

Yoga for Dermatologic Conditions

Sheila Jalalat, MD



As both a dermatology resident and yoga instructor, I find the potential correlation between the 2 disciplines to be interesting and a growing topic of attention in the media today. With the rising trend of practicing yoga, which encompasses physical postures, breathing exercises, and meditation or mindfulness, it is inevitable that patients will inquire about the benefits of yoga in managing dermatologic problems. In this column, I will discuss the dermatologic manifestations of stress as well as the known health benefits of yoga as described in the literature so that residents may offer an objective opinion about yoga in response to patient inquiries.

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Regardless of its spiritual origins, yoga has become a popular way of reaching mind and body well-being with nearly 30 million people practicing regularly worldwide.¹ Yoga, which is the combination of physical postures, controlled breathing, and meditation or mindfulness, has long been used in complementary and alternative medicine around the world and recently has gained popularity as a therapeutic practice, with nearly 14 million Americans reporting that yoga was recommended to them by a physician or therapist.^{2,3} Studies suggest that people who participate in even brief yoga programs may see improvements in anxiety, somatic stress and discomfort, health-related quality of life, and self-rated sleep quality, all benefits that can help medical conditions, especially those that are dermatologic in nature.^{4,5}

Stress and Dermatologic Conditions

The interaction between the mind, skin, and body is well known. Research in psychoneuroimmunology, the interaction between psychological processes and the nervous and immune systems, has examined the role of neuropeptides, hormones, and neurotransmitters in psychodermatological disorders. The correlation between neuroimmunological pathways and skin inflammation is now well recognized, specifically the interactions between the brain and skin underlying many dermatological diseases (eg, acne, alopecia areata, various types of eczema and dermatitis, oral and genital herpes, hyperhidrosis, pruritus, psoriasis, rosacea, urticaria, warts, breaking or ridging of the nails).⁶⁻⁹

Two biological systems are known to be affected by the systemic stress response: (1) the hypothalamic-pituitary-adrenal axis, which regulates the release of adrenocorticotropin, β -endorphin, and cortisol, and (2) the sympathoadrenal medullary system, which regulates the release of catecholamines (eg, epinephrine, norepinephrine).⁷ Cortisol and catecholamines have been shown to have potent effects on the immune system as well as the inflammatory response.⁹ Additionally, it has been shown that cutaneous sensory nerve terminals release neuropeptides, including calcitonin gene-related peptide and substance P, both of which have different effects on the local inflammatory response.^{10,11}

Psychological stress is well known to trigger many dermatologic conditions, but it also may lead to abnormal skin barrier function.¹² The mechanism in which skin barrier function is affected appears to involve a stress-induced increase of endogenous glucocorticoids, which may consequently disrupt skin barrier function and recovery rates, stratum corneum cohesion, and epidermal antimicrobial function.^{13,14}

Atopic dermatitis, for example, is classified as a psychophysiological disorder. Although it is not caused by stress, atopic dermatitis has been

From Presence Health Resurrection Medical Center, Chicago, Illinois.
The author reports no conflict of interest.
Correspondence: Sheila Jalalat, MD (sjalalat@gmail.com).

described to be precipitated or exacerbated by stress in patients.¹⁵ In fact, it was found that stressful life events preceded the onset of itching in more than 70% of patients with atopic dermatitis,¹⁶ which is especially relevant, as there is no cure and patients often experience a lifelong struggle with the condition. Additionally, stress mediates the degranulation of mast cells via corticotropin-releasing hormone and neuropeptides, and the upregulation of mast cell corticotropin-releasing hormone receptors supporting its putative role in the pathogenesis of urticaria.^{9,17} Furthermore, the increase in cortisol also has been described in the exacerbation of acne during times of stress.¹⁸

Psychological factors affect the management of skin conditions in more than one-third of reported dermatology patients; therefore, it is important to consider these factors in the treatment of chronic dermatological conditions, especially when they are inquired by the patient.^{19,20}

Yoga Benefits in the Literature

The therapeutic potential of yoga has been explored in a growing number of randomized controlled trials to date.²¹ A recently published bibliometric analysis provided a comprehensive review of the characteristics of the randomized yoga trials available in the literature.²² The review included 366 full-text articles, with the 2 earliest studies published in 1975 and nearly 90% published within the last decade. In addition to healthy patients, it was found these randomized controlled yoga trials most commonly enrolled patients with breast cancer, depression, asthma, and type 2 diabetes mellitus.²² Another study examined psychological (eg, self-rated stress and stress behavior, anger, exhaustion, quality of life) and physiological (eg, blood pressure, heart rate, urinary catecholamines, salivary cortisol) measurements obtained before and after a 10-session yoga program that participants completed over a 4-month period, with results showing significant improvements ($P < .05$) on almost all stress-related subjective and physiological variables. Results were comparable with cognitive behavioral therapy.²³

Not only has it been shown that yoga helps patients on a psychological level, but a recent study reported that 90-minute sessions of mindfulness meditation and gentle Hatha yoga over an 8-week period led to observable benefits on a cellular level, as telomere length was maintained in distressed breast cancer survivors compared to decreases in telomere length in the control group with patients who solely participated in a stress management seminar.²⁴ To date, there are no known studies examining the effects of yoga on patients with skin cancer. However,

a few studies have specifically examined the effect of yoga in managing non-cancer-related dermatologic issues. Specifically, one small study of psoriasis patients found that those who listened to mindfulness meditation tapes while undergoing standard phototherapy (psoralen plus UVA) healed faster than those who underwent phototherapy treatment alone.²⁵

Because some dermatologic problems have comorbidities and increased risk factors of other medical problems, such as psoriasis with psoriatic arthritis and metabolic diseases (eg, abdominal obesity, diabetes, nonalcoholic fatty liver disease, dyslipidemia, metabolic syndrome, chronic kidney disease), it is even more pertinent to recommend approaches for healthy mind and body well-being as a supplement to medical care.²⁶

Final Thoughts

With accurate diagnosis by a dermatologist, appropriate conventional treatments can improve dermatologic problems. These treatments alone can reduce patients' stress and improve skin, hair, and nail conditions; however, if it is clear that stress is interfering with a patient's overall well-being and ability to cope with his/her dermatologic condition, concurrent stress management interventions may be warranted. In some instances, recommending yoga sessions, mindful meditation, or breathing exercises may help, while in others referral to a mental health professional may be necessary.

Beyond the direct physiological effects of stress, it also is worth mentioning that patients who deal with stress also tend to scratch, pick, or irritate their skin more and often lack the motivation to adhere to skin care regimens or treatments, again supporting the idea that our approach in managing these patients must be multifaceted. As dermatologists in training, residents should be cognizant of the potential psychological sequelae of some dermatologic problems and be aware of the possible use of supplemental interventions by our patients.

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