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Psychoemotional State And Severity Of Atopic Dermatitis In Children

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Abstract: This article reviews the clinical features of the psychosomatic state in children with allergic dermatitis (AD), focusing on the relationship between psychoemotional state and disease manifestations. To study the psycho-emotional state as an element of quality of life, a study was conducted on a sample of 41 children with atopic dermatitis. The results showed that the use of the scale to measure the level of reactive and personality anxiety provides a more complete picture of the patient's health status. High levels of anxiety are observed in children during the exacerbation of atopic dermatitis.

Keywords: Atopic dermatitis, pediatric population, clinical features, SCORAD (Scoring Atopic Dermatitis) index, psychosomatic condition, emotional well-being, Anxiety levels.

1. Introduction: Today, atopic dermatitis (AD) is one of the most common skin diseases worldwide. The disease, which is growing rapidly in countries, affects up to 20-25% of children and 2.2-4.8% of adults [9]. Most cases are diagnosed before the child reaches the first year of life, but more than a third of patients can be seen to continue the disease throughout adulthood [4; 6]. According to the World Health Organization (WHO) and other research organizations, the prevalence of AD in developed countries is 10-20%. Symptoms of atopic dermatitis in children typically manifest at 6 months of age in 60% of cases, by 1 year in 75%, and by 7 years in 80-90%. In recent decades, the incidence of atopic dermatitis has significantly increased, with its clinical course becoming more complex and outcomes

deteriorating. [5; 8]

Atopic dermatitis represents a serious problem for both affected children and their families [2]. The chronic course of atopic dermatitis and the cyclic process of flare-ups and remissions can significantly reduce the quality of life of patients, imposing an economic, psychological, and social burden. The clinical course of atopic dermatitis is often aggravated by stress and anxiety; many researchers claim that patients with this condition exhibit characteristic personality traits and are more prone to anxious states [1; 11]. AD is often clinically worsened by stress and anxiety, and many suggest that patients exhibit personality traits making them more prone to anxiety [7]. A variety of factors contribute to the development of AD, including genetically determined features of immune status, imbalances in cellular regulatory mechanisms, psychophysiological and psychosomatic traits, and imbalances in the sympathetic and parasympathetic nervous systems, among others.

Furthermore, atopic dermatitis is indeed a classic example of a psychosomatic disorder, where physical symptoms are closely linked to the emotional state of the patient. The itching and cosmetic defects caused by the disease can lead to significant emotional tension, shame, and low self-esteem in the affected child, which in turn can exacerbate symptoms and lead to flare-ups of the condition [10].

The quality of life indicator is used for a comprehensive assessment of the psychological, physical, and social health of a child. Adverse factors that affect quality of life exacerbate the course of the disease, especially in patients with cosmetic skin disorders such as AD.

The aim of the present study is to analyse the clinical side of the psychosomatic state in children with atopic dermatitis.

Purpose of the study

To study the clinical aspects of the psychosomatic status of children with atopic dermatitis.

2. Methods

The studies were carried out in the multidisciplinary clinic of the Tashkent Medical Academy, in the division of paediatric allergology, with 41 adolescents (21 boys and 20 girls) diagnosed with atopic dermatitis (AD), aged 7 to 12 years.

Twenty healthy adolescent children were included in the control group. Of these, 55% were boys (11 boys) and 45% were girls (9 girls). The adolescents in the control group did not complain of health problems at the time of the examination. These children had normal physical development. They had not had any acute respiratory viral infections during the last 4 months.

All children were diagnosed, which included general clinical methods, laboratory, immunological, and functional tests. Immunological studies included tests to determine the level of total IgE and specific immunoglobulin E (IgE), including allergens of food, household environment, epidermal and pollen components in blood serum.

The SCORAD scale, developed in 1997, was used to assess the clinical symptoms of AD during exacerbation. This scale was designed to diagnose and monitor this disease in children. The parameters analysed included the area of the affected skin, the level of severity of skin changes, the intensity of itching, and sleep disturbance.

When assessing subjective symptoms, the average intensity over the last 3 days was taken into account. The SCORAD index was calculated using the formula: SCORAD = S/5 + 3.5 × intensity + subjective symptoms.

To analyse the psychological state, we used methods aimed at identifying factors that could have a direct or indirect impact on the development, course and progression of the disease. To assess the level of situational and personality anxiety, we used the anxiety self-assessment scale of C. D. Spielberger, adapted by Yu. D. Khanin in 1976. This questionnaire made it possible to make a distinction between two types of anxiety levels, such as personal and situational. To assess the data obtained from the questionnaire, the following categories of anxiety levels (personal and situational) were used: high level was set at a total score of 45 and above, moderate level - from 31 to 44, and low level - at a score of 30 and below.

3. Results and Discussion

In the studied group, according to the international SCORAD scale, the following severity levels of atopic dermatitis were identified: mild – 21.9% (9 children), moderate – 51.2% (21 children), and severe – 26.8% (11 children).

A hereditary predisposition to allergic diseases was found in 33 adolescents (80.5%) of the observed group (n = 41). In most cases (66.7% or 22 patients), both girls (59.1% or 13) and boys (40.9% or 9), the hereditary predisposition was on the mother's side. In 7 patients

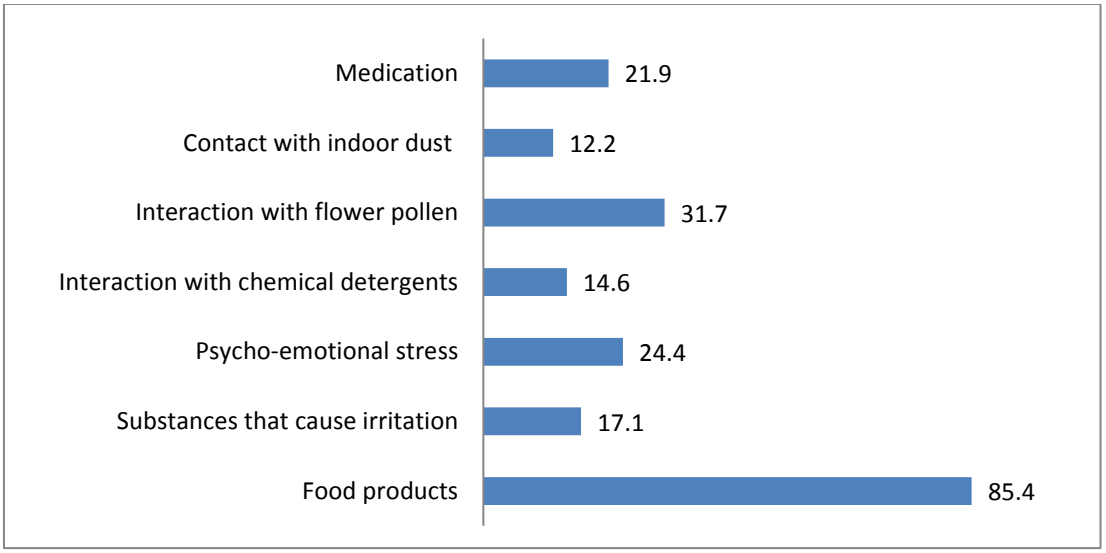
(21.2%), the predisposition was observed on the father's side, and in 6 patients (18.2%), it was observed on both the mother's and also on the father's side. The pattern of inherited susceptibility varies with the severity of AD.

After the immunological study of AD patients was performed, the level of total immunoglobulin E in the serum was found to be 583.3 ± 32.1 IU/L, whereas the normal value should not exceed 90 IU/L. Analysis of specific IgE revealed that 85.4% of the patients exhibited food sensitization, while pollen sensitization was detected in 24.7% of the adolescents. More than half of the children (56.7%) had a polyvalent sensitization spectrum. The combination of pollen and food sensitization was found in 14 patients (34.1%), pollen, food, epidermal, and household sensitization in 6 patients (14.6%), and pollen, food, and household sensitization in 4 patients (9.8%).

The main factors that caused exacerbation of AD in adolescent children were nutritional elements, but there was also an increasing influence of stressful situations and interaction with various irritants (Figure 1). The main factors contributing to exacerbations were flavoured and canned foods, carbonated sodas, crisps, as well as various irritants such as care and decorative cosmetics that are not designed for atopic skin. In addition, household chemicals and insect repellents have also been identified as factors leading to exacerbation of the condition.

Figure 1.

A graphical representation of the factors triggering the exacerbation of atopic dermatitis in adolescents.



The propensity identified in the study was also confirmed when analysing the clinical manifestations of AD. Diffuse lesions were twice as common in girls, in 10 of them (50.0%), while episodes of partial or complete erythroderma were observed in 35.0% of the patients. Limited forms were twice as common. In 12 boys (57.1 %). Girls had 1.7 times more affected areas, 1.4 times more intense clinical symptoms, 1.6 times more pruritus, 1.7 times more sleep disturbance, and 1.4 times higher SCORAD index than boys. (Table 1)

Table 1

Peculiarities of clinical manifestations of AD depending on gender differences

Symptoms of AD	Skin pore lesion area	intensity of clinical symptoms of AD	Itching intensity	Level of sleep disturbance	SCORAD scale

	per cent (%)	Score result	Score result	Score result	Score result
Boys. (n=21)	13,5 ± 1,38	5,1 ± 0,13	3,4 ±0,13	2,4 ± 0,25	30,7 ± 2,14
Girls (n=20)	22,3±2,3*	6,9 ±0,26*	5,6±0,07*	4,1 ± 0,25*	42,6± 4,23*

Note. * - significance of differences in values by gender difference was determined using Student's t-criterion at the significance level of $p < 0.05$.

In adolescent children suffering from AD, anxiety questionnaires (personal and situational) revealed a decrease in children's activity and mood levels, as well as in their general well-being. In severe course of the disease, changes in anxiety levels were found, which indicated a decrease in the body's adaptive abilities. In cases of severe atopic dermatitis, personality anxiety increased 1.2 times, while situational anxiety remained within the normal range (Table 2)

Table 2

Level of anxiety in children with atopic dermatitis (n=52)

Anxiety	The severity of atopic dermatitis		Indicators of practically healthy children
	2-medium	3-heavy	
Personal	35,03 ±0,41	46,04 ±0,53*	37,8 ±0,26
Situational	31,52 ±0,32	39,0 ±0,39	36,9 ±0,25

Note: * - differences compared to the data of practically healthy children were determined using Student's t-test at a significance level of $p < 0.05$.

The results of the study highlight the important connection between atopic dermatitis (AD) and the psycho-emotional state of adolescents. Emotional factors, especially anxiety, play a significant role in the development and exacerbation of the disease. This underscores the need for a comprehensive approach to treatment that takes into account both the physical and psychological well-being of adolescents.

The assessment of anxiety showed that during periods of AD flare-ups, both situational and personal anxiety increase. This is supported by previous studies indicating high stress levels in children with atopic dermatitis. The severity of AD and anxiety are interconnected: more severe forms of the disease are accompanied by an increase in anxiety, which worsens the quality of life for adolescents.

Furthermore, gender differences in the manifestations of the disease were identified: girls more frequently suffer from more severe forms of AD with pronounced symptoms and sleep disturbances. This is related to social factors, such as increased attention to appearance in girls.

The study also emphasized the significance of environmental and dietary factors, such as stress and food allergens, as triggers for AD flare-ups. These findings confirm the psychosomatic nature of the disease.

Thus, for the effective treatment of AD, it is important to use a holistic approach, combining dermatological methods with psychological support improve patients' emotional well-being and quality of life.

4. Conclusion

The results of this study showed that psychoemotional state has a significant impact on the course of atopic dermatitis in children. It was found that during periods of exacerbation of the disease in these children, the level of anxiety (personal and situational) increases significantly, which emphasises the importance of taking into account psychosomatic factors in the treatment of adolescents with atopic dermatitis. And the importance of genetic and environmental factors in the progression of the disease was also highlighted, which requires an individualised approach to treatment. Differences in disease severity between boys and girls, as well as the impact of stress factors and food allergens on AD flare-ups, underscore the need for a

multidisciplinary approach in disease management.

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