



Original Research Article

Psychiatric Comorbidity and Suicidal Ideation Among Adults with Psoriasis: A Cross-Sectional Study.

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Abstract: *Introduction:* Psoriasis is a chronic inflammatory skin disorder frequently associated with psychological distress, impaired quality of life, and increased risk of suicidal behavior. This study was conducted to assess quality of life, psychiatric comorbidity, and suicidal ideation among patients with psoriasis and identify factors associated with suicidal ideation. *Methods:* A hospital-based cross-sectional study was conducted among 216 adult patients with clinically diagnosed psoriasis attending a tertiary care teaching hospital. Sociodemographic and clinical information were collected using a structured questionnaire. Disease severity was assessed using PASI, quality of life using DLQI, depression using PHQ-9, anxiety using GAD-7, and suicidal ideation using PHQ-9 item 9 and C-SSRS. Data were analysed using descriptive statistics, chi-square tests, and multivariable logistic regression. *Results:* Among the participants, 61.1% were male and the mean age was 40.2±12.1 years. Nearly half (49.1%) had disease duration >5 years, while scalp involvement (45.4%), nail involvement (33.3%), and topical therapy (57.4%) predominated. Moderate-to-very large impairment in quality of life was observed in 66.6% of patients. Moderate-to-severe depressive symptoms and anxiety symptoms were present in 25.0% and 16.7% of participants, respectively. Suicidal ideation was reported by 16.7% of patients; among them, 61.1% had passive ideation, 27.8% had active ideation without intent, and 11.1% had active ideation with intent or plan. Moderate-to-severe depression (aOR=5.6; 95% CI: 2.4–12.9), large/very large DLQI impairment (aOR=2.8; 95% CI: 1.3–6.2), and higher internalized stigma (aOR=1.4; 95% CI: 1.0–1.9) were independent predictors of suicidal ideation. *Conclusions:* Psoriasis is associated with significant impairment in quality of life, psychiatric morbidity, and suicidal ideation. Routine mental health screening and integrated dermatological and psychiatric care are essential to improve patient outcomes.

Keywords: Anxiety, Depression, Psoriasis, Psychiatric comorbidity, Quality of life, Suicidal ideation.

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INTRODUCTION

Psoriasis is a chronic, immune-mediated dermatological disorder affecting approximately 1–3% of the global population and causing persistent physical symptoms and psychosocial burden (1,11). The visible, often disfiguring lesions lead to body-image disturbance, social avoidance, workplace impairment, and diminished health-related quality of life (HRQoL) across age groups (4,7). Psychiatric comorbidity—principally depression and anxiety—is common in psoriasis cohorts and contributes independently to

HRQoL deterioration and poorer treatment adherence (6,12). Several global and regional studies have documented elevated rates of suicidal ideation and attempts among patients with psoriasis, with risk amplified when psychiatric disorders or severe HRQoL impairment are present (1,2).

Indian hospital-based studies corroborate a substantial burden of psychological morbidity and reduced quality of life in psoriasis patients, with factors such as internalized stigma, prolonged disease duration, and

maladaptive coping mediating worse outcomes (4,5,6,7,8). Recent multicentre and single-centre investigations also identify disease severity, social stigma, and comorbid physical illness as correlates of anxiety, depression, and HRQoL loss (5,8,11). Despite this, few studies in India have concurrently assessed HRQoL, formal psychiatric diagnoses, and suicidal ideation within the same hospital-based sample using validated instruments, limiting opportunities for targeted suicide-risk stratification and integrated care planning (3,9).

Moreover, heterogeneity in measurement, sample selection, and regional sociodemographic contexts complicates extrapolation of prevalence estimates and predictors (10,12). Given the potential for adverse outcomes and the treatability of psychiatric comorbidities, dermatology services must integrate mental-health screening and referral pathways. Therefore, this hospital-based cross-sectional study aims to determine the prevalence of impaired HRQoL, psychiatric comorbidity (depression/anxiety), and suicidal ideation among adult patients with psoriasis, and to examine their interrelationships and clinical and psychosocial correlates to inform integrated care strategies.

MATERIALS AND METHODS

We conducted a hospital-based cross-sectional study in the dermatology outpatient department of a tertiary care teaching hospital in Ahmedabad between [start month year] and [end month year].

RESULTS

Table 1 depicted that the study included 216 patients with psoriasis, of whom 132 (61.1%) were male and 84 (38.9%) were female. Most participants were graduates or above, accounting for 124 (57.4%), while 58 (26.9%) had education up to 10th–12th standard and 34 (15.7%) had less than 10th grade. More than half were employed [118 (54.6%)], whereas 64 (29.6%) were unemployed/housewives and 34 (15.7%) were retired or students. A large majority were married [168 (77.8%)] and resided in urban areas [150 (69.4%)]. Current tobacco or alcohol use was reported by 62 (28.7%) participants, while 154 (71.3%) denied such use. Comorbid medical conditions were present in 58 (26.9%) patients. The mean age of participants was 40.2 ± 12.1 years, and the median disease duration was 6.0 years (IQR: 2.0–10.0) (Table 1).

Table 1: Participant characteristics of patients with psoriasis (n = 216)

Variable	Category	Frequency (n)	Percentage (%)
Sex	Male	132	61.1
	Female	84	38.9
Education	<10th grade	34	15.7
	10th–12th	58	26.9
	Graduate and above	124	57.4
Occupation	Employed	118	54.6
	Unemployed/housewife	64	29.6
	Retired/student	34	15.7
Marital status	Married	168	77.8
	Single/divorced/widowed	48	22.2
Residence	Urban	150	69.4
	Rural	66	30.6
Current tobacco or alcohol use	Yes	62	28.7
	No	154	71.3
Comorbid medical conditions (≥ 1)	Yes	58	26.9
	No	158	73.1

Adults (≥ 18 years) with clinically diagnosed psoriasis who consented were enrolled; exclusions: severe medical/neurological illness, cognitive impairment, active psychosis, inability to complete instruments. Assuming a conservative prevalence of suicidal ideation of 15% among psoriasis patients (based on prior literature), with 95% confidence and 5% absolute precision, required sample size = $n = Z^2 p(1-p)/d^2 = 1.96^2 \times 0.15 \times 0.85 / 0.05^2 \approx 196$. Allowing 10% non response, target sample = 216. Consecutive eligible patients provided sociodemographic data and clinical details (psoriasis type, duration, treatments). Disease severity measured by PASI (Psoriasis Area and Severity Index). HRQoL measured by DLQI (Dermatology Life Quality Index).

Depression and anxiety screened with PHQ-9 and GAD-7 (Generalized Anxiety Disorder); suicidal ideation screened with PHQ-9 item 9 (Patient Health Questionnaire) and confirmed/stratified with C-SSRS (Columbia Suicide Severity Rating Scale) when positive. Internalized stigma and coping assessed with validated scales. Participants with moderate–severe psychiatric symptoms or suicidal risk were referred to psychiatry. SPSS v26. Continuous variables summarised as mean $\pm$ SD or median (IQR); categorical as counts and percentages. Bivariable analyses used chi-square or t-tests. Multivariable logistic regression identified independent predictors of suicidal ideation (variables with $p < 0.10$ in bivariable analysis entered). Significance at $p < 0.05$.

***Continuous variables: Age = 40.2 ± 12.1 years; Disease duration = $6.0 (2.0-10.0)$ years.**

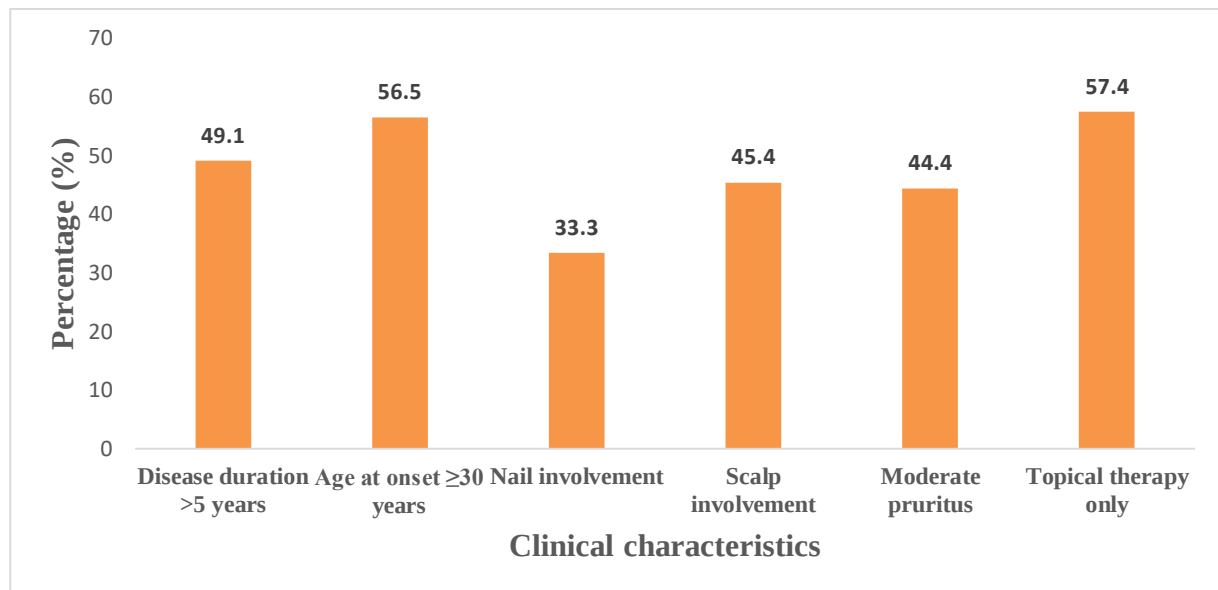


Figure 1: Major Dermatological Characteristics of Patients with Psoriasis (n = 216)

Table 2 shows that chronic plaque psoriasis was the predominant clinical type, observed in 182 (84.3%) patients, followed by pustular/other forms in 22 (10.2%) and guttate psoriasis in 12 (5.6%). Based on Psoriasis Area and Severity Index severity categories, 110 (50.9%) participants had mild disease, 64 (29.6%) had moderate disease, and 42 (19.4%) had severe disease. Body surface area involvement of more than 10% was present in 48 (22.2%) patients, whereas 168 (77.8%) had involvement of 10% or less. Psoriatic arthritis was identified in 26 (12.0%) participants. Current systemic or biologic therapy was being used by 46 (21.3%) patients, while 170 (78.7%) were not receiving such treatment. The mean PASI score of the study population was 7.8 ± 6.1 (Table 2).

Table 2: Clinical and disease-related characteristics (n = 216)

Variable	Category	Frequency (n)	Percentage (%)
Psoriasis type	Chronic plaque	182	84.3
	Guttate	12	5.6
	Pustular/others	22	10.2
PASI severity	Mild (<7)	110	50.9
	Moderate (7–12)	64	29.6
	Severe (>12)	42	19.4
Body surface area involvement	>10%	48	22.2
	≤10%	168	77.8
Psoriatic arthritis	Present	26	12.0
	Absent	190	88.0
Current systemic/biologic therapy	Yes	46	21.3
	No	170	78.7

***Continuous variable: PASI score = 7.8 ± 6.1 .**

Table 3 shows the disease profile and treatment characteristics of patients with psoriasis. Nearly half of the participants [106 (49.1%)] had disease duration of more than five years, while 122 (56.5%) developed psoriasis after 30 years of age. Nail and scalp involvement were observed in 33.3% and 45.4% of patients, respectively. Moderate pruritus was the most common symptom [96 (44.4%)]. Topical therapy alone was the most frequently used treatment modality [124 (57.4%)] (Table 3).

Table 3: Disease Profile and Treatment Characteristics of Patients with Psoriasis (n = 216)

Variable	Category	Frequency (n)	Percentage (%)
Disease duration	<2 years	42	19.4
	2–5 years	68	31.5
	>5 years	106	49.1
Age at onset	<30 years	94	43.5
	≥30 years	122	56.5
Nail involvement	Present	72	33.3
	Absent	144	66.7
Scalp involvement	Present	98	45.4
	Absent	118	54.6
Pruritus severity*	Mild	64	29.6
	Moderate	96	44.4
	Severe	56	25.9
Current treatment	Topical therapy only	124	57.4
	Systemic therapy	34	15.7
	Biologic therapy	12	5.6
	Combination therapy	46	21.3

Table 4 illustrated that psoriasis had a notable psychosocial impact in the study population. Based on Dermatology Life Quality Index categories, 18 (8.3%) patients had no effect on quality of life, 54 (25.0%) had a small effect, while 72 (33.3%) each had moderate and large/very large effect. Regarding depressive symptoms, 84 (38.9%) had none or minimal symptoms, 78 (36.1%) had mild symptoms, and 54 (25.0%) had moderate to severe depression. For anxiety, 112 (51.9%) had none or minimal symptoms, 68 (31.5%) had mild anxiety, and 36 (16.7%) had moderate to severe anxiety. The mean scores were 9.6 ± 6.8 for DLQI, 7.4 ± 5.2 for PHQ-9, and 5.6 ± 4.8 for GAD-7 (Table 3).

Table 4: Psychosocial measures and psychiatric screening profile (n = 216)

Variable	Category	Frequency (n)	Percentage (%)
DLQI category	No effect (0–1)	18	8.3
	Small effect (2–5)	54	25.0
	Moderate effect (6–10)	72	33.3
	Large/very large effect (11–30)	72	33.3
PHQ-9 category	None/minimal (0–4)	84	38.9
	Mild (5–9)	78	36.1
	Moderate to severe (≥10)	54	25.0
GAD-7 category	None/minimal (0–4)	112	51.9
	Mild (5–9)	68	31.5
	Moderate to severe (≥10)	36	16.7

***Continuous variables: DLQI = 9.6 ± 6.8 ; PHQ-9 = 7.4 ± 5.2 ; GAD-7 = 5.6 ± 4.8 ; Internalized stigma score = 18.2 ± 7.4 ; Positive coping score = 24.5 ± 5.6 .**

Table 5 shows that suicidal ideation, assessed using PHQ-9 item 9, was present in 36 (16.7%) patients with psoriasis, whereas 180 (83.3%) had no suicidal ideation. Among the 36 patients who screened positive, passive suicidal ideation alone was the most common pattern, seen in 22 (61.1%) cases. Active suicidal ideation without intent was identified in 10 (27.8%) patients, while active ideation with intent or plan was present in 4 (11.1%) patients. These findings indicate that although most participants did not report suicidal thoughts, a clinically important minority had suicidal ideation, including a smaller subgroup with higher-risk active thoughts requiring urgent psychiatric assessment and intervention. (Table 4)

Table 5: Suicidal ideation and risk stratification among patients with psoriasis (n = 216)

Variable	Category	Frequency (n)	Percentage (%)
Suicidal ideation by PHQ-9 item 9	Present	36	16.7
	Absent	180	83.3
C-SSRS risk among positive cases (n = 36)	Passive ideation only	22	61.1
	Active ideation without intent	10	27.8
	Active ideation with intent/plan	4	11.1

Table 6: Predictors of suicidal ideation among patients with psoriasis

Variable	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Moderate to severe depression (PHQ-9 ≥ 10)	6.8 (3.2–14.4)	0.002	5.6 (2.4–12.9)	0.003
DLQI large/very large effect	3.9 (1.9–7.9)	0.015	2.8 (1.3–6.2)	0.01
PASI severe (>12)	2.5 (1.1–5.6)	0.03	1.6 (0.7–3.9)	0.27
Internalized stigma score (per 5-point increase)	1.7 (1.2–2.4)	0.004	1.4 (1.0–1.9)	0.04

Predictors of Suicidal Ideation among Patients with Psoriasis

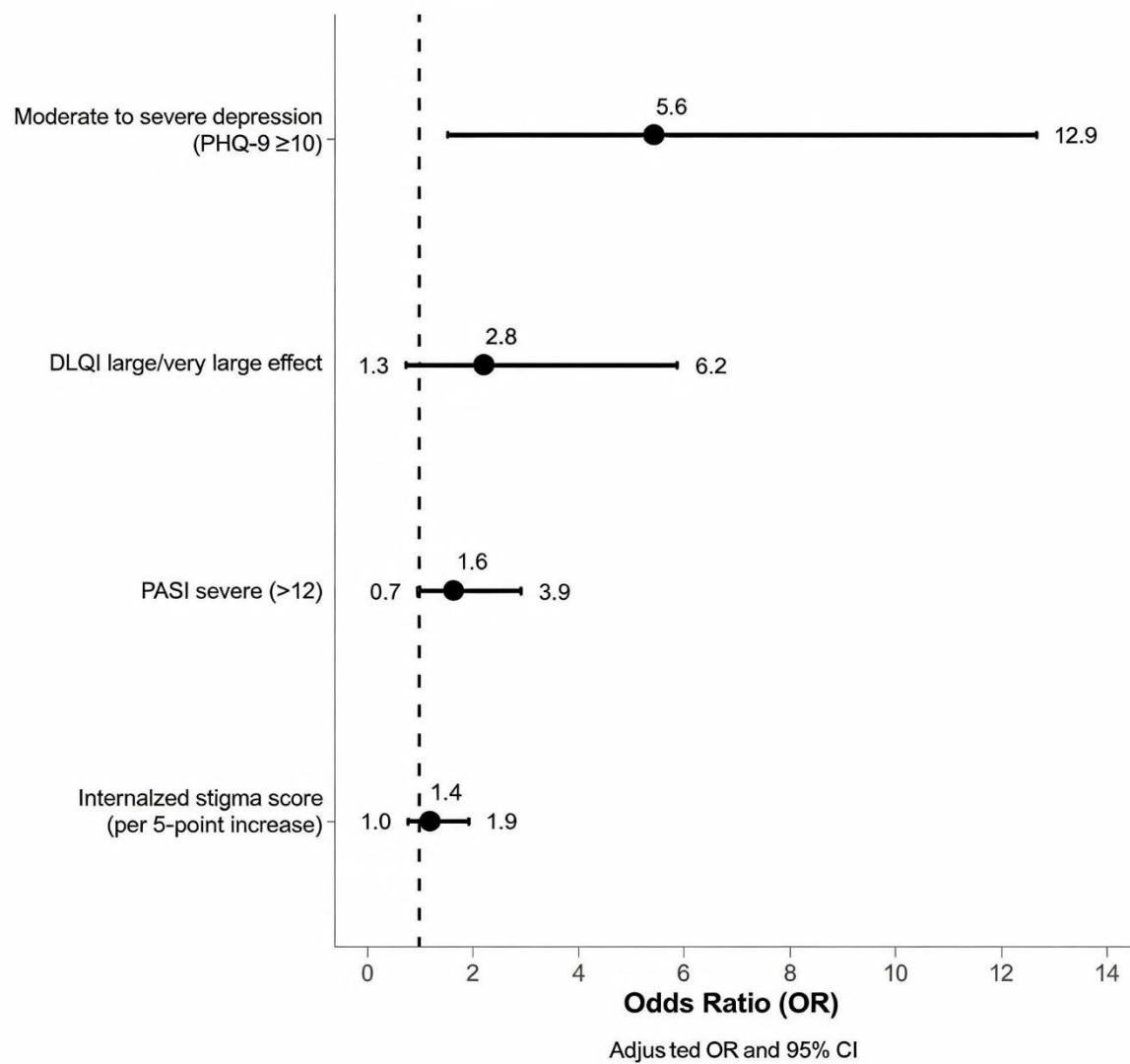


Figure 2: Forest plot showing predictors of suicidal ideation among patients with psoriasis

Table 6 Illustrated that moderate to severe depression, poor dermatology-related quality of life, and higher internalized stigma were significant predictors of suicidal ideation among patients with psoriasis. In bivariable analysis, moderate to severe depression (PHQ-9 ≥ 10) was associated with higher odds of suicidal ideation (OR 6.8, 95% CI: 3.2–14.4; $p=0.002$), and this association remained significant after adjustment (aOR 5.6, 95% CI: 2.4–12.9; $p=0.003$). Similarly, large/very large impairment in DLQI was significantly associated both before (OR 3.9, 95% CI: 1.9–7.9; $p=0.015$) and after adjustment (aOR 2.8, 95% CI: 1.3–6.2; $p=0.01$). Internalized stigma also remained independently associated with suicidal ideation (aOR 1.4, 95% CI: 1.0–1.9; $p=0.04$). Although severe PASI was significant in bivariable analysis ($p=0.03$), it was not significant after adjustment ($p=0.27$).

DISCUSSION

In the present study, the majority of psoriasis patients were male (61.1%), married (77.8%), urban residents (69.4%), and graduates or above (57.4%), with a mean age of 40.2 ± 12.1 years and median disease duration of 6 years. These findings suggest that psoriasis predominantly affects individuals during their economically productive years, potentially impacting social, occupational, and psychological well-being. Similar male predominance has been reported by Singh SM et al., Mohapatra B et al., and Francis A et al., where males constituted the majority of study participants. (2,6,9) The mean age observed in our study is comparable to that reported by Lakshmy S et al. and Goyal S et al., who also found psoriasis to be more common among middle-aged adults. (10,12) The high proportion of married participants is similar to findings reported by Momini VL et al. and Arora K et al. (7,16) Furthermore, the median disease duration of six years reflects the chronicity of psoriasis and is comparable with previous Indian studies that documented prolonged disease duration among patients seeking tertiary care services. (5,6) Grover S et al. reported that longer disease duration was associated with greater stigma and psychiatric morbidity. (5) Therefore, the demographic profile observed in the present study represents a population potentially vulnerable to long-term psychosocial consequences arising from chronic disease burden.

Chronic plaque psoriasis was the predominant subtype in our study, accounting for 84.3% of cases, while 50.9% had mild disease, 29.6% had moderate disease, and 19.4% had severe disease according to PASI classification. The mean PASI score was 7.8 ± 6.1 . These findings are consistent with studies by Rakhesh SV et al., Arora K et al., and Kaur JK et al., who reported plaque psoriasis as the most common clinical presentation. (4,7,15) Similar distributions of disease severity were observed by Mohapatra B et al. and Cipolla S et al. (6,11) Psoriatic arthritis was identified in 12.0% of our patients, which falls within the range reported in previous hospital-based studies. (6,9) Only 21.3% of participants were receiving systemic or biologic therapy despite nearly half having moderate-to-severe disease, indicating possible barriers to advanced treatment utilization. Cipolla S et al. demonstrated that increasing disease severity was associated with worsening anxiety, depression, and quality of life. (11) Likewise, Jamal MA et al. reported that greater disease severity contributed substantially to psychosocial burden and impaired functioning among psoriasis patients. (8) These findings highlight the complex interaction between clinical severity and psychosocial outcomes in psoriasis.

In the present study, nearly half of the patients (49.1%) had psoriasis for more than five years, while nail and scalp involvement were observed in 33.3% and 45.4%

of participants, respectively. Topical therapy alone was the most commonly prescribed treatment (57.4%). Similar prolonged disease duration has been reported by Mohapatra B et al. (6), Francis A et al. (9), and Momini VL et al. (16). Arora K et al. (7) and Cipolla S et al. (11) also documented frequent nail and scalp involvement and highlighted their association with greater disease burden. Comparable treatment patterns, with topical therapy as the predominant modality, have been described by Mohapatra B et al. (6) and Francis A et al. (9). These findings reflect the chronic nature of psoriasis and the need for individualized long-term management.

A major finding of the present study was the substantial psychosocial burden associated with psoriasis. Overall, 66.6% of participants experienced moderate-to-very large impairment in quality of life, while 25.0% had moderate-to-severe depression and 16.7% had moderate-to-severe anxiety. The mean DLQI score of 9.6 ± 6.8 further indicates considerable impairment in daily functioning. Similar deterioration in quality of life was reported by Rakhesh SV et al., Arora K et al., Kaur JK et al., Francis A et al., and Jamal MA et al., all of whom demonstrated significant negative effects of psoriasis on social relationships, self-esteem, and occupational activities. (4,7-9,15) The prevalence of depression in our study is comparable to findings reported by Lakshmy S et al., Mohapatra B et al., and Goyal S et al., who identified depression as one of the most frequent psychiatric comorbidities among psoriasis patients. (6,10,12) Similarly, the prevalence of anxiety observed in our study aligns with results reported by Cipolla S et al. and Momini VL et al. (11,16) These studies collectively suggest that visible skin lesions, fear of social rejection, chronic disease course, and stigma contribute significantly to psychological distress. Therefore, routine screening for depression and anxiety should be incorporated into dermatological care.

Suicidal ideation was present in 16.7% of patients in our study, indicating a clinically significant burden of psychological distress. Among those with suicidal ideation, passive thoughts were reported by 61.1%, active ideation without intent by 27.8%, and active ideation with intent or planning by 11.1%. These findings are consistent with growing evidence linking psoriasis to elevated suicide risk. Similar observations were reported by Pompili M et al., who demonstrated increased suicidal behavior among psoriasis patients, particularly in the presence of psychiatric comorbidity. (1) Dey P et al. found substantial levels of depression and suicidal risk among psoriasis patients attending a tertiary care center in India. (3) Likewise, Sen SK et al. reported high rates of depressive symptoms and suicidal risk among patients with psoriasis vulgaris. (13) Jagtiani A et al. observed significantly higher suicidal

ideation among psoriasis patients compared with other dermatological conditions and emphasized the psychological impact of visible skin disorders. (14) Psychiatric morbidity, social isolation, body image dissatisfaction, stigma, and chronic disease burden are likely contributors to suicidal thoughts in psoriasis patients. The presence of active suicidal ideation with intent among some participants in our study is particularly concerning because it identifies a subgroup requiring immediate psychiatric evaluation and intervention. These findings strongly support routine suicide-risk assessment in dermatology clinics using validated instruments such as PHQ-9 and C-SSRS.

The present study identified moderate-to-severe depression, poor dermatology-related quality of life, and internalized stigma as independent predictors of suicidal ideation. Patients with moderate-to-severe depression had more than five times higher odds of suicidal ideation (aOR=5.6), making depression the strongest predictor. Similar associations have been reported by Pompili M et al., Dey P et al., Sen SK et al., and Jagtiani A et al., all of whom demonstrated a close relationship between depressive symptoms and suicidal behavior among psoriasis patients. (1,3,13,14) Furthermore, patients experiencing large or very large DLQI impairment had nearly threefold higher odds of suicidal ideation, supporting observations from Rakhesh SV et al., Arora K et al., Francis A et al., and Kaur JK et al., who reported strong links between poor quality of life and psychological morbidity. (4,7,9,15) Internalized stigma remained an independent predictor of suicidal ideation in our study. This finding corroborates the work of Grover S et al., who identified stigma as a major determinant of depression, anxiety, and psychosocial dysfunction. (5) Similar observations were reported by Cipolla S et al., who demonstrated that psychosocial factors frequently exert a stronger influence on mental health outcomes than objective disease severity. (11) Interestingly, severe PASI scores lost statistical significance after multivariable adjustment, indicating that subjective experiences such as stigma, emotional distress, and impaired quality of life may mediate the relationship between disease severity and suicidal thoughts. These findings underscore the importance of adopting a biopsychosocial approach to psoriasis management, integrating dermatological treatment with psychological assessment, stigma reduction measures, and timely psychiatric referral.

CONCLUSION

This hospital-based cross-sectional study demonstrated that psoriasis is associated with a substantial psychosocial burden, with two-thirds of patients experiencing moderate-to-severe impairment in quality of life, one-fourth exhibiting moderate-to-severe depressive symptoms, and nearly one-sixth reporting suicidal ideation. Depression, poor dermatology-related quality of life, and internalized stigma emerged as

independent predictors of suicidal ideation, whereas disease severity was not significant after adjustment. These findings underscore the need for a biopsychosocial approach to psoriasis management, incorporating routine screening for psychological distress and suicide risk, alongside timely psychiatric referral and integrated multidisciplinary care.

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