The Journal for Nurse Practitioners 17 (2021) 93–97

Contents lists available at ScienceDirect

The Journal for Nurse Practitioners

journal homepage: www.npjournal.org

Concepts in Psychodermatology: An Overview for Primary Care Providers

Deana Goldin

Keywords:
dermatology
mental health
psychiatry
skin

A B S T R A C T

Psychodermatology is an emerging specialty in dermatology addressing interactions between mind and skin. The interconnections between the skin and psyche have been known for centuries; yet, the field has only gained prominence recently due to increased recognition of the possible impact of this relationship on psychosocial factors and health care outcomes. Psychocutaneous diseases can be primary-psychiatric or primary-cutaneous, with various degrees of association between the two. This report highlights the interplay between psychiatric and cutaneous disorders and provides primary care providers with insights into practice patterns and treatment strategies.

Introduction

Psychodermatology is an emerging subspecialty of health care that originates from the merging of 2 distinct specialties: psychiatry and dermatology. The interconnections between the skin and psyche have been known for centuries; yet, the field has only gained prominence recently due to increased recognition of the possible impact of this relationship on psychosocial factors and health care outcomes. Primary care practitioners' awareness of comorbid dermatologic and psychologic disorders can increase collaboration and foster an interdisciplinary approach among primary care clinicians, dermatologists, and mental health professionals, leading to a holistic understanding of individual patient needs. The main function of the skin is to maintain homeostasis between external environments and internal tissues; therefore, the aim here is to provide an overview and address the interactions or link between the internal, nonvisible conditions of the psyche to the external, visible conditions of skin and provide insights into practice patterns and treatment strategies.[1]

Background

The skin, a sensory organ and the largest structure of the body, inextricably links to the mind. The skin has many vital roles: a barrier for bodily protection, a feedback mechanism of emotional well-being, a vital organ used to communicate with the outside world, and an organ of communication that is able to transmit sensations of itch, touch, pain, temperature, and other physical stimuli.[2] The association between emotional factors, such as stressful events, and disease-related skin flares have been well recognized. Researchers defined this association using the neurology-immunology-cutaneous-endocrine model that explains the tie among organ systems, neurotransmitters, hormones, and cytokines and their various feedback loops in the body. Researchers have proposed that because skin disorders may impact the psyche through reverse feedback and vice versa, these interconnections may be due to common etiologic pathways through proinflammatory cytokines.[2]

Psychiatric influences are important in the etiology and course of skin conditions. Psychologic stressors induce a neuroendocrine response that stimulates the release of endogenous glucocorticoids, corticotropin-releasing hormone, and epinephrine, disrupting the skin's barrier function, impairing stratum-corneum cohesion, and impairing the epidermal antimicrobial function.[3] An increased cytokine production in keratinocytes contributes to an inflammatory response that weakens the skin's ability to respond to environmental challenges.[4] Lee et al[5] reported that increased emotional stress has been hypothesized to aggravate acne by altering the gut microbiota and increasing intestinal permeability, potentially contributing to skin inflammation.

Psychodermatologic disorders can manifest differently in individuals:

- primary skin conditions can affect psychosocial symptoms;
- primary psychiatric disorders can manifest through dermatologic signs;
- comorbid psychiatric disorders with skin disorders may coexist; and
- secondary psychiatric disorders can result from difficulties when coping with disfiguring chronic skin diseases.[2]

Psychodermatosis derives from skin changes caused by psychiatric problems, causes psychiatric or psychologic issues due to the skin's clinical presentation, or assesses how the skin influences

https://doi.org/10.1016/j.nurpra.2020.04.015
1555-4155/

one's psychologic state. Psychodermatosis is maintained or aggravated by a resistance to treatment.[6] To date, no universally accepted classification system of psychocutaneous conditions exists; however, the most widely used breakdown includes 3 distinct groups: (1) psychophysiologic disorders, (2) psychiatric disorders with cutaneous symptoms, and (3) cutaneous disorders with secondary psychiatric symptoms.[3,7] The Table summarizes these groups.

Dermatologic Conditions and Secondary Psychiatric Disorders

Patients with dermatologic problems have a higher prevalence of psychiatric illnesses than the general population.[8] Skin conditions, including pain, itching, discoloration, dryness, and changes in appearance, lead to varying degrees of distress and functional impairments. Stigma associated with chronic disfiguring skin disorders, especially those that affect the face, genitals, hands, and feet, have aligned with reduced levels of employment, income, and social interactions.[9] Patients with skin conditions such as atopic eczema, acne vulgaris, and psoriasis are at higher risk of developing comorbid depression and anxiety, with isolation behaviors being the most common adverse effect of skin problems.[10]

The diagnosis of major depressive disorder is symptom based and follows the *Diagnostic and Statistical Manual of Mental Disorders*. Major depressive disorder is 1 of 2 depressive disorders that account for the fifth largest cause of disability (years of life lived with disability) in the latest 2016 Global Burden of Disease,[11,12] reporting that dermatologic diseases are the fourth leading cause of nonfatal disease burden.[13,14]

The prevalence of psychiatric disorders among patients with disfiguring chronic skin conditions is estimated to be 30% to 40%, with the highest rates found in patients with acne vulgaris and alopecia areata.[7,15,16] Acne vulgaris is the most commonly diagnosed skin condition in adolescence and has been attributed to high hormone fluctuations. The increased release of gonadotropins by the anterior lobe of the pituitary gland during puberty fuels the production of estrogens and androgens.[17] Acne vulgaris commonly causes visible, erythematous, papulopustular lesions that can attract undesirable attention and lead to unpleasant and stressful social situations. The effects of stigmatization during adolescence can influence interpersonal and social behaviors and have lasting psychologic sequelae.

Surprisingly, the prevalence of psychiatric disorders among patients with skin conditions is greater than in patients with neurologic, oncologic, and cardiac issues combined.[15] According to Liluashvili and Kituashvili,[8] anxiety and depression as a result of maladaptive coping skills in managing stressful life events constitutes a risk factor for an exacerbation of skin flare-ups and can worsen skin conditions and cause resistance to treatment.

Depressive illness has long aligned with chronic illness and is one of the most commonly encountered psychiatric syndromes seen with dermatologic conditions. Pressing cultural demands of appearance, social stigma, disfigurement, and patient suffering are some of the most identifiable features associated with depression and other psychologic conditions, including generalized anxiety, panic disorder, adjustment disorder, social phobia, and suicidal ideation.

The bidirection of brain and skin stimuli is mediated by neurotransmission, hormones, and neuropeptides and has synergistic influences on triggering and vexing skin conditions.[18] Stress and anxiety have been reported in 44% of patients before the initial flare of psoriasis, and recurrent flares have been attributed to stress in up to 80% of individuals.[3,7] Owing to the chronicity, visibility, and perceived stigma of psoriasis, it has also been associated with depressive symptoms and suicidal ideation. Cohen et al[19] compared Patient Health Questionnaire-9 (PHQ-9) scores of patients with psoriasis to those with depression (PHQ-9 score >10) and reported the mean PHQ-9 score was significantly higher among patients with psoriasis compared with those without psoriasis. Therefore, psoriasis has been independently associated with depression. According to Jafferany,[3] of 217 patients with psoriasis and comorbid depression, 9.7% admitted to "wishing to be dead," and 5.5% reported suicidal ideation. Ricketts et al[20] reported that excoriation disorder highly aligns with co-occurring major depressive disorder, generalized anxiety disorder, panic disorder, and posttraumatic stress disorder.

PCPs and dermatologists often concentrate on biologic therapies for skin disorders; however, the mental health burden on patients with visible skin conditions often is profound and goes unrecognized. For the most part, these patients have insight into their skin and emotional conditions, but most are unable to decipher the role of psychologic factors on their skin disease; therefore, nonpharmacologic as well as pharmacologic therapy can be beneficial.[7]

Primary Psychiatric Disorders and Skin Conditions

This group of dermatoses is triggered by pathologic mental states that are best categorized as (1) dermatosis secondary to illusions or hallucinations, (2) dermatosis due to compulsion, and (3) self-inflicted dermatosis. Because these skin manifestations originate from the psyche, assessing and treating these conditions is not possible without considering the patient's psychologic state. PCPs faced with these types of patient conditions need to be equipped to assess and recognize the underlying cause of the skin condition and be prepared to collaborate with mental health professionals to provide psychopharmacologic and psychologic treatment options.[6]

Delusional parasitosis, illness anxiety disorder, and body dysmorphic disorder (BDD) are the most common psychiatric disorders presenting to primary care and dermatology practitioners.[15] Patients with delusional parasitosis are anxious, with persistent fixed beliefs that their skin is infested with pathogens, despite no

Table
Classification System of Psychocutaneous Conditions

Psychologic and dermatologic skin disorders with psychiatric symptoms
• Acne and rosacea
• Eczema
• Atopic dermatitis
• Psoriasis
• Pruritus
• Vitiligo
• Albinism
• Urticaria
• Herpes
• Alopecia areata
• Hyperhidrosis
Primary psychiatric disorders leading to skin symptoms
• Trichotillomania
• Obsessive compulsive disorder and related dermatitis
• Illness anxiety disorder (hyperchondrosis)
• Tanning addiction
• Self-inflicted cutaneous lesions/excoriation (skin-picking disorder)
• Delusions of parasitosis
• Neurotic excoriations and dermatitis artifacts
• Onychophagia
• Psychogenic pruritus
• Body dysmorphic disorder
Secondary psychiatric disorders due to skin diseases
• Depression
• Anxiety
• Social phobias/avoidance
• Posttraumatic stress disorder
• Cutaneous sensory disorder
• Self-harm/suicidal behaviors
• Substance abuse

medical evidence supporting their belief. These patients can report visual or tactile sensations described as crawling, biting, or nesting in, on, or under their skin, to relate their belief of parasite infestation. In efforts to remove the parasite, extensive skin excoriations may be widespread.

BDD, cutaneous-illness anxiety disorder, eczema caused by repeated hand washing, and trichotillomania (hair pulling) are classified under obsessive-compulsive and anxiety-related disorders. BDD is a fairly common disorder that consists of distressing or impairing preoccupation with imagined flaws in appearance and aligns with a marked impairment of psychosocial functioning.[21] Cutaneous-illness anxiety disorder, formerly known as hyperchondrosis, is characterized as repetitive, intrusive, irrational preoccupation associated with high levels of anxiety about having a serious skin condition for a minimum of 6 months. These individuals repeatedly check for signs of skin disorders and refuse to accept reassurance from several clinicians that no major illness is present.[21] These patients are predominately female, are rich in symptoms but poor in signs of organic skin disease, and tend to avoid social situations and intimacy.[7]

Eczema caused by repeated hand washing and trichotillomania are disorders characterized as having compelling urges, often preceded by intrusive thoughts or emotion or by a sense of being unable to stop performing the particular behavior, causing marked distress and functional impairment. Self-inflicted skin lesions are skin lesions produced by the patient that are not otherwise explained as a consequence of another physical or psychologic condition.

Patients with cutaneous-illness anxiety disorder, delusional parasitosis, BDD, and self-inflicted skin lesions are likely to seek multiple consults with primary care clinicians and dermatologists, but seldom with psychiatrists.[22] Therefore, PCPs and dermatologists need to have some familiarity with primary psychiatric conditions to ensure they deliver coherent multidisciplinary approaches and good collaborative communication.

Implications for Practice

Owing to the complexities of skin manifestations, the basis of a successful assessment strategy is to clarify the leading factors and contributors of the presenting skin condition, including its onset, course, and curative process. This consultation may need to go beyond physical examination, diagnosis, and treatment.[6] An empathetic, individualized approach, along with keen assessment and observational skills, are required to assess a patient's beliefs and understanding of their illness and to draw connections regarding the patient's skin symptoms, beliefs about their condition, and overall functioning.[15]

Once rapport is established, the clinician needs to gain understanding of the chronology and evolution of presenting psychologic and dermatologic problems using appropriate language and conscientious questioning. If the patient is unable to provide this information, collateral resources from collaborating providers or family members may be useful. An assessment of stressful life events and skin flare-ups can be useful because emotional stressors may link to the development of various cutaneous disorders.[15] Psychosocial assessments aim to gain understanding of family dynamics and interactions, social networks, and support systems.

For individuals presenting with comorbid cutaneous and depressive symptoms, obtain a sleep history and ask questions about mood, suicidal ideation, and feelings of excessive guilt, fatigability, or recurrent negative thoughts without suicidal ideation, because these can link to self-harming behaviors such as cutting, picking, and scratching.[15] Self-harm and a suicide assessment ought to be considered when skin lesions present in bizarre patterns and only cover accessible parts of body.

Urgent psychiatric referrals should be initiated for any patient thought to have high suicide risk, especially those with disfiguring cutaneous disorders with known high suicide risk. These patients may present with BDD, acne conglobate (an inflammatory acne subtype with nodules and abscesses accompanied by draining sinus tracts and scarring), artefacta syndrome (dermatitis characterized by unconscious self-injury behaviors such as trichotillomania), para-artefacta syndrome (self-inflicted behavior or malingering types of behavior), or psoriasis.[15]

Brief mental health screening tools are useful for patients with acute and chronic skin concerns to promote communication and identify high-risk individuals who may benefit from a psychiatric evaluation. Because time restraints deter PCPs from performing lengthy psychologic assessments, practical and brief screening alternatives can be valuable. For depression screening, PCPs can ask 2 brief questions about mood and anhedonia or administer the PHQ-9, a reliable and valid self-administered questionnaire that measures for depression and its severity. When considering comorbid anxiety related disorders, the Generalized Anxiety Disorder 7-item scale is a short self-administered questionnaire that measures the severity of anxiety-related symptoms. Suicide screenings include a series of questions related to past suicide attempts, intent, plan, and reasons to remain living. A 1-question, pain assessment using a 0 to 10 scale can provide insight into the components of psychosomatic states, including behavioral indicators.

Personality assessments can be important because certain personality subtypes are frequently associated with skin conditions and make repeated health care visits. For example, individuals with borderline, narcissistic, and histrionic personality disorders tend to place a lot of importance on physical appearance and may present to PCPs overly emotional when faced with actual or perceived disfiguring skin problems.[15] Individuals with obsessive-compulsive personality traits tend to be rigid and stubborn, placing a lot of importance of perfectionism along with extreme preoccupation on details and excessive conscientiousness about their physical appearance.[15]

PCPs are positioned to assess for patterns and location of skin abnormalities and lesions when performing a physical examination. If suspicious self-inflicted lesions are suspected, PCPs should avoid immediate confrontation until a relationship is built with the patient because immediate confrontation can be counterproductive and the patient may flee from treatment.[7] PCPs and dermatologists must acquire skills that go beyond diagnosis and management of skin alterations and must consider that patients' emotional complaints may contribute to the clinical picture. For patients who present with treatment resistance or instances when the diagnosis is uncertain, dermatology referrals are warranted.

Treatment

The mainstay of treatment for psychodermatologic conditions includes an empathetic approach toward the patient, maintaining a strong therapeutic alliance, and a collaborative team approach between PCPs, psychiatrists, and psychologists with the goal of treatment focused on improving overall patient functioning and reducing emotional distress.[3] When considering treatment options, it is important to note that the etiology of psychodermatologic disorders can be complex and result from various core factors.[3] Internal or invisible influences to consider include distinct personality traits, psychologic distress, coping skills, cognitive distortions, and personal attitudes and beliefs. To successfully manage stress or emotionally exacerbated cutaneous conditions, pharmacologic and nonpharmacologic dermatologic remedies should both

be considered in conjunction with stress-management approaches. Depending on the nature of the underlying psychopathology, pharmacologic treatments include antidepressants, antianxiety medications, antipsychotics, and topical skin formulations.[1,3] Nonpharmacologic approaches include cognitive behavioral therapy, relaxation training, narrative therapy, biofeedback, guided imagery, assertive communication, and supportive group and individual psychotherapy.[1,3,6]

Skin conditions can be more than just an aesthetic issue and are associated with deleterious psychologic reactions that can negatively impact functioning and produce high levels of psychological turmoil; therefore, psychoeducation for the patient and family should be the integral part of a multidisciplinary treatment plan to improve understanding of psyhocutaneous disorders.[3] According to Orion,[1] dermatology education, by providing information on skin conditions, relives stress by clarifying misconceptions and false beliefs. In addition, education on the link between the skin and mind can provide individuals with insights into their psychologic state and inform them on interconnectedness of their mind and skin.[1]

Understanding the interconnection of the mind and skin and understanding the importance of simultaneous multidisciplinary interventions between primary care and those who specialize in dermatology and mental health cannot be underestimated. PCPs treating individuals with cutaneous disorders must have insight into the psychologic impacts associated with these disorders and incorporate a comprehensive approach that best fits their practice to manage the physical and emotional aspects of these conditions. In addition, with heightened clinician awareness, accurate diagnoses, and interprofessional collaboration, biopsychosocial treatments can be used.

Key Points

- Psychodermatology bridges primary care, dermatology, psychiatry, and psychology.
- Primary care, dermatology, and psychiatry training are needed in psychodermatology to improve patient outcomes.
- Multidisciplinary teams are needed for best outcomes for patients.
- Screenings for common psychiatric conditions, such as anxiety and depression, should be objectively performed using standard questionnaires with patients with cutaneous disorders.
- Multiple psychotherapies can be used in treatment, including cognitive behavioral therapy, biofeedback therapy, hypnosis, and group therapy.
- Nonpharmacologic interventions are stress-reducing adjuncts that can enhance the efficacy of standard therapies. These include relaxation training and psychoeducation.
- PCPs are well positioned to identify patients with psychodermatologic conditions and refer patients for appropriate services, preferably using an interprofessional approach.

Conclusion

The importance of clinician preparedness to provide psychologic support for treatment and to obtain best-practice outcomes cannot be overemphasized. PCPs focus on case finding and problem resolution and are considered the cornerstone of identification, treatment, and specialist referral for various physical and psychologic disorders. Equipping PCPs with an understanding of the theory behind psychocutaneous conditions can enable them to collaborate and work alongside dermatologists and mental health professionals to provide patients with patient-centered and holistic approaches to treatment.

Heightened awareness of the interplay between the mind and body can open a holistic understanding of the individual that can be cost-effective and provide clinicians further insights into assessment and treatment potentials. Often, PCPs serve as a patient's first point of entry into the health care system, and because of the high prevalence of these conditions and their burden of disability, there is a great potential to improve the health and quality of life for patients.

Care for patients presenting to PCPs with skin disorders should include vigilant screenings for psychiatric comorbidities. This integrative approach to patients enables health care providers to identify and understand the medical needs of individuals, especially as it relates to the mind and skin. In efforts to provide best patient practices and management, PCPs must meet patients where they are physically, functionally, and emotionally. Although this multidisciplinary approach may not always "cure" or eliminate skin pathologies, consideration of mental and emotional conditions as part of the overall clinical picture is important for clinicians to be better positioned to provide necessary resources for patients to support their coping capabilities. PCPs, dermatologists, psychiatrists, psychologists, and others can take this emerging knowledge and apply it in efforts to achieve optimal patient outcomes.

References

1. Orion E, Feldman B, Ronni W, et al. A psychodermatology clinic: the concept, the format, and our observations from Israel. *Am J Clin Dermatol.* 2012;13(2):97-101. https://doi.org/10.2165/11630950-000000000-00000.
2. Locala JA. Current concepts in psychodermatology. *Curr Psychiatry Rep.* 2009;11(3):211-218. https://doi.org/10.1007/s11920-009-0033-x.
3. Jafferany M. Psychodermatology: a guide to understanding common psychocutaneous disorders. *Prim Care Companion J Clin Psychiatry.* 2007;9(3):203-213. https://doi.org/10.4088/pcc.v09n0306.
4. Chen Y, Lyga J. Brain-skin connection: stress, inflammation and skin aging. *Inflamm Allergy Drug Targets.* 2014;13(3):177-190. https://doi.org/10.2174/1871528113666140522104422.
5. Lee YB, Byun EJ, Kim HS. Potential role of the microbiome in acne: a comprehensive review. *J Clin Med.* 2019;8(7):987. https://doi.org/10.3390/jcm8070987.
6. Azambuja RD. The need of dermatologists, psychiatrists and psychologists joint care in psychodermatology. *An Bras Dermatol.* 2017;92(1):63-71. https://doi.org/10.1590/abd1806-4841.20175493.
7. Yadav S, Narang T, Kumaran MS. Psychodermatology: a comprehensive review. *Indian J Dermatol Venereol Leprol.* 2013;79(2):176-192. https://doi.org/10.4103/0378-6323.107632.
8. Liluashvili S, Kituashvili T. Dermatology Life Quality Index and disease coping strategies in psoriasis patients. *Postepy Dermatol Alergol.* 2019;36(4):419-424. https://doi.org/10.5114/ada.2018.75810.
9. Pickett K, Loveman E, Kalita N, et al. Educational interventions to improve quality of life in people with chronic inflammatory skin diseases: systematic reviews of clinical effectiveness and cost-effectiveness. *Health Technol Assess.* 2015;19(86):1-176. https://doi.org/10.3310/hta19860.
10. Dalgard FJ, Gieler U, Tomas-Aragones L, et al. The psychological burden of skin diseases: a cross-sectional multicenter study among dermatological outpatients in 13 European countries. *J Invest Dermtol.* 2015;135(4):984-991. https://doi.org/10.1038/jid.2014.530.
11. GBD 2016 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet.* 2016;390(10100):1211-1259. https://doi.org/10.1016/S0140-6736(17)32154-2.
12. Ogbo FA, Mathsyaraja S, Koti RK, et al. The burden of depressive disorders in South Asia, 1990-2016: findings from the global burden of disease study. *BMC Psychiatry.* 2018;18:333. https://doi.org/10.1186/s12888-018-1918-1.
13. Hay RJ, Johns NE, Williams HC, et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermtol.* 2014;134:1527-1534. https://doi.org/10.1038/jid.2013.446.
14. World Health Organization. *Depression: Key facts.* Geneva; Switzerland: World Health Organization; January 2020. https://www.who.int/news-room/fact-sheets/detail/depression. Accessed February 21, 2020.
15. Ghosh S, Behere RV, Sharma PSVN, et al. Psychiatric evaluation in dermatology: an overview. *Indian J Dermatol.* 2013;58(1):39-43. https://doi.org/10.4103/0019-5154.105286.

16. Gupta MA, Gupta AK. Current concepts in psychodermatology. *Curr Psychiatry Rep.* 2014;16(6):449. https://doi.org/10.1007/s11920-014-0449-9.
17. Bergler-Czop B, Brzezińska-Wcisło L. Dermatological problems of the puberty. *Postepy Dermatol Alergol.* 2013;30(3):178-187. https://doi.org/10.5114/pdia.2013.35621.
18. Shenoi SD, Prabhu S, Nirmal B, et al. Our experience in a psychodermatology liaison clinic at Manipal, India. *Indian J Dermatol.* 2013;58(1):53-55. https://doi.org/10.4103/0019-5154.105310.
19. Cohen BE, Martires KJ, Ho RS. Psoriasis and the risk of depression in the US population: National Health and Nutrition Examination Survey 2009-2012. *JAMA Dermatol.* 2016;152(1):73-79. https://doi.org/10.1001/jamadermatol.2015.3605.
20. Ricketts EJ, Snorrason Í, Kircanski K, et al. A latent profile analysis of age of onset in pathological skin picking. *Compr Psychiatry.* 2018;87:46-52. https://doi.org/10.1016/j.comppsych.2018.08.011.
21. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Association; 2013. https://doi.org/10.1176/appi.books.9780890425596.
22. Freudenmann RW, Lepping P. Delusional infestation. *Clin Microbiol Rev.* 2009;22(4):690-732. https://doi.org/10.1128/CMR.00018-09.

Deana Goldin, PhD, DNP, FNP-BC, PMHNP-BC, is a clinical assistant professor and Family Nurse Practitioner Program Leader at Nicole Wertheim College of Nursing and Health Sciences, Florida International University, Miami, Florida, and may be contacted at degoldin@fiu.edu.

In compliance with national ethical guidelines, the author reports no relationships with business or industry that would pose a conflict of interest.