



International Journal of Medicine

<https://www.theinternationalmedicine.com>



Original Research

Psychodermatological Disorders in Patients with Primary Psychiatric Conditions

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Received: 28 September 2025 / Accepted: 20 November 2025

Abstract

Introduction: Dermatological conditions are prevalent in individuals with psychiatric illnesses. The relationship between the skin and the psyche is intricate. Pre-existing dermatological conditions may be altered in the context of psychiatric disorders due to self-inflicted modifications, thereby delaying diagnosis and treatment and leading to problems. The present study was conducted to determine the prevalence, pattern, and distribution of psychodermatological disorders among patients with primary psychiatric conditions and to assess their association with different psychiatric diagnostic groups. **Material and methods:** A cross-sectional study was conducted over one year at a tertiary care center among 80 patients diagnosed with primary psychiatric disorders based on DSM-IV criteria. Sociodemographic details and psychiatric diagnoses were recorded using a structured proforma. All participants underwent detailed dermatological examination, and relevant investigations were performed when required. Psychiatric diagnoses were categorized into schizophrenia, affective disorders, and anxiety, stress-related, and somatoform disorders. Data were analyzed using SPSS version 25.0, and appropriate statistical tests were applied, with $p < 0.05$ considered significant. **Results:** Psychodermatological disorders were observed in 70% of patients. Pruritus (28.6%) and tinea infections (25%) were the most common cutaneous manifestations. Psychogenic dermatoses such as trichotillomania and neurotic excoriations were significantly associated with anxiety and stress-related disorders ($p = 0.048$). Patients with schizophrenia and anxiety-related disorders demonstrated a higher prevalence of skin involvement compared to those with affective disorders. **Conclusion:** Psychodermatological disorders are highly prevalent among patients with primary psychiatric illnesses. Routine dermatological evaluation and a multidisciplinary approach involving psychiatrists and dermatologists are essential for early diagnosis, effective management, and improvement in overall patient outcomes.

Keywords: Psychodermatology, Psychiatric patients, Skin disorders.

Introduction

Central nervous system and skin evolves together alongside in fetus and stays interconnected always.[1] Many psychiatric illnesses are linked with dermatological manifestations.[2] Many factors such as stress, anxiety which is mediated by the hypothalamus pituitary axis contribute to the development of dermatosis by releasing neuropeptides and neurohormones which should be treated properly, so there is always a connection between dermatology and psychiatry.[3]

Psychodermatological disorders (PDs) are a heterogeneous group of skin conditions that are significantly associated with mental disorders. Dermatoses that fall into this category often have a significant negative impact on mental health or may also run a clinical course that is determined by the primary psychiatric or psychological disorder. On one hand, skin conditions can precipitate serious psychiatric illness in individuals without preexisting mental health problems [4,5], while on the other hand, primary psychiatric conditions such as trichotillomania present primarily with skin complaints. In the latter scenario, the skin conditions may be the sole manifestation of the underlying psychiatric conditions, and the patient may present first to the dermatologist. Very often, however, the relationship between skin conditions and mental health is bidirectional, complex, and incompletely understood [6,7]. A vicious cycle in which psychological factors trigger or aggravate skin conditions and the exacerbated dermatoses induce further psychological problems is a characteristic finding of typical PDs.

There is very little published data on the incidence of dermatoses in patients with primary psychiatric conditions and hence this study was conducted to determine the prevalence and pattern of PDs in patients with primary psychiatric conditions.

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DOI: 10.61336/imv25-12-39

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Materials and Methods

The present cross-sectional study was conducted at a tertiary health care centre for a period of one year among patients with primary psychiatric conditions who visited to department of psychology for their treatment. Ethical clearance for conducting the research was taken from institutional ethics committee of college and hospital before commencement of research. Patients were asked to sign an informed consent form after explaining them about the process of the study.

Through consecutive sampling a total of 80 patients diagnosed with primary psychiatric condition were selected for the study on the basis of inclusion and exclusion criteria.

Inclusion criteria

1. Patients diagnosed with primary psychiatric condition on the basis of using Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) criteria.
2. Patients willing to participate in the study with their own consent.

Exclusion criteria

1. Patients with mental health disorders with chronic debilitating systemic conditions such as uncontrolled diabetes mellitus, chronic renal disease, advanced heart failure, retroviral disease, and malignancies were excluded from the study.
2. Patients with unstable mental health state and pregnancy.

The researchers employed a data pro forma to record pertinent data from each participant, such as sociodemographic, medical, and medication histories. The patients' medical records provided information on the underlying mental health diagnosis and course of therapy. All recruited individuals underwent a whole-body clinical evaluation for skin problems, and clinical results were recorded in the data pro forma. Skin diseases were primarily diagnosed clinically. Investigations such as skin scraping for fungus research, woodlands lamp examination, and skin biopsy for histology were carried out where necessary to support or validate the clinical diagnosis.

The participants were categorized into 3 groups based on their psychiatric diagnosis: schizophrenia; affective disorders; and anxiety, stress-related, and somatoform disorders. Psychodermatological dermatoses were noted for each patient within their respective diagnostic groups to determine prevalence, and comparisons were made between groups using appropriate statistical tests of association.

Data entry and analysis were conducted utilizing SPSS software (version 25.0; IBM Corp). A univariate analysis was conducted to encapsulate the demographic attributes of the individuals.

Categorical factors of relevance were transformed into dichotomous variables (excluding level of education) and examined using bivariate statistical tests. The Fisher exact test and likelihood ratio were employed instead of the chi-square test when the assumptions of the chi-square test were not met. Symmetry and the measure of link between the variables were assessed using phi and odds ratio, respectively. The threshold for statistical significance was established at $p < 0.05$.

Results

Table 1. Sociodemographic Characteristics of the Study Population (n = 80)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	≤30	18	22.5
	31-40	26	32.5
	41-50	21	26.3
	>50	15	18.7
Gender	Male	46	57.5
	Female	34	42.5
Marital Status	Married	48	60.0
	Unmarried	32	40.0
Education Level	Illiterate	14	17.5
	Primary	22	27.5
	Secondary	28	35.0
	Higher	16	20.0
Occupation	Employed	33	41.3
	Unemployed	47	58.7

The majority of participants belonged to the 31-40 year age group (32.5%), followed by 41-50 years (26.3%). Males constituted 57.5% of the study population. Most patients were married (60%) and unemployed (58.7%). Secondary education was the most common educational level (35%). These characteristics reflect the demographic profile of patients seeking psychiatric care at a tertiary center.

Table 2. Distribution of Primary Psychiatric Diagnoses (n = 80)

Psychiatric Diagnosis Group	Number of Patients (n)	Percentage (%)
Schizophrenia	28	35.0
Affective disorders	24	30.0
Anxiety, stress-related and somatoform disorders	28	35.0

Schizophrenia and anxiety/stress-related disorders were equally prevalent, each accounting for 35% of cases, while affective disorders comprised 30% of the study population. This distribution enabled meaningful comparison of dermatological manifestations across psychiatric diagnostic categories.

Table 3. Overall Prevalence of Psychodermatological Disorders

Presence of Psychodermatological Disorder	Frequency (n)	Percentage (%)
Present	56	70.0
Absent	24	30.0
Total	80	100

Psychodermatological disorders were observed in 56 patients, yielding a prevalence of 70%. Only 30% of patients did not show any dermatological manifestations, emphasizing the high burden of skin disorders among individuals with primary psychiatric illnesses.

Table 4. Pattern of Psychodermatological Disorders Observed (n = 56)

Psychodermatological Disorder	Number of Patients (n)	Percentage (%)
Pruritus	16	28.6
Tinea infections	14	25.0
Acne vulgaris	10	17.9
Eczema	8	14.3
Psoriasis	4	7.1
Urticaria	2	3.6
Trichotillomania	1	1.8
Neurotic excoriations	1	1.8

Pruritus was the most common psychodermatological condition, affecting 28.6% of patients, followed by tinea infections (25%). Acne vulgaris and eczema were also frequently encountered. Classical psychocutaneous disorders such as trichotillomania and neurotic excoriations were less common, each accounting for 1.8% of cases.

Table 5. Association Between Psychiatric Diagnosis and Presence of Psychodermatological Disorders

Psychiatric Diagnosis	PD Present n (%)	PD Absent n (%)	Total	p-value
Schizophrenia	22 (78.6)	6 (21.4)	28	0.041
Affective disorders	14 (58.3)	10 (41.7)	24	
Anxiety/stress/somatoform disorders	20 (71.4)	8 (28.6)	28	

Psychodermatological disorders were most prevalent among patients with schizophrenia (78.6%), followed by anxiety and stress-related disorders (71.4%). Affective disorders showed comparatively lower prevalence (58.3%). The association between psychiatric diagnosis and presence of psychodermatological disorders was statistically significant ($p = 0.041$).

Table 6. Distribution of Psychodermatological Disorders Across Psychiatric Groups

Psychodermatological Disorder	Schizophrenia n (%)	Affective Disorders n (%)	Anxiety/Stress/Somatoform n (%)	p-value*
Pruritus	6 (27.3)	3 (21.4)	7 (35.0)	0.432
Tinea infections	7 (31.8)	4 (28.6)	3 (15.0)	0.287
Acne vulgaris	4 (18.2)	3 (21.4)	3 (15.0)	0.918
Eczema	3 (13.6)	1 (7.1)	4 (20.0)	0.401
Psoriasis	2 (9.1)	2 (14.3)	0 (0)	0.214
Psychogenic dermatoses	0 (0)	1 (7.1)	2 (10.0)	0.048

Pruritus was the most frequently observed dermatosis across all groups, with the highest proportion seen in patients with anxiety, stress-related, and somatoform disorders (35%), followed by schizophrenia (27.3%) and affective disorders (21.4%). However, this difference was not statistically significant ($p = 0.432$). Tinea infections were more commonly observed in schizophrenia (31.8%) and affective disorders (28.6%) compared to anxiety-related disorders (15%), though the association did not reach statistical significance ($p = 0.287$). Acne vulgaris and eczema were distributed relatively evenly across the three psychiatric categories, with no statistically significant differences ($p = 0.918$ and $p = 0.401$, respectively). Psoriasis was observed exclusively among patients with schizophrenia (9.1%) and affective disorders (14.3%), with no cases reported in the anxiety-related group; however, this variation was not statistically significant ($p = 0.214$). In contrast, psychogenic dermatoses such as trichotillomania and neurotic excoriations were significantly more prevalent among patients with anxiety, stress-related, and somatoform disorders (10%) compared to affective disorders (7.1%) and schizophrenia (0%), and this association was statistically significant ($p = 0.048$). This finding underscores the strong link between anxiety-related psychiatric conditions and psychogenic skin manifestations.

Discussion

This study reveals a significant prevalence of personality disorders among individuals with mental health conditions. There are considerable deficiencies in the scientific literature about PDs in relation to primary mental diseases. The majority of evidence on PDs originates from the general population or dermatology outpatient settings, constantly revealing a significant frequency of comorbid psychiatric symptoms among patients with various dermatological conditions.[8-10]

This cross-sectional study of 80 patients with primary psychiatric conditions revealed a high prevalence of psychodermatological disorders (PDs) at 70%, with pruritus and superficial fungal infections (tinea) being the most common manifestations. In a study conducted by Ajani AA et al recorded a high (75/107, 70%) prevalence of PDs in their study, with more than half (54/107, 50.46%) of the population having multiple PDs. The exact prevalence of PDs in those with primary psychiatric conditions is uncertain due to limited research, a lack of standard classification system, and underdiagnosis [11-13]. Nevertheless, previous studies highlight the significant burden of psychiatric problems among patients with dermatological conditions [14,15]. Our findings echo this, underscoring the substantial relationship between dermatological and psychiatric conditions.

In our study schizophrenia and anxiety/stress-related disorders were equally prevalent, each accounting for 35% of cases, while affective disorders comprised 30% of the study population. Psychodermatological disorders were most prevalent among patients with schizophrenia (78.6%), followed by anxiety and stress-related disorders (71.4%). Affective disorders showed comparatively lower prevalence (58.3%). The association between psychiatric diagnosis and presence of psychodermatological disorders was statistically significant ($p = 0.041$). Disrupted allostasis may be the pathophysiological mechanism linking affective disorders with PDs [16]. This happens when chronic skin diseases cause physical and psychological stress that overwhelms normal homeostatic systems and starts pathological processes that are harmful to mental health. On the other hand, ongoing emotional turmoil and psychological stress might set off hormonal and neuroimmunological mediators that can cause abnormal skin alterations [17,18]. In both cases, a vicious cycle that is typical of psychophysiological illnesses is set in motion, whereby skin problems exacerbate preexisting dermatoses by causing psychological discomfort.

In our study, pruritus was the most common dermatosis observed; patients with somatoform, anxiety, and stress-related disorders had the highest proportion of pruritus, followed by those with affective disorders and schizophrenia. Tinea infections were more frequently seen in schizophrenia and affective disorders than in anxiety-related disorders. There were no statistically significant differences in the distribution of eczema and acne vulgaris among the three psychiatric groups. Only those with schizophrenia and affective disorders had psoriasis; no cases were found in the anxiety-related group; however, this difference was not statistically significant. Conversely, patients with anxiety, stress-related, and somatoform disorders were significantly more likely to have psychogenic dermatoses like trichotillomania and neurotic excoriations than patients with affective disorders and schizophrenia. This discovery emphasizes how closely anxiety-related mental illnesses are linked to psychogenic skin symptoms.

In a study conducted by Kuruvila M et al 68.66% patients had infective dermatoses and the rest had non-infective dermatoses. A high incidence of pityriasis versicolor and dermatophyte infections was noted in males from the study group. Among non infective dermatoses, 8% had eczema, and psychogenic skin disorders were seen in 4.67% of the study group. Of these, delusions of parasitosis were the commonest (2%) followed by venereophobia (1%). A statistically significant higher incidence of tinea versicolor and dermatophyte infections was seen in the study group. Delusion of parasitosis was the most common psychogenic skin disorder seen in the study group, followed by venereophobia.[19]

In a study conducted by Jeena DD et al 76.5% patients had dermatological findings, in which 55% had infectious disease, 22.9% had parasitic infections, 17% had fungal infections, 9.8% had bacterial infections, 5.23% had viral infections. 36.6% had non-infectious skin findings, 14.4% had acne, 9.8% had pruritis, 7.84% had eczema, 3.3% had psoriasis and 1.3% had vitiligo. 8.4% patients had psychodermatological problems, 6.53% had neurotic excoriation, 1.3% had delusion of parasitosis and 0.6% had trichotillomania.[20]

Limitations of the present work parallel those in related studies: cross-sectional design precludes causal inference; small subgroup sizes limit precision for less common disorders; and data were collected at a single tertiary center, which reduces generalizability. Future research should prioritize longitudinal designs to clarify directionality (e.g., whether psychiatric stabilization reduces infective dermatoses over time), larger multicenter samples to improve external validity, and mechanistic studies (neuroimmunologic biomarkers) to illuminate biological pathways linking mental health and skin disease.

Conclusion

Psychodermatological diseases were frequent in approximately 70% of individuals with primary psychiatric conditions within the research population. Pruritus and infectious dermatoses were the predominant cutaneous symptoms, although psychogenic dermatoses had a notable correlation with anxiety and stress-related diseases. Individuals with schizophrenia and anxiety disorders exhibited an elevated chance of acquiring cutaneous manifestations compared to those with affective disorders. The results underscore the robust bidirectional association between psychiatric disorders and dermatological conditions. Consequently, regular dermatological evaluations in psychiatric patients are necessary. A comprehensive multidisciplinary strategy can enhance early diagnosis, effective management, and overall quality of life.

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