis, leading to the rapid proliferation of keratinocytes and subsequent formation of thickened, scaly lesions [2]. These manifestations are not merely cosmetic; they indicate a significant healthcare challenge that contributes to substantial morbidity and reduced functional capacity [3].

The distribution of psoriasis exhibits marked geographic and ethnic variation. Prevalence rates range from a low of 0.14% in East Asian populations to nearly 2% in Australasia and parts of Europe [4]. These discrepancies are attributed to a combination of genetic susceptibility (such as the presence of the HLA-Cw6 allele), environmental triggers, and differences in reporting standards across regions. Over the past three decades, a consistent rise in incidence has been observed globally, with rates increasing from approximately 92 per 100,000 individuals in 1990 to nearly 100 per 100,000 in recent years [5].

Psoriasis can manifest at any age, though it typically follows a bimodal distribution with peaks occurring in early adulthood (15–35 years) and later in life (50–60 years) [5]. While no consistent global gender predominance exists, localized studies often report higher frequencies in males, potentially linked to occupational exposures or lifestyle factors. The chronic nature of the disease ensures that prevalence increases with age as new cases are diagnosed while existing patients require lifelong management [6].

The onset and exacerbation of psoriasis are influenced by an array of internal and external factors. Genetic predisposition accounts for a significant portion of risk, but environmental triggers are often necessary to initiate the inflammatory cascade. Known triggers include physical trauma to the skin (the Koebner phenomenon), streptococcal infections, certain medications (such as beta-blockers or lithium), and psychological stress [4]. Additionally, lifestyle factors such as obesity, smoking, and excessive alcohol consumption are closely linked to both the development of the disease and a diminished response to standard therapies [6].

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The global burden of the disease is profound. Epidemiological data indicates that psoriasis accounts for millions of new cases annually, with a total prevalence exceeding 40 million individuals worldwide [1, 4]. The condition was responsible for over 3.5 million disability-adjusted life years (DALYs) in recent assessments, highlighting its contribution to global disability [5]. The economic implications are staggering; in many developed and developing nations, the annual financial burden encompasses direct medical costs, lost productivity, and long-term disability management [3, 6].

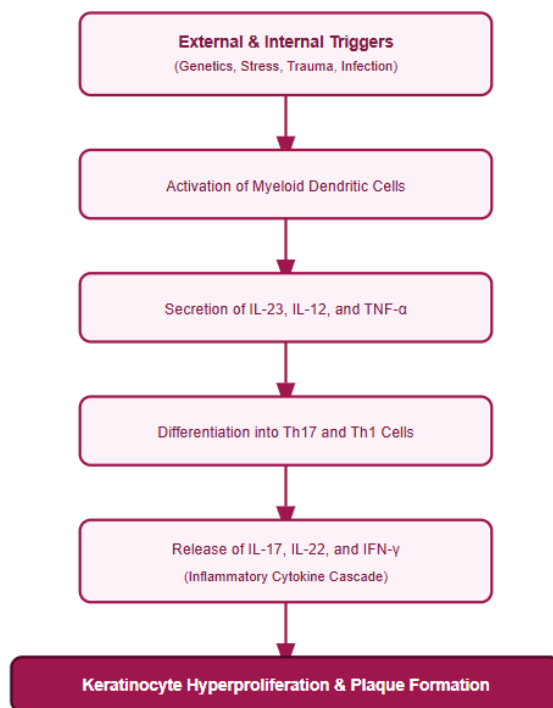


Figure 1. Pathophysiology of Psoriasis (IL-23/Th17 Axis)

The impact of psoriasis extends far beyond the skin. Patients are at a heightened risk for various comorbidities, including metabolic syndrome, cardiovascular disease, type 2 diabetes, and psoriatic arthritis [2, 7]. The psychosocial toll is equally concerning, as the visible nature of the lesions often leads to social stigmatization, anxiety, and depression [8]. This inter-relationship between physical discomfort and psychological distress creates a cycle of reduced health-related quality of life (HRQoL), necessitating the use of validated tools to quantify patient experiences and guide therapeutic interventions [9, 10].

2. Methodology

2.1. Study Design

A prospective observational study was conducted over a duration of six months at Sai Sudha Hospital, a tertiary care health center in Andhra Pradesh. This study design was chosen to capture real-time clinical data and patient-reported outcomes in a naturalistic clinical setting [11]. The methodology follows established STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines to ensure transparency and reproducibility [12].

Ethical clearance for this study was obtained from the Institutional Ethics Committee (Protocol Number: IEC/SSHT/2024/042). The study was conducted in strict accordance with the Declaration of Helsinki and the Good Clinical Practice (GCP) guidelines established by the International Council for Harmonisation [13, 14]. All participants were briefed on the study's objectives and provided written informed consent prior to enrollment. For minors, consent was obtained from parents or legal guardians following standardized ethical protocols for vulnerable populations [15].

2.1.1. Patient Selection Criteria

The study cohort consisted of 120 patients diagnosed with various forms of psoriasis who visited the facility during the six-month study window. Sample size calculation was performed based on expected prevalence rates to ensure adequate statistical power for the quality-of-life assessment [16].

2.1.2. Inclusion and Exclusion Criteria

Inclusion criteria targeted patients of all age groups and genders with a clinical diagnosis of psoriasis, confirmed by a senior dermatologist based on morphological features [1, 17]. Participants were required to be willing to participate in the data collection process. Exclusion criteria involved patients who did not have a confirmed diagnosis of psoriasis, those with severe psychiatric illness that might impair questionnaire completion, and those who were unwilling to participate or provide consent [18].

2.1.3. Data Collection

Data were collected using a specialized patient data collection form. This form captured demographic details (name, age, gender), clinical history (duration of disease, treatment status), socioeconomic status classified according to the Modified Kuppuswamy Scale, and DLQI scores [19].

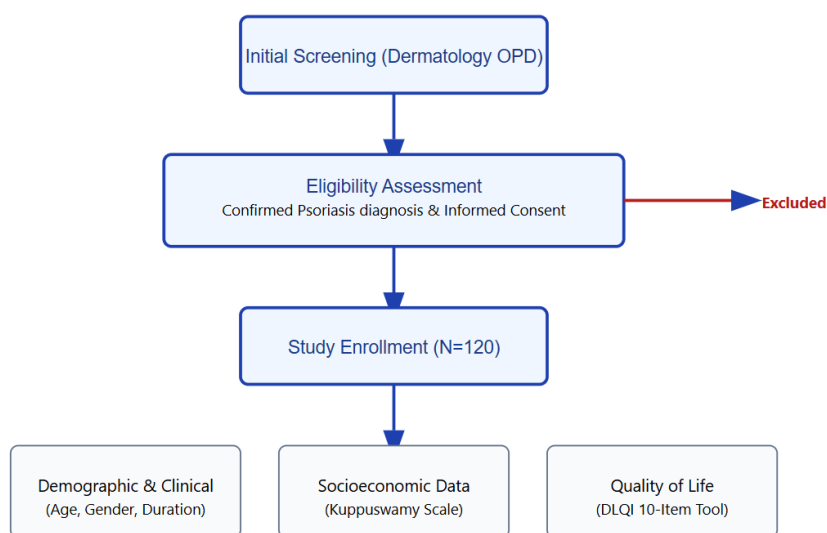


Figure 2. Study Design and Patient Selection

2.2. The Dermatology Life Quality Index (DLQI)

The DLQI is a validated 10-item questionnaire that has been widely utilized and translated for use in diverse cultural contexts [9, 20]. Each question is scored as follows: "not at all" (0), "a little" (1), "a lot" (2), and "very much" (3). The total score ranges from 0 to 30. This instrument is recognized for its high internal consistency and sensitivity to change in psoriasis patients [21]. The interpretation of these scores classifies the impact on the patient's life as no effect (0-1), small effect (2-5), moderate effect (6-10), very large effect (11-20), or extremely large effect (21-30) [9, 22].

3. Results

3.1. Demographic Characteristics

The study involved 120 cases. The age distribution showed that the 46–60 age group was the most frequently affected, followed closely by the 31–45 age group.

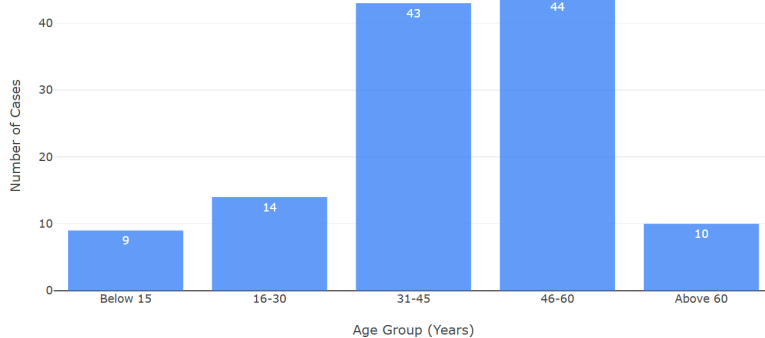


Figure 3. Age Distribution of Study Cohort

Table 1. Distribution of Psoriasis Frequency and Percentage by Age Group

Age Group (Years)	Frequency (n)	Percentage (%)
Below 15	9	7%
16 - 30	14	12%
31 - 45	43	36%
46 - 60	44	37%
Above 60	10	8%
Total	120	100%

3.2. Gender and Socioeconomic Status

A male predominance was observed in the study population. Additionally, half of the study participants belonged to the lower economic class, highlighting a significant demographic trend.

Table 2. Gender and Economic Status Distribution

Parameter	Category	Frequency (n)	Percentage (%)
Gender	Male	66	55%
	Female	54	45%
Economic Status	Lower Class	60	50%
	Middle Class	52	43%
	Upper Class	8	7%

3.3. Quality of Life Assessment (DLQI Scores)

The DLQI analysis revealed that physical symptoms, particularly pain and itching, were the most significant contributors to quality of life impairment.

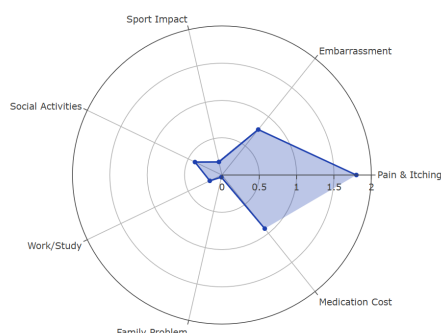


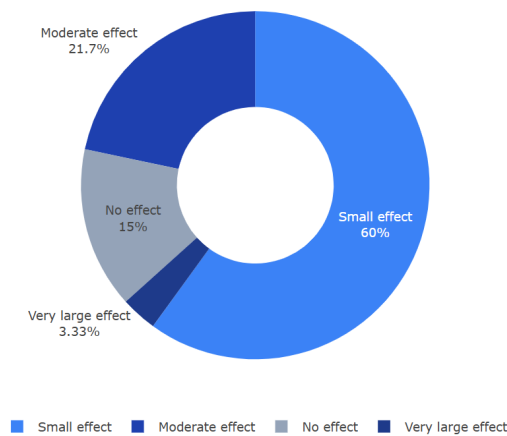
Figure 4. Radar chart showing the domains with the greatest impact (Pain, Itching, and Medication Cost)

Table 3. Mean DLQI Scores and Percentage Impact per Parameter

DLQI Parameter	Mean Score (\pm SD)	Percentage Impact (%)
Pain & Itching	1.8 \pm 0.42	42%
Embarrassment	0.78 \pm 0.25	18%
Impact on Sport	0.18 \pm 0.08	4%
Impact on Social Activities	0.40 \pm 0.12	10%
Problem with Family	0.03 \pm 0.02	1%
Problem at Work	0.18 \pm 0.09	4%
Burden of Cost of Medication	0.92 \pm 0.31	21%

3.4. Severity Classification of Life Impact

Based on the total DLQI scores, the majority of patients fell into the "Small effect" category. However, a significant portion still faced moderate to large impacts on their daily lives.

**Figure 5. Severity Classification of Life Impact****Table 4. Classification of Psoriasis Impact on Patient's Life**

Impact Category	DLQI Score Range	Frequency (n)	Percentage (%)
No effect	0 - 1	18	15%
Small effect	2 - 5	72	60%
Moderate effect	6 - 10	26	22%
Very large effect	11 - 20	4	3%
Extremely large effect	21 - 30	0	0%
Total		120	100%

4. Discussion

The finding that the 46–60 age group is most affected aligns with previous epidemiological studies suggesting a peak in disease prevalence during the fifth and sixth decades of life [5, 23]. The male predominance (55%) observed in this study is consistent with regional Indian data, though global trends suggest an equal distribution [24]. The high proportion of patients (50%) from lower socioeconomic backgrounds highlights the significant barriers to accessing long-term therapeutic regimens, which are often costly and persistent [25].

The high scores in the "Symptoms and Feelings" domain emphasize that the physical discomfort of psoriasis is inextricably linked to emotional distress [26]. Pruritus and pain were the most reported symptoms, with a mean score of 1.8 \pm 0.42. These are not merely physical sensations but significant sources of sleep disturbance and irritability [27]. The social embarrassment (18%) associated with visible plaques leads many patients to adjust their lifestyle, such as wearing restrictive clothing, which further exacerbates physical discomfort in a tropical climate [28]. The burden of medication cost emerged as the second-highest impact factor (21%). This is particularly critical given that 50% of the cohort belongs to the lower economic class. Clinical pharmacists play

a vital role in this context by providing counseling on cost-effective medication use, adherence, and lifestyle modifications that can reduce disease triggers [29]. Counseling should focus on smoking cessation, alcohol reduction, and weight management, all of which are known to improve therapeutic outcomes in psoriasis [30].

5. Conclusion

Psoriasis imposes a multifaceted burden on patients, impacting their physical health, socioeconomic stability, and psychological well-being. This prospective study confirms that while a majority (60%) experience a small effect on their quality of life, a substantial number face moderate to very large impairments. Pain and itching remain the most distressing physical symptoms, while the cost of medication represents a significant financial hurdle for lower-class patients. Addressing these issues requires a multidisciplinary approach that combines effective pharmacological treatment with psychological support and structured patient education provided by clinical pharmacists to ensure better health-related quality of life outcomes.

Compliance with ethical standards

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Conflict of interest statement

The authors declare that they have no financial or personal relationships with other people or organizations that could inappropriately influence their work. There are no competing interests to disclose regarding the research, authorship, or publication of this manuscript.

Statement of ethical approval

The present study involving human participants was performed in accordance with the ethical standards of the institutional research committee and the 1964 Helsinki declaration and its later amendments. Ethical approval was granted by the Institutional Ethics Committee (Protocol Number: IEC/SSHT/2024/042).

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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