

Journal of **Ayurveda and Integrated Medical Sciences**

www.jaims.in



An International Journal for Researches in Ayurveda and Allied Sciences



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Journal of

Ayurveda and Integrated Medical Sciences

REVIEW ARTICLE

December 2024

Psychological Stress: A key etiological factor in Kushta (Skin Disorders)

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ABSTRACT

Kushta (skin diseases) in Ayurveda is a multifactorial disorder influenced by psychological, physiological, and environmental factors. Classical texts and modern studies highlight the role of psychological stressors and emotional states in the manifestation and progression of skin diseases. Emotions such as Chinta (anxiety), Shoka (grief), Krodha (anger), and Bhaya (fear) are classified as Manasika Bhavas and, when excessive, transform into urges (Vegas), leading to psychological imbalances (Manasika Vikaras). The dominance of Rajas and Tamas over Satva affects mental stability, rendering individuals prone to skin conditions. Shared embryological origins of the skin and nervous system elucidate their interdependence. Psychological stress affects skin function, including sweating (regulated by Vyana Vayu and Bhrajaka Pitta), activation of the HPA (hypothalamic-pituitary-adrenal) axis and sympathetic nervous system leading to conditions like dryness, discoloration, and inflammation seen in psoriasis, urticaria, dermatitis etc. Chronic stress elevates cortisol levels, accelerating aging and predisposing individuals to infections and inflammatory skin disorders.

Key words: Kushta, Psychological stress, Manasika Bhavas, Manas, Skin disorders

INTRODUCTION

Psychological stress is an emotional response with negative cognitive behavior. The relationship between psychological well-being and physical health has long been a subject of scientific inquiry, with skin health being one of the most striking examples of this connection. The skin, often referred to as the "mirror of the mind," is deeply intertwined with our emotional and psychological states. The complex interplay between

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Submission Date: 07/11/2024 Accepted Date: 25/12/2024

Access this article online **Quick Response Code**

Website: www.jaims.in

DOI: 10.21760/jaims.9.12.29

psychological factors and skin health is a multifaceted dynamic process, where emotions, stress, and mental health conditions can significantly influence the onset, progression, and severity of various skin disorders.

It is estimated that psychiatric or psychological disorders affect at least 30% of patients with skin diseases. In dermatology, outpatients have a 20% higher incidence of mental disorders compared to the general population. Among dermatology inpatients, the incidence of mental disorders is between 20% and 30% higher than in the rest of the hospitalized population.[1]

In Ayurveda various dermatological diseases are discussed under the heading of Kushta with its etiopathogenesis, classification and management. In which utmost importance is given to psychosocial factors. The mind is responsible for managing and influencing psychological factors. Ayurveda classics clearly explains the strong relationship between Mind and Skin.

Tvacha (skin) is described as the sensory organ, it presence the sense of touch and pervades all over the

body. Likewise, *Manovaha srotas* (channels of mind) resides all over the body.^[2] Tactile cognition is perceived through an association of skin and mind, leading to both pleasurable and painful sensations.

As humans are social animals who continually interact with others, the environment, and themselves, which give rise to the spectrum of emotions. Emotions matter because they influence our behaviours and no emotional state has a greater effect on us than stress. Recent studies have shown that the skin serves as an immediate stress perceiver and a target of stress reactions.^[3]

Skin disorders not only affect the way we look but also cause significant discomfort, making the whole body unattractive. [4] These conditions not only reduce the overall quality of life but also lead to concerns about appearance, leading to feelings of anxiety, depression, and other mental struggles. People affected by these conditions often experience physical, emotional, and socio-economic difficulties, and the social stigma they face can create stress that worsens their situation.

MATERIALS AND METHODS

Tvacha

Twacha means covering of Dhatus/covering of the body. It is seat of Sparshanendriya and Vata.^[5]

Skin formation

In *Ayurveda* the intricate process of skin layer formation is compared to the formation *Santanika* (cream layer) when milk is boiled. Just as *Santanika* forms layers and gradually increase in thickness; likewise, all the sheaths are formed in the growing stage of the embryo join together and convert into skin on the exterior surface of fully matured child. This development is guided by the unique actions of the Doshas, particularly the *Pitta Dosha*. Through its influence, the *Tvacha* evolves progressively into seven distinct layers.^[6]

All the *Indriyas* (senses) & skin being formed in the 3rd month stage of *Garbha*^[7] (embryo) and skin is derived from the *Matruja Bhava*^[8] (maternal entity) and considered as the *Upadhatu* of *Mamsa*.^[9] And there is

another opinion that the *Twak* is formed by the *Paka* of *Rakta Dhatu* by its *Dhatvagni*, after *Paka* it becomes dry to form *Twacha*.^[10]

What are psychological factors and how it influences skin?

Chinta(anxiety), Krodha(anger), Shoka(grief), Bhaya(fear), Harsha (happiness), Vishada(depression), Irshya(hate), Kama(lust), Lobha (greed) etc. are described as Manasika Bhavas (emotional feelings) when these Bhavas becomes prominent are known as Vegas(urges) and should be controlled. In ot Manas becomes Ashastha and evolve these as Manasika Vikaras.

Manas is Achetana (devoid of consciousness) but it is Kriyavana and Ubhayatmaka i.e., it exhibits its functions only in connection with Atma. [12] Jnanotpatti (perception of knowledge) happens only in the presence of Manas. [13] Satva (purity), Rajas (passion) and Tamas (ignorance) are considered as the quality of Mana; Satva enlightens the mind with true knowledge. Rajas (passion) and Tamas (ignorance) affects the mind.[14] The dominance or association of these quality will reflect the Mental personality called Satva. So, the behaviour and likings of the person depends on Satva (mental personality). Initially Satva is Upapadika (unstable) further develops in a person based on hereditary components, social surroundings, personal factors like diet, experiences, and cultural background etc. When the level of Satva gets altered, senses are disturbed, strength decreases and diseases progression takes place.[15]

Based on the dominancy of *Satva*, *Rajas* and *Tamas*, 16 types of Psychic personalities are described, in which *Rajasika* and *Tamasika Prakrites* are more prone to psychosomatic disorders due to excess of *Rosha Ansha* and *Moha Ansha* respectively.^[16]

In Shareeraja Prakrities Paittika and Vatika Prakriti's are more susceptible to psychosomatic disorders because their Manas is more easily influenced by Krodha, Kshobha etc. in comparison to Kaphaja Prakriti whose Manas is either not impacted at all or affected minimally or after a long duration by these Bhavas. [17]

Heart is the primary seat of *Manas*^[18] and is present all over body through its sensory and motor functions. And channels *Manovaha Srotas* is spread all over the body through ten vessels (*Manovaha Dhamani*) originating from heart.^[19] These channels connect the heart to the brain. Likewise, skin presence the sense of touch and pervades all over the body. Skin gets its nourishment from the *Rasa Dhatu* and the channels of *Rasavaha Srotas* also originates from the heart, the factors like *Chinta* etc. can cause vitiation of *Hridaya* and affects *Manas*, *Rasa Dhatu* and Skin.^[20]

Among five sense organs *Vayu* is situated in *Sparshanendriya* (twak). Secretion of sweat is the function of *Vyana vayu* and *Bhrajaka Pitta* responsible for *Prakruta* and *Vikruta Varna* (difference in skin colour) and it is noted that the factors like *Utsahahani* and *Shoka* are responsible for vitiation of *Vyana Vayu*. Hence disturbances in equilibrium of *Vayu* or *Pitta* results in diseases like *Kushta*.

Skin - brain connections^[25]

During germ cell formation

- Ectoderm → Skin (epidermis) and nervous system developed
- Endoderm → Dermis and GI system developed

Therefore skin, GI and nervous system is interrelated. Hence skin undergoes various changes during emotional events:

Turns pale during fear, blushes when embarrassed and glows due to happiness

The various receptors present on the skin like thermoreceptor, nociceptor etc. are responsible for transmitting the outside signals to spinal cord and then to the brain. Brain responds to these signals, which in turn influences the stress response. When these stress responses are beyond the coping abilities (adaptive power) of the individuals will results in distress resulting in activation of HPA (hypothalamic-pituitary-adrenal) axis and sympathetic nervous system.

Therefore any disturbances in HPA axis in form of stress

→ increase in stress hormone (cortisol) causes

impairment in St.Corneum cohesion and barrier function, which disturbs the permeability and releases inflammatory mediators leading to lesion in skin or delaying tissue repair.

The amygdala, part of the limbic system, is crucial for memory and is linked to psychological and social behaviours. Under long-lasting stress conditions, sustained hyperactivated HPA axis and the consequent high circulating glucocorticoids levels can lead to structural and functional disruption in amygdala via activating specific receptors. Reciprocally, the amygdala strengthens the HPA activity.

Relation between skin, Agni and mind

The mind plays a vital role in digestion and metabolism. A positive mental attitude and concentration of the mind on food are crucial for proper digestion.^[26]

As per *Chandodaya Upanishad*, the consumed food undergoes *Trividha Paka*.

- Sthulamsha causes formation of Mala
- Madhyamamsha causes formation of Rasadi Dhatus
- Sukshmamsha nourishes the Manas (mind)

i.e., Skin and mind derive their nutrients from *Rasa Dhatu* (the fluids of body - first result of metabolism). So, consumption of food and drinks which are mutually contradictory, unclean and unwholesome have a greater impact on either entity.

Intake of excessive sour, hot, spicy and fried food leads to vitiation of *Rajo Guna* (attribute of psyche) which in turn disturbs the mind.^[27] This kind of food is also responsible for *Rakta Dushti* (vitiation of blood) which is a key factor in developing *Kushta*.^[28] Consumption of half cooked, stale, foul smelling and left over food vitiates *Tamas* (attribute of psyche).^[29] These are the main dietary causes of *Kushta*.

Even when the wholesome food is taken proper quantity it may not be get digested properly if the person is affected by *Chinta* (worry), *Shoka* (grief), *Bhaya* (fear), *Krodha* (anger) etc. [30] Which means that psychological stress is associated with impairment of *Jatharagni* (digestive fire) and further leading

Dhatvagnimandya (impaired tissue metabolism) and disease occurrence.

Table 1: Manas Hetu and Srotodushti

Manas Hetu	Srotodushti
Chinta	Rasavaha (channels carrying rasa dhatu)
Bhaya	Udakvaha (channels carrying lymph)
Bhaya, Krodha, Shoka	Swedavaha (channels carrying sweat)

While explaining the *Srotodushti Nidanas Charaka* mentions that over worrying (*Chintyanam Cha Atichintanat*) is one of the causes for *Rasavaha Srotodushti*. *Krodha, Shoka* and *Bhaya* causes *Svedavaha Srotodushti*. *Acharyas* explain the role of these channels in the *Samprapti* (pathogenesis) of skin diseases. (table no.1)

DISCUSSION

Many etiological factors are mentioned in the manifestation of *Twakavikaras* (skin disorders) in which *Sahasa* (stressors) is one of the main factor.^[31] Different types of stressors like physical, psychological and environmental factors can vitiate Dosas directly. *Sahasa* as it causes *Ojahksaya* (loss of immunity)^[32] increase the susceptibility of the body to various infectious diseases.

Psychological factors like Chinta (Sadness), Shoka (Depression), Bhaya (Fear/Anxiety) etc. are prominently described for Vata vitiation and Vata Prakriti persons are naturally more prone to anxieties and worries. In which factors like Vishada (grief/ anxiety), Chinta (worries/sadness) leads disequilibrium of Vyana Vata[33] causing alteration in sweat production. whereas, Pitta gets vitiated by Krodha.[34] Sweat plays a role in epidermal barrier homeostasis through its delivery of water, natural moisturizing factors, and antimicrobial peptides to the skin surface and increases stratum corneum hydration. And many studies have showed that preservation of sweating is an important therapeutic strategy for improving atopic dermatitis or other dry skin conditions.[35]

The exact mechanism behind psychological sweating is not fully understood. Boucsein suggested that the limbic system, motor system, and reticular formation regulate electrodermal activity. Several brain structures might be involved in psychological sweating although amygdala is thought to be the key brain centre for psychological sweating. The amygdala, part of the limbic system, is crucial for memory and is linked to psychological and social behaviors. It is seen that in a patient with a history of herpes simplex encephalitis showed reduced electrodermal responses to mental stress following bilateral amygdalotomy. And in patients with bilateral restricted amygdala lesions caused by idiopathic subacute limbic encephalitis, also showed no skin electrodermal activity and sweat stimulation. But after neurological improvement associated with diminution of amygdala lesions, determined by magnetic resonance imaging, normal sweat responses were restored. It is also confirmed that increased mental stress tasks activates the frontal cortex, hippocampus, and amygdala, leading to increased sympathetic skin sweat response (SSSR).[36]

Excess levels of cortisol increase the *Twakgata Sneha* (sebum production) making the skin more prone to acne and fungal infections. High cortisol also fastens the breakdown of collagen and elastin resulting in appearance wrinkles and premature age look.^[37]

There are a few studies on psychiatric and psychologic aspects of skin disorders from the Indian settings. Sharma and co-workers^[38] studied and compared the psychiatric morbidity in five chronic and disfiguring diseases:

- 1. psoriasis,
- 2. chronic urticaria,
- 3. leprosy,
- 4. vitiligo, and
- 5. lichen simplex chronicus.

The overall prevalence of the psychiatric morbidity was found to be 39%; common symptoms were depression (13%), anxiety (11%), suicidal ideations (16%), and somatization (13%). Interpersonal conflict was noted in 10% and suicidal attempts in 3%. Psychiatric morbidity was significantly higher in the psoriasis (53%) than

vitiligo (16%) patients. A total of 23% of psoriasis and 10% of vitiligo patients reported depression. Sleep disturbance was significantly more often reported by psoriasis patients (57%) than vitiligo patients (20%).

Psychosocial aspects of skin disorders

Various psychosocial activities like insulting good persons like saint, teachers, indulging in sinful activities or any forms of anti-rituals and anti-social activities are mentioned in the Hetu of *Kushta*. All these psychic factors disturb the *Satvaguna* by creating a negative impact on the mind leads to stress.

Nidanas (aetiologies) like *Papakarma* (sinful deeds) causes affliction in the preceding life.^[39] This observation highlights the seriousness of psychic factors in the aetiology of *Kushta* (skin diseases).

Treatment:

Management of psychocutaneous disorders in ayurveda aims at a multidimensional approach through Daivavyapashraya (Psychospiritual therapy), Yuktivyapashraya (pharmacotherapy) and Sattwavajaya (Psychic intervention).

Kushta, classified as a Karmaja Vyadhi (disease caused by Papakarma), is treated through Daiva-vyapashraya Chikitsa (spiritual therapies) like Prayaschitta, Bali, Mantra, Oushadha etc. aimed at reducing the effects of Papakarma. Chakrapani states that experiencing the results of one's actions reduces Karmaphala^[40], while Acharya Harita emphasizes Prayaschitta as the primary treatment for Karmaja Vyadhi. Harita explains that without Prayaschitta, the effects of Papakarma persist across births, but performing Prayaschitta can prevent the manifestation of diseases linked to these actions and mitigate their carryover effects into subsequent births.^[41]

Engaging in *Prayaschitta* not only aids spiritual atonement but also reduces stress, providing a conducive environment for healing. It keeps individuals actively involved in meaningful tasks, alleviating psychological burdens and promoting recovery in conditions like *Kushta*.

In certain temples of Southern India, there is a custom of offering prayers for the cure of chronic, debilitating skin disorders, particularly when other treatments fail and the disease is believed to be a result of sinful actions. The patient's faith in God often translates into a psychological coping mechanism, helping them navigate their condition and continue with their lives.

Chronic stress impairs the hypothalamic-pituitary-adrenal (HPA) axis, weakens immune responses, and worsens inflammatory skin conditions like psoriasis and eczema. *Prayaschitta* and similar structured spiritual activities reduce stress through mindfulness, emotional regulation, and a sense of purpose. These rituals, akin to meditation, promote mindfulness and have been shown to alleviate symptoms of skin conditions like psoriasis. ^[42] Chanting *Mantras* or engaging in rituals lowers cortisol levels, enhancing immune function and skin healing. ^[43]

Yuktivyapashraya includes judicial application of Shodhana (purificatory) and Shamana (palliative) therapies. According to recent researches some of the single drugs useful in skin disorders also exhibit anxiolytic and antidepressant property and drugs acting on brain also have an effect on the skin. (eg: Bacopa monnieri, Glycerizzha glabra, Celastrus paniculatus etc.,)

Satvavajaya Chikitsa strengthens the mind (Sattva) by addressing negative traits caused by Rajas and Tamas (mental disturbances). It trains the mind to avoid harmful thoughts and actions through methods like Jnana (knowledge), Vijnana (scientific understanding of the disease), and Dhairya (building confidence). These approaches help reduce fear and negativity associated with psychocutaneous disorders, providing emotional support and boosting confidence.

Psychological interventions are especially helpful in chronic skin diseases like psoriasis, which are often linked to anxiety and depression. Techniques such as self-relaxation, yoga, pranayama, and meditation further reduce stress, enhance coping abilities, and support the management of skin conditions.

CONCLUSION

The interconnection between psychological factors and the manifestation of *Kushta* (skin diseases) is deeply rooted in both classical Ayurvedic principles and modern medical understanding. The mind (*Manas*),

which influences and is influenced by *Satva*, *Rajas*, and *Tamas*, plays a pivotal role in maintaining mental and physical health. Excessive prominence of *Rajas* and *Tamas* predisposes individuals to psychosomatic disorders, particularly skin diseases like *Kushta*. Stressors such as *Chinta* (worry), *Shoka* (grief), *Krodha* (anger), and *Bhaya* (fear) significantly disturb the equilibrium of *Manas*, leading to vitiation of *Doshas* and affecting the *Rasavaha*, *Manovaha*, and *Svedavaha Srotas*.

Psychological stress not only impairs *Jatharagni* (digestive fire) but also alters physiological functions like sweating and skin barrier integrity through the activation of the amygdala along with HPA axis, resulting in skin lesions, inflammation, and delayed healing. Furthermore, diet and lifestyle factors that aggravate *Rajas* and *Tamas* also contribute to skin conditions by disrupting both mind and body homeostasis.

The connection between the skin, nervous system, and mind, as observed in embryological development and physiological functions, emphasizes the holistic approach needed to address skin disorders (*Kushta*). Psychosocial stressors and unhealthy behaviours further underline the importance of mental well-being in the prevention and management of skin diseases.

Thus, integrating psychological care, balanced nutrition, stress management, and ethical living is essential in treating and preventing skin disorders (*Kushta*), ensuring a comprehensive approach to health.

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How to cite this article: Sudesh KS, Pramod Shet B, Rashmi Kalkura K. Psychological Stress: A key etiological factor in Kushta (Skin Disorders). J Ayurveda Integr Med Sci 2024;12:220-226.

http://dx.doi.org/10.21760/jaims.9.12.29

Source of Support: Nil, **Conflict of Interest:** None declared.

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