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Stress-Coping Strategies in Healthy Individuals and Patients with Atopic Dermatitis – Literature Review

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Abstract:

A chronic disease often disrupts the achievement of developmental tasks in a person's life. It can also lead to a major decrease in self-esteem and interrupt the formation of identity. Atopic dermatitis (AD) is a chronic inflammatory skin condition that significantly impacts the quality of life of affected individuals, both physically and psychologically. Stress is not only a common consequence of AD but also a potential exacerbating factor for its symptoms. This review explores the stress-coping strategies employed by individuals with AD and compares them with those used by healthy individuals. By analyzing relevant studies, the aim is to identify psychological and behavioral patterns associated with AD and propose recommendations for improving stress management in this population. The findings highlight the importance of integrating psychological interventions into dermatological care to address both the emotional and physical challenges of AD.

Keywords: atopic dermatitis, chronic disease, stress, coping strategies

Introduction

Chronic diseases are the leading cause of death worldwide. According to data from the World Health Organization (WHO), they are responsible for more than 60% of all deaths and affect both women and men equally [1]. Most chronic diseases tend to be underestimated due to the absence or mild nature of symptoms and the long development period. This presents a challenge for healthcare providers and professionals responsible for patient care. They face the challenge of ensuring patients receive the best possible care and lead independent, comfortable lives. Achieving this goal requires an understanding of the causes of chronic diseases and the psychological mechanisms behind them.

1. Chronic diseases

A chronic disease is defined as any medical condition characterized by a long duration and slow progression of pathological changes. According to the WHO, a chronic disease is any disorder or deviation from the norm defined as health, characterized by at least one of the following features: persistence, resulting in disability, causing irreversible pathological changes, requiring special rehabilitative procedures, or necessitating long-term supervision or care. Among chronic skin conditions, one of the most prevalent is atopic dermatitis, which affects both children and adults.

2. Pathogenesis of atopic dermatitis

Atopic dermatitis (AD), also known as atopic eczema, is a very common, chronic, recurrent, non-infectious inflammatory disease that typically appears in early childhood and can persist throughout life. The disease is characterized by periods of flare-ups and remissions. Its main symptoms include intense itching, dry skin, erythematous, inflamed skin lesions similar to eczema, and in the chronic phase of the disease, thickening (lichenification) and scaling of the epidermis [2, 3]. Patients are prone to recurrent bacterial, viral, and fungal skin infections. AD is often associated with other atopic conditions, such as asthma, allergic rhinitis, and food allergies, forming a phenomenon known as the “atopic march” [4]. Lesions most often appear in the flexural areas of the elbows and knees, on the face and neck, but can also affect the skin of the entire body. The location of the lesions depends on the age of the patient [5]. Atopic dermatitis results from complex interactions between genetic, epigenetic, environmental, and immunological factors. In the early years of life, the prevalence of AD is similar for both genders, but after the age of 6, there is a higher prevalence in females compared to males (3:2). It is believed that 45% of children show symptoms by the age of 6 months, and 50% by the first year of life. In 40-80% of children, the disease tends to resolve before the age of 5, while 20% of patients continue to experience symptoms into adulthood [6].

Beyond its physical manifestations, AD poses a significant psychological burden, including increased risks of anxiety, depression, and sleep disturbances [7]. Atopic dermatitis is part of the 'Chicago Seven,' a group of psychosomatic diseases significantly influenced by psychological factors [8]. This concept was introduced in 1950 by F.G. Alexander, who

identified seven psychosomatic diseases: peptic ulcer, hypertension, asthma, rheumatoid arthritis, colitis, hyperthyroidism, and atopic dermatitis. Alexander explored the relationship between psychological factors and somatic health and is considered a pioneer in psychosomatic medicine. Today, it is widely accepted that the diseases within the Chicago Seven share a common trait: their onset is influenced by psychological factors.

The concept of the Chicago Seven illustrates the role of stress and psychological factors in disease pathogenesis. In the case of diseases included in the Chicago Seven, there is a direct link between the development of the disease and psychological factors. Addressing these psychological factors is crucial in the management of psychosomatic diseases.

Contribution of stress and stigmatization in Atopic Dermatitis

Every chronic disease significantly affects an individual's daily functioning. A disease represents not only a health issue (i.e., a disturbance in the biological functioning of the body), but also has a psychological dimension for the patient. This dimension becomes even more important the more the disease disrupts the patient's daily life, influences their relationships with others, negates their plans, and prevents the fulfillment of important needs.

The psychological burden of AD is compounded by its visible nature, which often leads to stigmatization and social isolation. Individuals with AD frequently report feeling judged or misunderstood due to their skin's appearance, which can diminish their quality of life [9]. Adolescents and young adults, in particular, may experience challenges in forming and maintaining social relationships, further exacerbating feelings of loneliness and low self-esteem [8]. The symptoms accompanying skin conditions often lead to negative reactions from society. Skin diseases can have various causes and developments, but their common characteristic is that they are difficult to accept for the patients and/or those around them. A crucial factor that may relate to the psychosocial functioning of dermatological patients is the experience of stigmatization. The impact of stigmatization on the quality of life and psychological well-being of dermatological patients has been the subject of many studies. Individuals with dermatological diseases often subjectively perceive aversion from their environment, which is frequently associated with a desire to conceal the skin changes. This phenomenon can, in turn, evoke negative emotional and behavioral responses in patients, potentially leading to rejection, exclusion, or other forms of discrimination. Thompson and

Kent suggest that distress experienced in the context of body distortion may not stem from the disease itself, but rather from the tension associated with attempts to hide it. Accurate identification of co-occurring psychological disorders and appropriate treatment can prevent suicidal attempts, which are significantly higher in this patient group compared to the general population [10].

In addition to personal stressors, societal and environmental factors also contribute to the experience of stress in individuals with AD. For example, urbanization and exposure to environmental pollutants have been linked to higher rates of AD, suggesting that modern living conditions may play a role in its increasing prevalence [11]. Moreover, healthcare disparities can affect access to effective treatments, leaving many patients to navigate the challenges of AD without adequate support [12]. These external stressors emphasize the need to address systemic issues in the management of AD.

Quality of life of patients with AD

Studies on the quality of life of individuals with atopic dermatitis have been conducted, including by Teresiak et al. [13]. The chronic nature of the disease and persistent itching significantly reduce the quality of life for patients and their families, and have serious socio-economic consequences. Sleep disturbances, absenteeism from school and work, and social isolation may lead to depression, even suicidal thoughts. The ailments related to the condition cause anxiety, psychological discomfort, and restrict patients in their daily lives. People with skin diseases are often subjected to malicious remarks from others. In such cases, the skin disease becomes not only a source of constant stress but even suffering. This stress can be caused both by the course of the disease itself and by various social situations. The skin changes often lead to negative self-assessment and reduced attractiveness. This situation can, and often does, affect the patient's quality of life. Given the stress that individuals with skin diseases experience, the goal of the study is to determine whether individuals with dermatological conditions differ from those without these conditions in terms of stress-coping strategies. Bielecki et al.'s [14] research suggests that individuals with dermatological diseases differ from healthy individuals in their emotion-focused coping style, but do not differ in terms of task-focused or avoidance-focused coping.

Stress theories

Stress plays a dual role in the context of AD. On the one hand, it is a well-documented trigger for exacerbating symptoms, as stress-related immune dysregulation can intensify inflammation [7]. On the other hand, the chronic itching and discomfort caused by AD can heighten stress levels, creating a vicious cycle that complicates disease management. Given this interplay, understanding how individuals cope with stress is essential for developing comprehensive treatment strategies.

Stress and the inability to cope with it are the causes of many somatic and mental health disorders. It is an inseparable part of human life. In modern psychology, stress is understood in various ways - as a response, a stimulus, and a transaction. Stress is defined as a complex response of the organism to stimuli that disturb its homeostasis [15].

The concept of stress was introduced into health sciences by Walter Cannon and later developed by Hans Selye. In this context, stress was understood as a physiological reaction, and Selye defined it as a non-specific response of the body to all the demands placed on it. Selye also developed the concept of the “general adaptation syndrome,” which includes three stages: alarm, resistance, and exhaustion. Stress here is understood as a response to stimuli. A stressor can trigger a generalized stress response affecting the entire organism through the nervous and hormonal systems. Selye also divided stress into eustress and distress. He pointed out that stress is not always negative; it can also be positive and motivating. Eustress, in his view, is the so-called positive or good stress, understood as a health-promoting response of the body to stressors, which motivates and stimulates growth and change. Distress, on the other hand, has a negative, destructive impact and is difficult to manage [16].

According to the transactional model of stress by Richard Lazarus and Susan Folkman, a stressful situation constitutes a specific, defined relationship between the individual and the environment, which is evaluated as burdensome or exceeding available resources and poses a threat to the individual’s well-being. Lazarus and Folkman believe that the outcomes and intensity of a stressful situation depend on cognitive appraisal and coping strategies. Cognitive appraisal consists of three stages: primary appraisal, secondary appraisal, and reappraisal. The first stage determines the significance of the situation for the individual. Primary appraisal is subjective and may not necessarily correspond to the actual situation. Moreover, it is a critical point for the emergence of the stress relationship [17]. Recognizing

an event as insignificant to well-being or as beneficial and positive does not disturb the balance in the individual's relationship with the environment, and therefore, does not constitute a source of stress.

In light of the intricate relationship between AD and stress, this study aims to explore the stress-coping strategies employed by individuals with AD compared to healthy individuals. By examining these strategies, we can identify potential areas for intervention and support, ultimately improving the quality of life for those affected by this condition.

Literature Review

Stress-Coping strategies

The process of coping with stress refers to the entire range of activities an individual engages in during stressful situations. These are constantly changing actions that occur both in the mind and behavior of the person, aimed at managing specific external and internal demands that are perceived as burdensome, challenging, or exceeding their resources. Much research focuses on the activities individuals adopt in stressful situations - studying coping strategies. This is important because it is argued that the outcomes of stress are more influenced by how an individual copes with it than by the objective characteristics of the stressor [18]. Coping style (or strategy) is understood here as the typical way a person behaves in various stressful situations.

Folkman and Lazarus distinguished between problem-focused coping strategies, which involve efforts to change the transaction between the person experiencing difficulties and the environment, and emotion-focused coping strategies, which are generally understood as efforts to regulate distressing emotions [17]. Endler and Parker expanded the coping classification by adding avoidance-focused coping. This strategy primarily aims to reduce the effects of the stressor and is more adaptive in resolving short-term problems than in chronic stress situations, such as long-term illness [19].

Considering the significant role of stress in the course and flare-ups of atopic dermatitis, it can be suggested that individuals with this condition are more likely to choose avoidance strategies when coping with stress compared to those without atopic dermatitis, and that they are more susceptible to the negative effects of stress.

Stress-Coping Strategies in Healthy Individuals

Coping strategies are the psychological and behavioral mechanisms individuals use to manage stress. In healthy individuals, stress-coping approaches can generally be categorized into **problem-focused coping**, **emotion-focused coping**, and **avoidance strategies** [20].

- **Problem-Focused Coping:** This strategy involves addressing the source of stress through active problem-solving or planning. Healthy individuals frequently use this method when stressors are perceived as controllable, such as work-related challenges or academic pressures [21]. For instance, setting realistic goals, time management, and seeking informational support are common practices within this category [22].
- **Emotion-Focused Coping:** This approach focuses on managing the emotional distress associated with stressors. Techniques such as mindfulness, meditation, journaling, or seeking social support from friends and family are prominent examples. These strategies are especially useful when stressors are beyond direct control [23].
- **Avoidance Coping:** Avoidance strategies, such as denial, distraction, or substance use, are less effective in the long term. Although avoidance may provide temporary relief, it can lead to maladaptive outcomes, including chronic stress and decreased emotional resilience [24].

Overall, healthy individuals tend to employ adaptive strategies, such as problem-focused and emotion-focused coping, which contribute to maintaining emotional well-being and resilience.

Stress-Coping Strategies in Patients with Atopic Dermatitis

Individuals with AD face unique stressors, including chronic physical discomfort, visible symptoms, and the psychological burden of managing a relapsing condition. Studies have shown that patients with AD often exhibit a greater reliance on maladaptive coping strategies compared to healthy individuals [25].

- **Emotion-Focused Coping in AD:** While emotion-focused strategies, such as seeking social support, can be beneficial, patients with AD often experience barriers to effective emotional regulation. The stigma associated with visible skin lesions may

limit their willingness to engage socially, contributing to feelings of isolation and emotional distress [26].

- **Problem-Focused Coping in AD:** AD patients may struggle to employ problem-focused strategies effectively due to the unpredictability of flare-ups and limited control over environmental triggers. Despite these challenges, some individuals report success in managing symptoms through structured routines, such as adhering to strict skincare regimens or avoiding known allergens [27].
- **Maladaptive Coping in AD:** Avoidance behaviors are particularly prevalent in this population. Patients with AD frequently report using avoidance as a response to stress, such as withdrawing from social situations to prevent judgment or avoiding physical activities that might exacerbate symptoms [28]. Unfortunately, these strategies often lead to long-term negative effects, including increased psychological distress and reduced quality of life [24].

Comparative Insights

The differences in coping strategies between healthy individuals and patients with AD underscore the profound psychological impact of chronic illness. While healthy individuals are more likely to employ adaptive coping mechanisms, patients with AD often face barriers to implementing these strategies effectively. The physical and social challenges of AD necessitate a tailored approach to stress management that considers both the emotional and physiological dimensions of the condition.

Emerging Interventions and Recommendations

Research suggests that integrating psychological support into dermatological care can help bridge this gap. **Cognitive-behavioral therapy (CBT)**, mindfulness-based stress reduction (MBSR), and patient education programs have demonstrated efficacy in enhancing coping skills among individuals with AD [29]. Additionally, fostering stronger patient-provider

communication can empower individuals with AD to take a more active role in managing their condition, improving both their mental health and treatment adherence [30].

Future Directions in Stress-Coping Interventions for AD

As we continue to explore stress-coping strategies in individuals with AD, it becomes increasingly apparent that personalized approaches are essential for optimizing stress management and treatment outcomes. Current research highlights several promising areas for future intervention.

1. Digital Mental Health Tools

The integration of digital health solutions in managing chronic conditions such as AD has gained significant attention in recent years. Digital mental health tools, including mobile apps for mindfulness, CBT, and emotional self-regulation, are becoming more accessible and widely adopted. Studies have shown that digital interventions can provide valuable support for patients by offering personalized guidance on managing stress, improving symptom tracking, and facilitating better communication with healthcare providers [31]. These platforms offer flexibility, enabling individuals to engage in therapeutic practices at their own pace and in the comfort of their own homes, which is especially beneficial for those who may feel stigmatized or isolated due to their condition [32].

2. Psychodermatology: The Growing Role of Mental Health in Dermatology

The field of psychodermatology, which focuses on the interplay between skin health and psychological well-being, is gaining increasing recognition. Psychodermatology emphasizes the importance of addressing both the mental and physical aspects of dermatological conditions, such as AD. Clinical interventions in this field aim to combine dermatological care with psychological therapy to address the emotional impact of skin conditions, mitigate stress, and improve treatment adherence. Research indicates that psychodermatology can be highly effective in treating conditions like AD, particularly when integrated into a

multidisciplinary care model that includes dermatologists, psychologists, and other healthcare professionals [33].

3. The Role of Family and Social Support

Family and social support play a crucial role in how individuals cope with chronic conditions. The presence of supportive networks can alleviate stress, reduce feelings of isolation, and enhance coping strategies. Studies have found that individuals with AD who have strong social support networks tend to report better psychological outcomes and are more likely to use adaptive coping strategies effectively [34]. Encouraging the involvement of family members in the treatment process, through educational sessions or therapy, can strengthen the support system and contribute to more effective disease management.

4. Personalized and Integrative Treatment Approaches

Given the complex nature of AD, there is a growing consensus among researchers that treatment plans should be personalized and integrative. This approach would involve the combination of pharmacological interventions, such as topical treatments and biologic therapies, with psychological interventions tailored to individual needs. For example, some individuals with AD may benefit more from CBT and relaxation techniques, while others may find support groups or community-based interventions more effective. By integrating multiple treatment modalities, healthcare providers can address the diverse challenges faced by individuals with AD, ensuring that both the emotional and physical aspects of the condition are managed comprehensively [35].

5. Exploring the Role of Stress Reduction in AD Management

Several studies suggest that reducing stress through behavioral interventions not only improves mental health but can also have a direct impact on the severity of AD symptoms. Relaxation techniques such as deep breathing exercises, progressive muscle relaxation, and yoga have been shown to reduce stress and inflammation, thereby potentially alleviating AD

symptoms. The physiological effects of stress reduction on immune function may help in mitigating the inflammatory processes that are central to AD [36]. Incorporating these techniques into regular self-care routines could lead to better long-term outcomes for individuals with AD, supporting both symptom management and overall well-being.

Conclusion

Atopic dermatitis is a condition that deeply impacts both the physical and psychological health of those affected. The stress associated with AD often exacerbates the condition, creating a challenging cycle that can significantly affect an individual's quality of life. While healthy individuals tend to utilize adaptive coping strategies, individuals with AD frequently rely on maladaptive coping mechanisms, which can worsen emotional distress and disease outcomes. Emerging interventions such as digital health tools, psychodermatology, and integrated treatment approaches offer promising solutions to improve stress management for individuals with AD. By incorporating psychological support into dermatological care, fostering stronger patient-provider communication, and focusing on personalized treatment strategies, it is possible to alleviate the psychological burden of AD and improve both the mental and physical health of affected individuals.

Disclosures:

Authors' contribution:

Conceptualization: Piotr A. Cyran; methodology: Julia A. Olbryś; check: Piotr A. Cyran; formal analysis: Julia A. Olbryś; investigation: Julia A. Olbryś; resources: Julia A. Olbryś; data curation: Julia A. Olbryś; writing - rough preparation: Julia A. Olbryś; writing - review and editing: Piotr A. Cyran; visualization: Piotr A. Cyran; supervision: Piotr A. Cyran; project administration: Piotr A. Cyran;

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