THE MIND AND SKIN INTERPLAY: EXPLORING THE EFFECT OF ANXIETY AND SOCIODEMOGRAPHIC ASPECTS ON COPING AND FUNCTIONING OF YOUNG ADULTS WITH PSORIASIS – A CROSS-SECTIONAL STUDY.

ABSTRACT

Background: Psoriasis is a chronic, immune-mediated dermatological condition with significant psychosocial consequences. Young adults are particularly vulnerable to psychiatric comorbidities, yet integrated psychodermatological research in this population remains limited.

Objective: To assess depression, anxiety, coping styles, and daily functioning in young adults with psoriasis and to evaluate the impact of gender and socioeconomic status on these outcomes.

Materials and Methods: A cross-sectional study was conducted among 60 young adults (aged 18–35 years) with clinically diagnosed psoriasis from the dermatology outpatient department. Assessment tools included the PHQ-9, GAD-7, Brief COPE Inventory, and WHODAS 2.0 (12-item). Psoriasis severity was classified using the PASI. Data were analysed using descriptive statistics, Pearson's correlation, independent samples t-test, and one-way ANOVA.

Results: The majority had moderate psoriasis (50.0%), were male (63.3%), and unmarried (88.4%). Avoidant coping correlated significantly with higher PHQ-9 ($r=0.51$, $p<0.01$), GAD-7 ($r=0.48$, $p<0.01$), and WHODAS-12 scores ($r=0.63$, $p<0.01$). Female participants exhibited significantly higher avoidant coping, depressive symptoms, and functional impairment compared to males ($p<0.05$). Participants from lower socioeconomic strata demonstrated significantly higher psychological distress and maladaptive coping ($p<0.05$).

Conclusion: Maladaptive coping is a key correlate of psychological distress and functional disability in young adults with psoriasis. Gender and socioeconomic disparities underscore the need for integrated psychodermatological interventions.

KEYWORDS: Psoriasis, Anxiety, Depression, Coping, Functioning, Young adults, Psychodermatology, WHODAS, Brief COPE

INTRODUCTION

Psoriasis is a chronic, immune-mediated inflammatory skin disease characterised by erythematous, scaly plaques affecting approximately 2–3% of the global population. Beyond dermatological manifestations, psoriasis profoundly affects patients' psychological health, self-esteem, and social functioning, making it a paradigmatic psychodermatological condition.

A growing body of literature supports the link between psoriasis and mental health disorders such as depression, anxiety, and suicidal ideation.[1,2] These comorbidities are increasingly understood through the brain–skin axis framework, highlighting bidirectional interactions between psychosocial stressors, neuroendocrine responses, and cutaneous inflammation.[3]

The impact is particularly salient among young adults aged 18–35 years, a developmental period characterized by identity formation and relationship building. Visible skin lesions during this phase can lead to stigmatization, social withdrawal, and reduced quality of life. Furthermore, coping strategies adopted in response to illness play a pivotal role in psychological adjustment. While problem-focused coping facilitates adaptation, avoidant or maladaptive strategies are consistently linked to poorer mental health outcomes.[4]

Gender differences in the psychological impact of dermatological conditions have been well documented, with women experiencing greater emotional distress.[5] Similarly, socioeconomic status influences access to healthcare and coping resources. However, few studies have simultaneously examined the interplay of disease severity, coping, psychological symptoms, and sociodemographic variables in young adults with psoriasis, particularly in the Indian context.

The WHO Disability Assessment Schedule (WHODAS 2.0) provides a comprehensive, cross-cultural measure of daily functioning across cognition, mobility, self-care, interpersonal relationships, life activities, and participation.[6] Integrating functional assessment with psychological evaluation offers a holistic understanding of disease burden.

Objectives

1. To assess the severity of depressive symptoms (PHQ-9), anxiety symptoms (GAD-7), and functional impairment (WHODAS 2.0) in young adults with psoriasis.
2. To evaluate coping strategies (problem-focused, emotion-focused, and avoidant) using the Brief COPE Inventory.
3. To examine the correlation between coping styles, psychological symptoms, and daily functioning.

4. To assess the relationship between psoriasis severity and psychological and functional outcomes.
5. To evaluate gender differences in coping, psychological symptoms, and functioning.
6. To examine the effect of socioeconomic status on these psychosocial outcomes.

MATERIALS & METHODS

Study design

A cross-sectional observational study was undertaken.

Setting

The study was conducted in the Dermatology Outpatient Department of a tertiary care teaching hospital.

Participants

Young adults aged 18–35 years with clinically diagnosed psoriasis attending the dermatology OPD were eligible. A total of 63 participants were initially approached. Two were excluded due to pre-existing medical comorbidities and one due to an incompletely filled proforma. The final sample comprised 60 participants.

Inclusion criteria

Confirmed diagnosis of psoriasis by a dermatologist, aged 18–35 years, and ability to provide informed consent.

Exclusion criteria

Major psychiatric illness diagnosed prior to psoriasis onset, significant medical comorbidities (hypertension, thyroid disorders, diabetes mellitus), and severe psychotic illnesses with ongoing psychiatric treatment.

Variables and assessment tools

A structured sociodemographic questionnaire collected data on age, gender, education, employment, income, religion, marital status, residence, duration of psoriasis, medication and treatment history, and substance use. Psoriasis severity was classified using the **Psoriasis Area and Severity Index (PASI)**. Depression was assessed using the **PHQ-9** (scores 0–27).[7] Anxiety was measured using the **GAD-7** (scores 0–21).[8] Coping styles were evaluated using the **Brief COPE Inventory**, yielding problem-focused, emotion-focused, and avoidant coping subscores.[4] Daily functioning was assessed using the **WHODAS 2.0 (12-item)**.[6]

Study size

Based on prevalence from earlier similar work, the sample size was calculated as 60 participants.

Ethical considerations

Informed consent was obtained from all participants. Data confidentiality and voluntary participation were emphasized.

Statistical methods

Data were analyzed using descriptive statistics (frequencies, percentages, means, standard deviations). Pearson's correlation coefficient examined associations between coping styles and outcomes. Independent samples t-tests compared gender differences. One-way ANOVA assessed differences across socioeconomic strata and psoriasis severity categories. A p-value <0.05 was considered significant. Analyses were performed using SPSS.

RESULTS

Participants

The final sample comprised 60 participants. Male participants constituted 63.3% (n=38) and females 36.7% (n=22). The age distribution was: 18–22 years (n=8, 13.3%), 23–27 years (n=20, 33.3%), 28–32 years (n=22, 36.7%), and 33–35 years (n=10, 16.7%). The majority were unmarried (88.4%), had completed graduation (60.3%), were in permanent employment (58.3%), and resided in urban areas (70.0%). By religion, 86.7% were Hindu, 6.7% Muslim, 3.3% Christian, and 3.3% others.

Socioeconomic status distribution

The largest group belonged to lower-middle socioeconomic status (n=18, 30.0%), followed by middle (n=16, 26.7%), lower (n=13, 21.7%), and upper-middle (n=13, 21.7%).

Psoriasis severity

Mild psoriasis: 23 (38.3%), moderate: 30 (50.0%), severe: 7 (11.7%).

Descriptive statistics of outcome measures

Table 1 presents the descriptive statistics of all psychological and coping measures.

Table 1: Descriptive Statistics of Outcome Measures (N=60)

Measure	Mean	SD
PHQ-9 (Depression)	11.93	6.45
GAD-7 (Anxiety)	9.65	4.68
Problem-focused Coping	22.52	2.72
Emotion-focused Coping	27.85	4.15
Avoidant Coping	17.58	3.22
WHODAS-12	24.40	3.75

The mean PHQ-9 score of 11.93 indicated moderate depressive symptoms. The mean GAD-7 score of 9.65 suggested mild-to-moderate anxiety. Avoidant coping

exhibited lower mean scores but notable variability, indicating a subset relied heavily on maladaptive strategies.

Psoriasis severity and outcomes

Table 2: Mean Scores by Psoriasis Severity

Measure	Mild (n=23)	Moderate (n=30)	Severe (n=7)	p
PHQ-9	7.30±5.70	13.10±3.40	22.14±4.88	<0.001*
GAD-7	6.17±3.97	10.63±2.55	16.86±3.80	<0.001*
WHODAS-12	21.96±3.60	25.10±2.14	29.43±3.69	<0.001*

**p<0.05, One-way ANOVA*

Mean PHQ-9, GAD-7, and WHODAS-12 scores increased progressively with psoriasis severity, indicating greater psychological distress and functional impairment among participants with more severe disease (all p<0.001).

Correlation between coping, symptoms, and functioning

Table 3: Pearson's Correlation Matrix

Variable	PHQ-9	GAD-7	WHODAS-12	Avoidant	Problem
Problem-focused	−0.57**	−0.52**	−0.59**	−0.35**	—
Emotion-focused	−0.14	−0.11	−0.08	−0.12	0.15
Avoidant Coping	0.51**	0.48**	0.63**	—	−0.35**
PHQ-9	—	0.96**	0.94**	0.51**	−0.57**
GAD-7	0.96**	—	0.92**	0.48**	−0.52**
WHODAS-12	0.94**	0.92**	—	0.63**	−0.59**

**p<0.05; **p<0.01*

Avoidant coping was positively and significantly correlated with all distress and disability measures. Problem-focused coping showed significant negative correlations with PHQ-9, GAD-7, and WHODAS-12. Emotion-focused coping demonstrated weak, non-significant associations.

Table 4: Gender Differences (Independent Samples t-test)

Variable	Males (n=38)	Females (n=22)	t	p
Problem-focused	23.82±2.29	20.27±1.80	6.22	<0.001*
Emotion-focused	28.32±3.63	27.05±4.91	1.15	NS
Avoidant Coping	15.97±2.60	20.36±2.11	−6.73	<0.001*
PHQ-9	9.89±6.64	15.45±4.33	−3.51	<0.001*

GAD-7	8.55±4.89	11.55±3.67	−2.49	<0.05*
WHODAS-12	23.08±3.56	26.68±2.92	−4.02	<0.001*

Female participants exhibited significantly higher avoidant coping, depressive symptoms, anxiety, and functional impairment. Males showed significantly higher problem-focused coping. Emotion-focused coping did not differ significantly between genders.

Socioeconomic status differences

Table 5: SES Differences (One-way ANOVA)

Variable	Lower (n=13)	Lower-Mid (n=18)	Middle (n=16)	Upper-Mid (n=13)	p
Problem-focused	21.5±2.4	21.9±2.5	21.9±2.9	25.0±1.9	<0.01*
Emotion-focused	28.5±4.7	28.6±3.8	27.4±4.3	26.7±4.1	NS
Avoidant	19.2±3.2	18.3±3.0	18.2±2.2	14.2±2.9	<0.001*
PHQ-9	16.1±5.4	12.4±6.1	11.4±7.1	7.8±5.6	<0.01*
GAD-7	12.5±4.2	10.0±4.5	9.6±4.7	6.3±3.8	<0.01*
WHODAS-12	26.6±3.5	24.8±3.7	24.1±4.2	21.9±2.5	<0.05*

**p<0.05; NS=Not significant; One-way ANOVA*

One-way ANOVA revealed a significant socioeconomic gradient. Participants from lower and lower-middle strata exhibited significantly higher avoidant coping, depressive symptoms, anxiety, and WHODAS-12 scores. Problem-focused coping increased with higher socioeconomic status. These findings indicate a pronounced socioeconomic gradient in psychosocial vulnerability.

DISCUSSION

Key results

The present study assessed depression, anxiety, coping strategies, and daily functioning in 60 young adults with psoriasis, examining the moderating roles of gender and socioeconomic status. The demographic profile revealed a predominance of males (63.3%), consistent with known sex distribution of psoriasis in the Indian population. The majority were in the 23–32 year age range, unmarried, and from urban backgrounds.

The mean PHQ-9 score of 11.93 indicated moderate depressive symptoms, while the mean GAD-7 of 9.65 suggested mild-to-moderate anxiety. Depressive symptoms were more prominent than anxiety, consistent with Marek-Jozefowicz et al.[3] who identified depression as the most prevalent psychiatric comorbidity in psoriasis.

A key finding was the significant positive correlation between avoidant coping and all outcome measures: depression (r=0.51), anxiety (r=0.48), and functional impairment (r=0.63). This underscores the detrimental role of maladaptive coping in perpetuating psychological distress. Conversely, problem-focused coping showed significant negative correlations with depression (r=−0.57) and anxiety (r=−0.52), suggesting a protective effect. These findings align with the chronic illness coping literature.[4]

The progressive increase in PHQ-9, GAD-7, and WHODAS-12 scores with psoriasis severity confirms a dose-response relationship. Participants with severe psoriasis had mean PHQ-9 scores of 22.14, compared to 7.30 in mild disease, highlighting the importance of disease control for psychological well-being.

Female participants exhibited significantly higher avoidant coping, depressive symptoms, and functional impairment. These disparities may reflect greater body image concerns and social stigmatisation experienced by women with visible skin conditions.[5] The absence of gender differences in emotion-focused coping suggests emotional processing strategies are employed similarly across genders.

The socioeconomic gradient was striking. Lower socioeconomic strata showed significantly higher maladaptive coping, distress, and disability. Problem-focused coping increased with higher socioeconomic status, likely reflecting greater access to educational and healthcare resources. Kurd et al.[1] similarly noted socioeconomic influences on psychiatric outcomes in psoriasis.

Interpretation

Maladaptive coping emerged as a key psychological correlate of depression, anxiety, and functional disability, particularly among socioeconomically vulnerable female patients with psoriasis. The brain–skin axis framework[3] provides a mechanistic basis for understanding how psychosocial stressors amplify disease burden through neuroendocrine and immunological pathways.

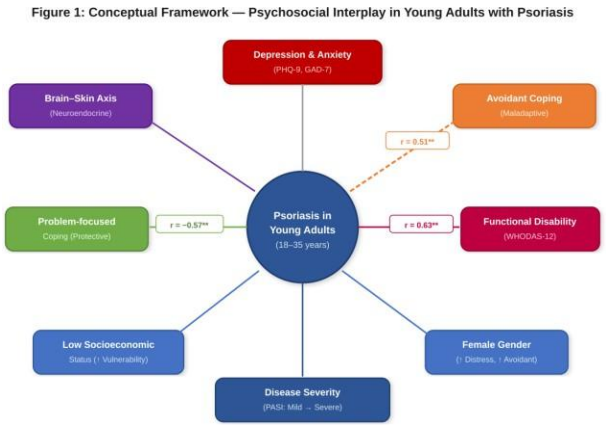

Figure 1: Conceptual framework illustrating the psychosocial interplay in young adults with psoriasis. Solid lines represent direct associations; dashed lines indicate the maladaptive pathway.
Correlation coefficients shown are Pearson's r values (**p < 0.01).
The framework highlights the central role of avoidant (maladaptive) coping in mediating the relationship between psoriasis, psychological distress, and functional disability, moderated by gender and socioeconomic status.

Strengths and limitations

The present study has several notable strengths. It focused on a specifically defined and clinically relevant age group (young adults aged 18–35 years), a population that is underrepresented in psychodermatological research despite being disproportionately affected by the psychosocial burden of psoriasis. The study employed a comprehensive battery of internationally validated and widely accepted psychometric instruments—the PHQ-9, GAD-7, Brief COPE Inventory, and WHODAS 2.0—which enhances the reliability and cross-cultural comparability of findings. Furthermore, the simultaneous assessment of multiple psychosocial dimensions (depression, anxiety, coping strategies, and functional impairment) alongside sociodemographic variables (gender, socioeconomic status) provides a holistic and integrated understanding of the disease burden, rather than examining these factors in isolation. The inclusion of both disease severity classification and functional outcome assessment strengthens the clinical relevance of the findings for integrated care planning.

Limitations

The cross-sectional design precludes causal inferences regarding the directionality of observed associations between coping styles, psychological symptoms, and functional impairment. The sample size of 60, while adequate for the primary analyses, may limit detection of smaller effect sizes and interaction effects. The single-centre design may affect generalisability to other healthcare settings and populations. Self-report measures are inherently subject to recall bias and social desirability effects. The absence of a healthy control group limits the ability to determine the extent to which the

observed psychological distress is attributable specifically to psoriasis versus other factors. Additionally, the study did not assess the duration of psoriasis as a potential confounding variable in the relationship between disease severity and psychological outcomes.

Generalisability

While the study was conducted at a single centre, the use of internationally validated instruments (PHQ-9, GAD-7, Brief COPE, WHODAS 2.0) enhances the comparability of findings. The demographic characteristics of the sample are representative of the young adult psoriasis population seeking tertiary care in the Indian setting.

Future directions

Future research should prioritise longitudinal study designs to establish the temporal and causal relationships between psoriasis onset, coping strategy adoption, and the development of psychiatric comorbidities. Multi-centre studies with larger and more diverse samples, including participants from rural and semi-urban settings, would enhance the generalisability of findings. The inclusion of healthy controls or patients with other chronic dermatological conditions would help delineate psoriasis-specific psychosocial vulnerabilities. Intervention studies evaluating the efficacy of structured coping-skills training programmes—such as cognitive-behavioural therapy (CBT)-based interventions, mindfulness-based stress reduction (MBSR), and acceptance and commitment therapy (ACT)—in improving psychological outcomes and functional capacity among young adults with psoriasis are urgently needed. Additionally, exploring the role of biological inflammatory markers (e.g., TNF-α, IL-6, cortisol) as mediators between psychological distress and disease severity would provide deeper mechanistic insights into the brain–skin axis. Future work should also investigate the impact of digital mental health interventions and teledermatology-integrated psychosocial support models, which may improve access to care for socioeconomically disadvantaged populations. Finally, qualitative studies exploring the lived experiences of young adults with psoriasis could complement quantitative findings and inform patient-centred intervention design.[16,17,18]

CONCLUSION

Young adults with psoriasis experience significant psychological distress and functional impairment, with maladaptive coping serving as a key correlate. Female gender and lower socioeconomic status amplify the psychosocial burden. These findings underscore the need for integrated dermatological and psychological care, emphasising coping-skills training and mental-health interventions tailored to young adults with psoriasis. Promoting problem-focused coping and reducing maladaptive coping behaviours may significantly improve emotional well-being and disease management in this population.

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