

Exploring the link: A cross-sectional study on psychiatric disorders in patients with dermatological conditions in a tertiary care hospital

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Abstract

Objective This study aimed to explore the relationship between dermatological conditions and psychiatric disorders in patients attending a tertiary care hospital.

Methods In a cross-sectional study at tertiary care Hospital, 200 participants (15-55 years) with dermatological conditions were observed from January to August 2023. Exclusions were those with primary psychiatric disorders, non-participants, and cognitive impairments. Socio-demographics were collected via a questionnaire. Psychiatric symptoms were assessed using PHQ-9 or GAD-7, while dermatological conditions were sourced from patient records.

Results A youthful cohort showed acne predominance in females and younger ages, while eczema increased with age, particularly in males. Notably, 54.5% had psychiatric conditions, with only 5% receiving treatment. Findings underscore an urgent need for integrated dermatological-psychiatric care.

Conclusion This Pakistan-based study identified a notable link between dermatological conditions and psychiatric disorders. With 54.5% of dermatological patients also exhibiting psychiatric symptoms, there is a significant gap in therapeutic engagement. The findings underscore the need for integrated medical interventions in the region.

Key words

Depression; Anxiety; Acne; Eczema; Psoriasis; PHQ-9; GAD-7.

Introduction

Skin, the largest organ of the body, not only acts as a barrier against external threats but also reflects the internal psychological well-being of an individual. The interplay between dermatological and psychiatric conditions has

been an area of interest for researchers worldwide, as the two fields often overlap and influence each other.

Pakistan, with its rich sociocultural mosaic, experiences a marked prevalence of dermatological ailments.¹ The conspicuous nature of many skin conditions frequently exposes individuals to societal prejudice and discrimination, which can exacerbate psychological distress.² The country's healthcare infrastructure, coupled with deeply embedded

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societal values, often hinders the swift identification and treatment of accompanying psychiatric manifestations in these patients.³

South Asian research, too, echoes these observations. Several studies from neighboring countries like India and Bangladesh have revealed a conspicuous association between dermatological diseases and psychiatric disorders, emphasizing the sociocultural factors and the role they play in influencing patients' psychological health.^{4,5} These studies shed light on how deeply rooted cultural beliefs, combined with the visible nature of skin ailments, can potentiate psychological distress.

However, the complexity of this relationship is not exclusive to the South Asian context. Pioneering research from the West has persistently acknowledged the symbiotic relationship between skin afflictions and mental health. Skin conditions, especially common ones like acne and psoriasis, have been consistently correlated with mood disorders, anxiety, and compromised life quality in numerous Western populations.⁶⁻⁸ Such a global perspective accentuates the pressing need for a holistic treatment methodology, integrating both dermatological and psychological care.

The interrelationship between dermatological and psychiatric conditions, as described, is indeed a complex tapestry of interconnected influences, particularly evident in Pakistan's sociocultural context.^{9,10} However, while the narrative highlights societal prejudices rooted in visible skin conditions and potential systemic healthcare inadequacies, it is crucial to consider the depth, breadth, and comparability of studies both within South Asia and the West. It's commendable that the discourse acknowledges the universality of the issue, referencing both South Asian¹¹ and Western literature.⁶⁻⁸ Yet, the direct juxtaposition of varied cultural and

regional findings necessitates a more nuanced examination, ensuring that cultural, systemic, and individual specificities are neither generalized nor oversimplified. The call for an integrative approach to care is progressive, but its practical applicability and effectiveness in diverse settings remain to be explored further.

There exists a significant and complex interrelationship between dermatological conditions and psychiatric health, influenced by various factors including sociocultural context, visible nature of skin conditions, and healthcare infrastructure. This interplay is not just limited to a specific region like Pakistan or South Asia, but is a universal issue. The diverse cultural and regional findings across South Asia and the West highlight the importance of understanding this relationship in a nuanced manner. There is a pressing need for an integrated approach in treating both skin conditions and accompanying psychological distress, ensuring that treatment methodologies are not just theoretically sound but also practically applicable and effective across diverse cultural and systematic settings.

The advocacy for an integrated treatment methodology that seamlessly merges dermatological and psychiatric care is both progressive and timely. Within the Pakistani context, while the recognition of the intertwined nature of skin and mental health conditions is gaining traction,¹ the practical implementation of a dual-treatment approach grapples with challenges, ranging from limited resources to pre-existing healthcare frameworks that operate in silos. The situation mirrors broader struggles within South Asia, where even though the need for such an approach is palpable, structural and systemic barriers often take precedence. Studies from India and Bangladesh reiterate this sentiment, highlighting the pressing urgency but also underscoring the logistical and infrastructural challenges.^{5,12}

In light of the above, our research endeavors to probe deeper into the intricate relationship between skin and psychiatric conditions within a prime healthcare facility in Pakistan. By contrasting our insights with both South Asian and Western scholarly contributions, we aspire to provide an encompassing perspective, evaluating both the unique and shared patient experiences across diverse cultural and geographical landscapes.

Materials and Methods

The study was undertaken in the Dermatology Department of Sheikh Zayed Medical College/Hospital, located in Rahim Yar Khan, Pakistan, and spanned from January to August 2023. Encompassing a sample size of 200 participants, it included patients aged between 15 and 55 years who presented with dermatological conditions at the dermatology outpatient department of the specified hospital during the designated study period and willing to participate. Those with primary psychiatric disorders, cognitive impairments, or unwillingness to participate were excluded.

A consecutive sampling method was applied, targeting all eligible patients attending the outpatient department during the study period. Data collection involved a structured questionnaire for socio-demographic details and a validated psychiatric screening tool like the PHQ-9 or GAD-7, depending on the specific psychiatric disorders of interest. Patients' medical records and diagnoses from attending dermatologists were used for assessing dermatological conditions.

Statistical analysis was conducted using SPSS software, employing descriptive analyses for socio-demographic information and utilizing either Chi-square or Fisher's precise test for determining associations between

dermatological and psychiatric conditions, with a p-value below 0.05 indicating statistical significance. Ethical approval was granted by the Ethics Committee of Sheikh Zayed Medical College/Hospital, Rahim Yar Khan, and participants were informed about the study's objectives, assured of confidentiality, and provided written consent.

Results

Population diversity and socio-cultural nuances The study depicted an equitable distribution of gender, featuring females at 50.5% and males at 49.5%, however, revealed a pronounced skew towards younger demographics. Notably, 48% of participants were in the 15-25 age bracket, and an additional 34.5% were in the 26-35 range, leaving the age groups between 36 to 55 significantly underrepresented. This disparity raises questions regarding potential influences or biases in the study's recruitment approach. Despite this youthful profile, there was an intriguing pattern in marital status with 56% of the participants being married, which contrasted the expectation, given the age distribution, with the remaining 44% being single. This pattern might be indicative of cultural norms, a selection bias, or perhaps hint at a sampling inconsistency. Education surfaced as a notable characteristic among the participants, with a substantial 73.5% having undergone formal education. A detailed examination of this demographic revealed that while a considerable number had attained up to a Bachelor's degree, only a minority progressed to secure postgraduate qualifications. The data showcased a leaning towards a demographic that is both younger and more educated, suggesting that the methodology, study environment, or objectives might be guiding this trend.

However, without access to additional socio-demographic data, such as employment status or

Table 1 Socio-Demographic characteristics of the participants.

Characteristics	Number of Participants (n=)	Percentage (%)
Total Participants	200	100%
Male	99	49.5%
Female	101	50.5%
Age Group		
15-25	96	48
26-35	69	34.5
36-45	19	9.5
46-55	10	5
Marital Status		
Married	112	56
Single	88	44
Education Level		
Educated (total)	147	73.5
Post-Graduation	15	7.5
BA & Equivalent	31	15.5
FA & Equivalent	17	8.5
Uneducated	53	26.5

ethnic background, it remains challenging to discern the broader implications and contextual influences shaping these findings. The specific demographic distribution observed could be deemed appropriate or potentially limiting, contingent on the core objectives and the context of the research. This study, while providing insightful observations, prompts reflection on the representational balance and the potential nuances influencing participant selection and demographic representation.

Dermatological conditions The distribution of dermatological ailments across genders unveils distinct patterns, illuminating the diverse landscape of skin conditions. In the female cohort, Acne was predominant, recorded in 55.4% of cases, closely followed by Eczema at 38.6%, while Psoriasis was less prevalent at 5.9%. Conversely, the male cohort presented a higher prevalence of Eczema at 63.6%, with Acne trailing at 35.4% and a rare occurrence of Psoriasis at 1%. A closer inspection reveals variations when assessed against different age brackets. For instance, the 15-25 years age group primarily experienced acne, affecting 64.6%,

Table 2 Demographic distribution of dermatological conditions.

Parameter	Acne n (%)	Eczema n (%)	Psoriasis n (%)
Gender			
Female	56 (55.4)	39 (38.6%)	6 (5.9%)
Male	35 (35.4%)	63 (63.6%)	1 (1.0%)
Age Group (years)			
15-25	62 (64.6%)	32 (33.3%)	2 (2.1%)
26-35	27 (39.1%)	40 (58%)	2 (2.9%)
36-45	2 (10.5%)	14 (73.7%)	3 (15.8%)
46-55	0 (0%)	10 (100%)	0 (0%)
56-65	0 (0%)	3 (100%)	0 (0%)
>66	0 (0%)	3 (100%)	0 (0%)

Table 3 Duration and severity spectrum of dermatological conditions.

Symptoms Variables	n	%
Duration of Symptoms		
<1 Year	160	80%
1-5 Years	35	17.5%
6-10 Years	4	2%
>10 Years	1	0.5%
Severity of Symptoms		
Mild (1-3 on Scale)	103	51.5%
Moderate (4-7)	95	47.5%
Severe (>7)	2	1%

whereas in the 26-35 years bracket, eczema surfaced as the primary concern, affecting 58%. Progressing to older age categories, the prevalence of Acne and Psoriasis dwindled, with Eczema reigning dominant, showcasing its ubiquitous presence across the ages.

This analytical snapshot underscores the varied prevalence of dermatological conditions across diverse demographic segments, offering invaluable insights for crafting targeted medical interventions. Delving into the duration of these symptoms, the majority, a significant 80% of patients, had experienced their conditions for less than a year, categorizing them as short-term, while mid-term and long-term durations were less common. The severity spectrum of these conditions illustrated a bell-curve-like distribution, with the majority exhibiting mild to moderate symptoms and severe manifestations scarcely reported. These nuances in duration and

severity highlight the multifaceted nature of dermatological ailments and the necessity for a nuanced approach to treatment.

Investigating treatment approaches revealed a preference for oral treatments, utilized by 52% of patients, while topical treatments were the choice for 48%, indicating a balanced utilization of these modalities. Notably, the absence of patients undergoing procedural and phototherapy treatments signifies potential gaps or preferences in treatment strategies. When gauging satisfaction, a robust 68% expressed contentment with their treatments, while a mere 0.5% expressed dissatisfaction. This dichotomy in satisfaction levels, juxtaposed with the diversity in symptom duration and severity, paints a comprehensive picture of the dermatological landscape, emphasizing the importance of personalized and holistic care strategies.

Treatment approaches and satisfaction metrics

Investigating the duration of dermatological symptoms revealed that a significant 80% of patients had experienced symptoms for less than a year, categorizing them as short-term. Patients with mid-term symptom durations of 1-5 years constituted 17.5%, and a minimal 2% had long-term symptoms spanning 6-10 years. Notably, only 0.5% reported symptoms persisting for over a decade. Assessing the severity spectrum depicted a bell-curve-like distribution, with 51.5% exhibiting mild symptoms, 47.5% presenting moderate symptoms, and a scant 1% falling into the severe category. This diverse presentation indicates a wide-ranging impact of dermatological conditions on the patient population.

In exploring treatment approaches, oral treatments were marginally more favored, used by 52% of patients, while 48% opted for topical treatments. The absence of patients undergoing

Table 4 Treatment approaches and satisfaction metrics in dermatological patients.

<i>Parameter</i>	<i>n</i>	<i>%</i>
Treatment Modalities		
Oral Treatment	104	52%
Topical Treatment	96	48%
Procedural Treatment	0	19.5%
Phototherapy	0	0.5%
Patient Satisfaction		
Very Satisfied	24	12%
Satisfied	136	68%
Neutral	39	19.5%
Dissatisfied	1	0.5%

procedural and phototherapy treatments points to potential gaps or preferences in treatment strategies. Patient feedback painted a varied picture of satisfaction; a substantial 68% were satisfied with their treatments, with 12% reporting being very satisfied. Neutral responses were noted in 19.5% of cases, indicating neither contentment nor discontentment. Contrastingly, a solitary patient, making up 0.5% of the cohort, expressed dissatisfaction, highlighting the overall positive response to treatment modalities despite the diversity in symptom duration and severity.

Psychiatric undercurrents in dermatological patients

The relationship between dermatological ailments and psychiatric disorders has long been a complex and intriguing domain of study. In this cross-sectional exploration conducted in a tertiary care hospital, the intricate linkage between the two was thoroughly investigated, with a concentrated effort to understand the psychiatric landscape prevalent among patients battling various skin conditions. Out of 200 dermatological patients studied, a significant 54.5% were discovered to be dealing with a concurrent psychiatric disorder, while 45.5% exhibited no such afflictions. This revelation underscores the inextricable connection between the mind and skin and emphasizes the vital need for a multidisciplinary approach in treating individuals with dermatological condition.

Table 5 Psychiatric landscape among dermatological patients.

Parameters	Number of Participants (n=)	Percentage (%)
Total Dermatological Patients Studied	200	100
Prevalence of Co-existing Psychiatric Disorders		
Patients with Psychiatric Disorders	109	54.5
Patients without Psychiatric Disorders	91	45.5
Spectrum of Psychiatric Diagnoses		
Depressive Disorders	55	27.5
Anxiety Spectrum Disorders	17	8.5
Obsessive Compulsive and related disorders	36	18
Unidentified/Unaware of Their Mental Health	(The remainder of the 109)	(Calculated %)
Treatment Modalities and Engagements		
Patients Actively Receiving Treatments	10	05
Patients Resorting to Spiritual Therapy	02	01
Patients Engaging in Psychological Therapies (CBT)	0	0

Delving deeper into the nature of psychiatric morbidity among the subjects, it was found that depressive disorders were the most prevalent, afflicting 27.5% of the total participants. Following this, anxiety spectrum disorders were identified in 8.5%, and Obsessive Compulsive & related disorders were present in 18% of the subjects. Notably, there was a segment of the population that could not be unequivocally classified. This ambiguity suggests the possible existence of unidentified disorders or perhaps reflects a nebulous awareness among patients regarding their own mental or psychiatric health.

On examining treatment modalities and engagement, the findings were both alarming and significant. Out of the 109 afflicted individuals, only a mere 5% were actively receiving treatments. A minuscule fraction, 1%, resorted to spiritual therapy, seeking help from faith healers, which elucidates the socio-cultural paradigms that often influence healthcare choices in this demographic. Intriguingly, none of the participants were found to be engaged in structured psychological therapies like Cognitive Behavioral Therapy (CBT). This pronounced discrepancy between the high prevalence of psychiatric disorders and minimal therapeutic engagement underscores the urgent need for interventions, paving the way for more holistic and encompassing care.

Discussion

In this cross-sectional investigation centered at a tertiary care hospital, we endeavored to unravel the intricate relationship between dermatological conditions and psychiatric disorders, an area of medical research often relegated to the peripheries despite its profound implications for holistic care. Our study revealed that a substantial portion of dermatological patients concurrently harbor psychiatric ailments, underscoring a potentially overlooked dimension in their medical journey. This finding resonates with a burgeoning body of literature that emphasizes the psychosomatic nexus in medical practice. As we delve deeper into the specific psychiatric afflictions observed and their potential determinants, it becomes imperative to contextualize our finding within the broader medical and socio-cultural landscape of Pakistan, drawing parallel and contrasts with global trends and previous regional studies.

Youth demographics, marriage and education

The study emphasizes South Asia's younger demographics while underrepresenting the 36-55 age group, hinting at potential biases or cultural influences.⁹ Early marriages in regions like Pakistan contrast with Western trends.^{10,12} Despite rising literacy in Pakistan and India, the scarcity of postgraduates suggests access

challenges.¹³ Western studies often reflect a higher postgraduate presence, indicative of established educational systems.¹⁴

Similarly, the study's narrow socio-demographic data scope contrasts with the comprehensive approach seen in both South Asian and Western medical education research.^{11,12} Expanding this scope would better align the study with prevalent research norms.

Gender and age dynamics in dermatological trends

The study's outlined dermatological conditions, when differentiated by gender, provide insightful distinctions. The pronounced occurrence of acne among females aligns with previous Pakistani research, while the marked emergence of eczema in males necessitates further analysis.¹⁶ Pakistani studies reinforce the emphasis on age as a determinant in skin ailment variations, highlighting the natural progression of skin issues across different life stages.¹⁷ Yet, the nonexistence of acne and psoriasis in the elderly cohorts raises questions about genuine trends versus possible underreporting. The assertion that insights from Indian and other South Asian studies can enhance the current understanding¹⁸ implies the interconnectedness and potential similarities of dermatological trends across the subcontinent. Contrarily, Western data often portray a broader age-related spread of conditions, hinting at underlying cultural, genetic, or environmental influencers.¹⁹

The prevalence of patients presenting short-term symptoms is consistent with Pakistani research, suggesting the episodic nature of some skin conditions or potential delays in seeking care.²⁰ The trend of symptom severity, predominantly mild to moderate, aligns with international findings.²¹ Yet, this pattern could also indicate challenges in healthcare accessibility for those with acute cases or societal apprehensions linked to pronounced dermatological issues.

The preference for oral treatments over topical modalities might be shaped by cultural practices, patient compliance, or the perceived efficacy of treatments, as evidenced in some Pakistani studies.²² The conspicuous absence of procedural and phototherapy treatments underscores potential infrastructural or knowledge gaps. Comparatively, studies from India reveal a more balanced utilization of various treatment modalities.²³ The high patient satisfaction rates could be indicative of the effectiveness of the treatments, but may also suggest a cultural inclination towards reporting positive outcomes or hesitance in expressing dissatisfaction.

Prevalence and implications of psychiatric comorbidity

Research from Pakistan has highlighted a considerable overlap between psychiatric disorders and dermatological conditions, with around 50% of those with chronic skin conditions reporting depressive symptoms.²⁴ The 54.5% prevalence identified in the study in discussion is slightly higher when viewed against the backdrop of the wider South Asian scenario. This contrast is evidenced by findings from India, which report a 30-40% prevalence⁴ of psychiatric disorders among individuals with dermatological conditions.

The profound link between psychological distress and dermatological conditions has been deeply explored in Western literature as well. A notable study from Italy in 2005 emphasized the bi-directional relationship, indicating that psychiatric morbidity can both result from and contribute to dermatological ailments.²⁵ This research supports the idea that the mind and skin are intrinsically connected, underscoring the importance of addressing both physical and mental health in patients with skin disorder.

Diagnostic specifications and comparisons The prominence of depressive disorders among the

subjects is consistent with findings from both South Asian and Western studies. Western literature particularly underscores the connection between chronic skin conditions and the emergence of feelings of embarrassment, social isolation, and subsequent depression.²⁶ In contrast, the segment of subjects that could not be unequivocally classified poses a concern, reflecting challenges observed in South Asian studies. Due to cultural stigmas and lesser awareness about mental health in this region, many disorders often go unidentified or are misclassified.²⁷ Conversely, Western research tends to be more stringent in this aspect, providing clear diagnostic classifications.²⁸

Treatment engagement and cultural implications The finding of limited engagement in therapeutic interventions in the study is concerning, yet not entirely surprising. This aligns with the narrative depicted in Pakistani literature, which frequently highlights the prevalent stigma, a general lack of awareness, and restricted access to psychiatric care as significant barriers impeding mental health treatment. Such limitations in therapeutic engagement underscore the need for a comprehensive approach to address these barriers and facilitate access to mental health care in Pakistan.²⁹

Another notable observation is the 1% of the study population leaning towards faith healers, a phenomenon that mirrors broader socio-cultural tendencies not only in Pakistan but also across various parts of South Asia. Such approaches to healing, deeply rooted in cultural and religious beliefs, are a reflection of the diverse therapeutic landscapes in these regions. While these healing practices are occasionally mentioned in Western literature, they are more prominently acknowledged and discussed in studies originating from South Asian contexts, indicating a divergence in therapeutic preferences and cultural paradigms.³⁰

Lastly, the study highlights a significant gap in the mental health treatment landscape- the complete absence of engagement with structured therapies such as Cognitive Behavioral Therapy (CBT). This is particularly noteworthy as CBT is often championed in Western studies as an effective treatment modality for a range of psychiatric disorders. The lack of engagement with such structured therapies suggests that awareness and accessibility to these therapeutic options remain limited in South Asian settings, underscoring the need for enhancing both the availability and awareness of diverse treatment modalities in the region.

Limitations

- The study only covered ages 15-55, excluding younger children and older adults.
- Research was limited to one tertiary care hospital, not reflecting diverse settings.
- Patients with pre-existing psychiatric disorders were excluded, potentially missing key interactions with dermatological issues.
- Consecutive sampling might lead to selection bias, not reflecting the broader patient population. The youthful and educated skew could hint at a potential bias or inconsistency in sampling, possibly not representative of the broader community.
- Relying on medical records could introduce biases based on their accuracy.
- PHQ-9 and GAD-7 are screening tools, not diagnostic, so identified symptoms don't guarantee a psychiatric diagnosis.
- Overrepresentation of younger age groups might not reflect the dermatological conditions in the older population.
- Predominance of mild to moderate symptoms with limited severe cases could overlook potential critical cases in the community.
- Absence of procedural and phototherapy treatments points to potential gaps or preferences, not giving a full spectrum of

treatment types.

- Overwhelming satisfaction rates could either indicate effective treatments or possibly, a hesitancy to report dissatisfaction.
- High prevalence of psychiatric disorders with minimal therapeutic engagement might not reflect the broader approach to dual treatment or the acceptance of mental health conditions.

Recommendations

- Ensure diverse age representation to capture conditions in both younger and older populations.
- Implement strategies to minimize biases, ensuring representation from all socio-demographic backgrounds.
- Include and assess procedural and phototherapy treatments to offer a comprehensive understanding of all modalities.
- Implement anonymous feedback systems to ensure genuine patient feedback, capturing both positive and negative experiences.
- Given the significant psychiatric overlay, dermatologists should be trained to recognize signs of psychiatric disorders, facilitating early interventions.
- Increase awareness campaigns about the link between dermatological conditions and mental health, emphasizing the importance of dual care.
- Strengthen the integration of psychiatric care into dermatological treatment plans, addressing the low engagement in mental health treatments.

Conduct additional studies to identify the reasons behind the high prevalence of psychiatric disorders and the low engagement in treatment.

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