ScientificScholar®
Knowledge is power
Publisher of Scientific Journals

https://ijpgderma.org

Indian Journal of Postgraduate Dermatology

Review Article

The Hidden Struggle: Understanding the Psychosocial Impact of Dermatological Diseases

Megha Lakum[1]

[1]Department of Dermatology, Venereology and Leprosy, GCS Medical College, Hospital and Research Centre, Ahmedabad, Gujarat, India.

***Corresponding author:**
Megha Lakum,
Department of Dermatology, Venereology and Leprosy, GCS Medical College, Hospital and Research Centre, Ahmedabad, Gujarat, India.

lakummegha@gmail.com

Received: 09 February 2024
Accepted: 05 August 2024
Published: 23 August 2024

DOI
10.25259/IJPGD_23_2024

Quick Response Code:

ABSTRACT

This narrative review delves into the intricate relationship between dermatological diseases and their profound psychosocial impact on individuals. Dermatoses manifest complex reactions to both physiological triggers and psychological events, influencing interpersonal dynamics and eliciting emotions such as fear, anxiety, shame and guilt. Our literature search, encompassing PubMed, Google Scholar and relevant textbooks, highlights the evolving field of psychodermatology. Secondary psychiatric conditions arise in response to the emotional distress of living with disfiguring or highly symptomatic dermatological disorders, impacting patients with conditions such as psoriasis, acne, vitiligo and alopecia areata. Approximately 30% of dermatology patients exhibit psychiatric and psychosocial comorbidities, significantly contributing to the overall disability associated with dermatoses. Psychiatric challenges exacerbate the morbidity of dermatoses, affecting physical, social, emotional and occupational dimensions, leading to non-adherence to treatment and hindering favourable prognoses. Recognising and addressing these challenges prove crucial for reducing psychological stress and enhancing overall outcomes, emphasising the bidirectional relationship between psychiatric and dermatologic disorders. The primary objective of this review is to discuss the physiopathology of psychiatric comorbidities secondary to skin disease, highlighting the necessity of integrated care for improved patient well-being.

Keywords: Nosogenic comorbidities, Somatisation, Neuroimmune dynamics, Psychoanalytics, Psychoneuroendocrine immunology

INTRODUCTION

The skin is a sensory organ, which responds to emotional stimuli that can be exacerbated or develop from an individual's response to emotional states. Cerebral hand of skin was described by psychoanalyst Didier Anzieu as 'Psychological shell' and coined the term 'Skin ego,' in which physiological skin functions were compared with the psychological representations of ego and the idea of 'self' in children must be developed by them from their body surface.[1,2]

The complexities of the skin's response to external and internal stimuli become apparent through its reactions to physiological triggers (similar as a rash caused by an external irritant) and cerebral events (like flushing due to embarrassment). Dermatoses apply a multifaceted impact on individualities, impacting interpersonal communication, instigating feelings such as fear, anxiety, shame, guilt and contributing to issues such as self-stigma, visual exposure, stigmatisation and sexual dysfunctions.[3] This is important because the care of cases with skin complaint may be inadequate if their cerebral problems are not also honoured and treated. Treatment is required, but frequently, the need to address the psychosocial distress of chronically ill individuals is met by ill acceptance, a phenomenon that seems worth changing both in the medical and in the social context.

Literature hunt was done in PubMed, Google Scholar, text books with keywords 'psychodermatology' and 'psychocutaneous.' Review articles and original articles were included in this narrative review.

Psychodermatology is a medical specialty centred on the interplay between cutaneous and psychiatric symptomatology. There is no single globally accepted classification of psychodermatological disorders. They are broadly classified into four groups[4-13] [Table 1].

Table 1: Classification of psychodermatological disorders.

Classification	Description
Primary psychopathology	Disorders where primary psychiatric conditions manifest through the skin (e.g., delusional parasitosis)
Psychophysiological dermatoses	Skin conditions exacerbated by emotional states (e.g., eczema, psoriasis)
Cutaneous sensory disorders	Conditions with primary sensory symptoms such as pruritus, numbness and burning without a clear dermatological cause
Secondary psychiatric illness	Psychiatric conditions arising due to the distress of living with a skin disorder (e.g., depression from psoriasis, vitiligo and hidradenitis suppurativa)

Nearly 30% of dermatology patients have psychiatric and psychosocial comorbidities and these contribute to overall disability of dermatoses.[14]

Psychiatric challenges exacerbate the morbidity of dermatoses, impacting the physical, social, emotional and occupational dimensions, thereby fostering disability, non-adherence to treatment and impeding a more favourable prognosis. Addressing these challenges proves advantageous for reducing psychological stress and enhancing overall outcomes.[15] This underscores the concept of a bidirectional relationship between psychiatric and dermatologic disorders.[16,17] The main objective of this review is to discuss physiopathology of psychiatric comorbidities secondary to skin disease.

PHYSIOPATHOLOGY OF PSYCHIATRIC CO-MORBIDITIES SECONDARY TO DERMATOLOGICAL DISEASE

Dermatological disorders such as alopecia areata, albinism, chronic eczema, haemangiomas, ichthyosis, psoriasis, rhinophyma and vitiligo often manifest with psychiatric symptoms, where emotional challenges become more pronounced than the physical manifestations, emphasising the psychological impact of skin diseases.

Nosogenic comorbidities

Nosogenic comorbidity, the complex relationship between psychiatric disorders and dermatological diseases, manifests through two distinct types: Hypochondriacal nosogenesis and dysmorphic nosogenesis[18] [Table 2].

Individuals with dysmorphic nosogenies tend to focus on perceived flaws, impacting their mental well-being. The clinical expression of nosogeny is further shaped by factors such as skin condition severity, premorbid personality structure, somatoperceptive accentuation and the presence of comorbid mental disorders. This intricate interplay may result in paradoxical dissociation of quality of life from dermatosis severity, accompanied by amplification and somatisation of itching.

Somatisation

Medically unexplained dermatologic symptoms such as pruritus, numbness and burning are collectively identified as somatisation. This phenomenon can occur independently or coexist with dermatological diseases, warranting attention when patients excessively worry about their skin and invest substantial time and energy in its care. Notably, certain skin disorders, such as pruritus, may represent a manifestation of somatisation, while others such as atopic dermatitis (AD) and psoriasis may predispose individuals to somatic symptoms.[19]

The aetiology of somatic symptoms and related illnesses is multifaceted, involving genetic and environmental factors.[20] Increased pain sensitivity, childhood trauma and cultural norms that stigmatise psychological suffering contribute to this intricate web.[21,22] Individuals lacking psychological insight may experience overwhelming consequences of trauma, with emotional symptoms manifesting as somatic complaints directed at the skin. Cultural nuances play a significant role, with somatisation being a global phenomenon but presenting with variations shaped by different cultures. Genetic factors influence the predisposition to chronic pain, though specific genes linked to somatisation remain elusive. Exploring epigenetic mechanisms becomes

Table 2: Types of nosogenic comorbidity.

Type of nosogenic comorbidity	Description	Associated conditions
Hypochondriacal nosogenesis	Patients perceive minor skin issues as severe illnesses	Pemphigus, psoriasis, lichen planus, atopic dermatitis, eczema
Dysmorphic nosogenesis	Patients have exaggerated perceptions of mild cosmetic skin conditions	Acne, rosacea, seborrhoeic dermatitis, vitiligo

crucial in understanding how exposure to psychological trauma can lead to the subsequent development of cutaneous somatisation.[23]

Neuroimmune dynamics

There is a strong commerce between the immunological and nervous system in the skin. This relationship is delved by psychoneuroimmunology and can be divided into three different types: (1) Psychophysiological disorders; (2) primitive psychiatric disorders and (3) secondary psychiatric disorders.[24,25] Secondary psychiatric disorders, such as reactive depression, anxiety, social isolation and suicidal ideation, significantly impact patients' quality of life, particularly in conditions such as psoriasis, hidradenitis suppurativa (HS) and AD.

Anxiety disorders are indicative of hyperactivity in the hypothalamic-pituitary-adrenal axis. Chronic hyperactivation of this axis induces alterations in cortisol secretion, mast cell and eosinophil activation and type 2 T helper (Th2)-type inflammation. The neuro-inflammatory hypothesis provides insight into the association, with excess pro-inflammatory cytokines impacting neurotrophic support, glutamate uptake/release and cytotoxicity, resembling neuropathological findings in depressive disorders.[26]

The shared embryological origin and release of common neuromodulators and biochemical systems between the skin and the central nervous system underline the profound reactivity of the skin to psychiatric and psychological conditions. This interaction plays a significant role in the pathogenesis of various skin diseases, potentially leading to psychological challenges such as depression, frustration and social phobias, particularly in cases of disfiguring skin disorders.

Role of stress

Stress is a known detector for a variety of psychodermatological conditions. The underpinning mechanisms include overexpression of the corticotropin-releasing hormone system, activation of inflammatory and immunological processes and neuropeptide action. Acute stress effects[1,27] are described in Table 3.

Immunological dynamics

Recent studies unveil the role of Th1, Th2 and Th17 cells, along with keratinocytes and mast cells, in triggering interleukin (IL)-24 production – a pivotal cytokine in allergic and autoimmune diseases. The cascade of events includes the activation of classic pro-inflammatory cytokines such as IL-1, IL-6 and TNF-alpha, impacting the hypothalamus-pituitary-adrenal axis. This axis, recognised as a central pathway linking psychological stress to cutaneous inflammation, involves the release of corticotropin-releasing hormone, adrenocorticotropic hormone and corticosteroids.[28] Through the interconnected roles of mast cells and T cells, a deeper understanding emerges of the pathways through which primary dermatoses contribute to the development of psychiatric comorbidities, highlighting the intricate interplay between immunological and psychiatric dimensions in dermatological pathophysiology.

Psychoanalytics

Developmental psychology suggests that an early tactile phase significantly influences the formation of an individual's identity. Dermatoses may be linked to early attachment issues, especially during the development of childhood cognition when confronted with a genetic dermatosis. The process of self-development includes a 'psychoanalytical dialogue with the skin.'[1] Some dermatoses, such as port-wine stains and hairy nevi existing before identity formation, generally do not pose psychosocial challenges as individuals can integrate these features into their body image/identity. However, skin lesions appearing later, like scars or vitiligo, tend to contribute to body image disorders. In cases like AD, conflicts in psychological closeness-distance dynamics can be influential. There is a theory suggesting that a mother's excessive attention to a child with uncontrollable pruritus might lead to fatigue and, potentially, subtle aggression due to uncertainty about the progression of dermatoses. In addition, increased care and attention during itching/scratching could reinforce the child's behaviour.

Psychoneuroendocrine immunology

The gut and skin are integral components of neuroendocrine and immune organs, where cytokines, neurohormones, neuropeptides and other messengers play roles in cellular signalling within the gut–brain–skin axis.[1] A reduction in gut lactobacilli and bifidobacteria is associated with mental illness, and psychological stress can lead to gut barrier dysfunction through glucocorticoids, subsequently impacting the microbiome and increasing uptake of pro-inflammatory mediators. Mast cells, pivotal in psychodermatologic disorders, play a role in this process.

Table 3: Effects of stress.

Stress effect	Immune response	Resulting skin conditions
Suppresses immune function	Reduces body's ability to fight off infections and heal	Acne, eczema, psoriasis, alopecia areata
Increases cortisol levels	Prolonged high cortisol leads to skin barrier dysfunction	Dermatitis, skin infections
Triggers inflammatory response	Elevates cytokine production	Psoriasis, atopic dermatitis

Both skin and intestinal mucosa secrete neuropeptides, neurohormones, hormones (endocrine) and cytokines (immune), establishing connections with other body organs and systems. This leads to a state of physiological inflammation in both skin and intestine due to constant exposure to microorganisms and antigenic charge. Epithelial barrier disruptions, altered immune balance and homeostatic disruption can initiate low-grade chronic inflammation, contributing to disease onset.

Dermatoses such as AD, vitiligo and acne vulgaris are linked to skin microbial changes and loss of physiological immunocompetence. Following the psychoneuroendocrine immunologic concept, an innovative approach involving low-dose cytokine therapy has been introduced to address cutaneous inflammatory diseases.

The association between dermatoses and psychiatric disorders can be astronomically understood in two ways: Dermatoses leading to stigma, social withdrawal and body image disturbances, causing psychological disorders and psychological stress leading to systemic inflammation resulting in dermatoses and psychiatric disorders like depression.

In summary, psychological comorbidities commonly associated with inflammatory dermatoses can present in various forms: psychiatric behaviours leading to skin lesions, dermatoses causing psychological distress, shared inflammatory pathways contributing to both dermatoses and psychological disorders, as well as cases where purely psychiatric conditions manifest with skin symptoms.

DISCUSSION

The psychosocial impact of dermatological diseases is a complex and often overlooked aspect of patient care. The ongoing research exploring the intricate relationship between psychopathology and dermatology provides valuable insights into the mind–skin connection. Yet, questions of causality persist, necessitating further elucidation of the bidirectional relationship between psychological distress and cutaneous inflammation. Dermatologists, faced with patients labelled as 'difficult,' often grapple with a lack of comfort in handling psychiatric aspects due to the absence of specialised training.

The internal stigma associated with certain patient subsets may lead to suboptimal care, emphasising the importance of addressing factors contributing to this scenario. Integrated care emerges as a pivotal solution, requiring dermatologists to actively engage in understanding the emotional experiences of patients and identifying psychiatric comorbidity. This approach demands a departure from the traditional focus solely on skin issues and encourages a holistic consideration of patients' well-being.

For patients with secondary psychiatric disorders, the challenge lies in detecting psychological conditions overshadowed by skin diseases. Implementing efficient screening tools in outpatient settings can facilitate early detection and intervention, potentially improving patient quality of life and overall satisfaction. Recognising the high risk of mental health disorders among dermatology patients, it becomes crucial for dermatologists to incorporate mental health screening into routine encounters.

CONCLUSION

Chronic dermatologic conditions, such as AD, acne, psoriasis, vitiligo, alopecia areata and HS, significantly impact patients' quality of life and elevate the risk of mental health conditions. Therefore, a comprehensive approach that considers the psychosocial aspects of dermatological diseases is essential for providing optimal patient care. As dermatologists embrace the challenge of addressing both skin and psychological well-being, they contribute to a more holistic and effective practice of the healing art.

Multiple choice questions

1. What concept was coined by psychoanalyst Didier Anzieu to describe the psychological representation of the ego in relation to the skin?
   a. Psychoimmunology
   b. Psychoneuroendocrinology
   c. Psychodermatology
   d. Skin ego

Answer Key: d

2. Which of the following is NOT considered one of the primary psychopathologies focused on the skin in psychodermatology?
   a. Psoriasis
   b. Eczema
   c. Acne
   d. Bipolar disorder

Answer Key: d

3. What percentage of dermatology patients have psychiatric and psychosocial comorbidities?
   a. 10%
   b. 20%
   c. 30%
   d. 40%

Answer Key: c

4. What term describes medically unexplained dermatologic symptoms such as pruritus, numbness and burning?
   a. Psychosomatic symptoms
   b. Somatisation
   c. Hypochondria

d. Dysmorphia

Answer Key: b

5. Which of the following skin disorder is NOT linked to psychological suffering according to the text?
   a. Psoriasis
   b. Acne
   c. Atopic dermatitis
   d. Port wine stains

Answer Key: d

6. What is the term used to describe the association between dermatoses and psychiatric disorders resulting in stigma, social withdrawal and body image disturbances?
   a. Psychogenic reaction
   b. Psychosomatic disorder
   c. Psychoneuroendocrine disorder
   d. Nosogenic comorbidity

Answer Key: d

7. Which neurohormone is mentioned in the text as being indicative of anxiety disorders?
   a. Serotonin
   b. Dopamine
   c. Cortisol
   d. Melatonin

Answer Key: c

8. What role does stress play in the development of psychodermatological conditions?
   a. Stress decreases inflammatory processes
   b. Stress has no impact on skin conditions
   c. Stress suppresses immune function
   d. Stress promotes skin healing

Answer Key: c

9. According to the text, what cells are involved in triggering IL-24 production, a pivotal cytokine in allergic and autoimmune diseases?
   a. B cells
   b. T cells
   c. Natural killer cells
   d. Macrophages

Answer Key: b

10. What is the proposed solution for addressing the high risk of mental health disorders among dermatology patients?
    a. Increasing the use of corticosteroids
    b. Implementing mental health screening into routine encounters
    c. Avoiding discussions about psychological factors
    d. Focusing solely on treating skin conditions

Answer Key: b

Ethical approval

Institutional Review Board approval is not required.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The author confirms that they have used artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript or image creations.

REFERENCES

1. Munoli RN. Psychodermatology: An Overview of History, Concept, Classification, and Current Status. Indian J Priv Psychiatry 2020;14:85-91.
2. Anzieu D, Haut-IchAufl D, Frankfurt AM: Suhrkamp Verlag; 1992.
3. Van Moffaert M. Psychodermatology: An Overview. Psychother Psychosom 1992;58:125-36.
4. Al-Harbi M. Prevalence of Depression in Vitiligo Patients. Skinmed 2013;11:327-30.
5. Dowlatshahi EA, Wakkee M, Arends LR, Nijsten T. The Prevalence and Odds of Depressive Symptoms and Clinical Depression in Psoriasis Patients: A Systematic Review and Meta-analysis. J Invest Dermatol 2014;134:1542-51.
6. Fleming P, Bai JW, Pratt M, Sibbald C, Lynde C, Gulliver WP. The Prevalence of Anxiety in Patients with Psoriasis: A Systematic Review of Observational Studies and Clinical Trials. J Eur Acad Dermatol Venereol 2016;31:798-807.
7. Ghajarzadeh M, Ghiasi M, Kheirkhah S. Associations between Skin Diseases and Quality of Life: A Comparison of Psoriasis, Vitiligo, and Alopecia Areata. Acta Med Iran 2012;50:511-5.
8. Muffadel A, Abdelgani A. Psychiatric Comorbidity in Patients with Psoriasis, Vitiligo, Acne, Eczema and Group of Patients with Miscellaneous Dermatological Diagnoses. Open J Psychiatry 2014;4:168-75.
9. Nguyen CM, Beroukhim K, Danesh MJ, Babikian A, Koo J, Leon A. The Psychosocial Impact of Acne, Vitiligo, and Psoriasis: A Review. Clin Cosmet Investig Dermatol 2016;9:383-92.
10. Shlyankevich J, Chen AJ, Kim GE, Kimball AB. Hidradenitis Suppurativa is a Systemic Disease with Substantial Comorbidity Burden: A Chart-Verified Case-Control Analysis. J Am Acad Dermatol 2014;71:1144-50.
11. Dalgard F, Gieler U, Holm JO, Bjertness E, Hauser S. Self-esteem and Body Satisfaction among Late Adolescents with Acne: Results from a Population Survey. J Am Acad Dermatol 2008;59:746-51.

12. Onderdijk AJ, van der Zee HH, Esmann S, Lophaven S, Dufour DN, Jemec GB, *et al*. Depression in Patients with Hidradenitis Suppurativa. J Eur Acad Dermatol Venereol 2013;27:473-8.
13. Sanna L, Stuart AL, Pasco JA, Jacka FN, Berk M, Maes M, *et al*. Atopic Disorders and Depression: Findings from a Large, Population-based Study. J Affect Disord 2014;155:261-5.
14. Goyal N, Shenoi S, Prabhu SS, Sreejayan K, Munoli R, Rai S. Psychodermatology Liaison Clinic in India: A Working Model. Trop Doct 2018;48:7-11.
15. Wessely SC, Lewis GH. The Classification of Psychiatric Morbidity in Attenders at a Dermatology Clinic. Br J Psychiatry 1989;155:686-91.
16. Koo J. Psychodermatology: A Practical Manual for Clinicians. Curr Probl Dermatol 1995;7:203-25.
17. Jafferany M, Ferreira BR, Patel A. The Essentials of Psychodermatology. Cham, Switzerland: Springer International Publishing; 2020. p. 29-34.
18. Dorozhenok IY. Nozogennye Psikhosomaticheskie Rasstroistva u Patsientov s Kozhnymi Zabolevaniyami [Nosogenic Psychosomatic Disorders in Patients with Skin Diseases]. Zh Nevrol Psikhiatr Im S S Korsakova 2023;123:36-43.
19. Millington GW, Shobajo MT, Wall J, Jafferany M. Somatization in Dermatology. Skin Health Dis 2022;2:e164.
20. Gupta MA. Somatization Disorders in Dermatology. Int Rev Psychiatry 2006;18:41-7.
21. Somatic Symptom and Related Disorders. Diagnostic and Statistical Manual of Mental Disorders. DSM Library; 2013. p. 5. Available from: https://dsmpsychiatryonlineorg.proxy.cc.uic.edu/doi/full/10.1176/appi.books.9780890425596.dsm09 [Last accessed on 2021 Aug 31].
22. Rief W, Mewes R, Martin A, Glaesmer H, Brähler E. Evaluating New Proposals for the Psychiatric Classification of Patients with Multiple Somatic Symptoms. Psychosom Med 2011;73:760-8.
23. Millington GW. Epigenetics and Dermatological Disease. Pharmacogenomics 2008;9:1835-50.
24. Tausk F, Elenkov I, Moynihan J. Psychoneuroimmunology. Dermatol Ther 2008;21:22-31.
25. Honeyman JF. Psychoneuroimmunology and the Skin. Acta Derm Venereol 2016;96:38-46.
26. Iannone M, Janowska A, Panduri S, Morganti R, Davini G, Romanelli M, *et al*. Impact of Psychiatric Comorbidities in Psoriasis, Hidradenitis Suppurativa and Atopic Dermatitis: The Importance of a Psychodermatological Approach. Exp Dermatol 2022;31:956-61.
27. Ograczyk-Piotrowska A, Gerlicz-Kowalczuk Z, Pietrzak A, Zalewska-Janowska AM. Stress, Itch and Quality of Life in Chronic Urticaria Females. Adv Dermatol Allergol 2018;35:156-60.
28. Ferreira BR, Pio-Abreu JL, Figueiredo A, Misery L. Pruritus, Allergy and Autoimmunity: Paving the Way for an Integrated Understanding of Psychodermatological Diseases? Front. Allergy 2021;2:688999.

How to cite this article: Lakum M. The Hidden Struggle: Understanding the Psychosocial Impact of Dermatological Diseases. Indian J Postgrad Dermatol. 2024;2:74-9. doi: 10.25259/IJPGD_23_2024