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Stress coping mechanisms in patients with chronic dermatoses

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Summary

Objective. The results of numerous studies of today confirm that persons suffering from psychosomatic disorders are not able to effectively cope with stress. The experience of stress is also frequently combined with the occurrence or aggravation of various skin diseases. The goal of our study was to identify the predominant ways of coping with stress in the group of patients with chronic dermatoses.

Methods. The group under study included patients receiving treatment in the Dermatology Clinic of Collegium Medicum, Jagiellonian University. They were either hospitalized patients or those who came for control examinations at the Outpatient Clinic. Evaluation of the forms of coping with stress was conducted with the help of the Endler and Parker Questionnaire – CISS.

Results. They significantly more often apply the style of coping focused on avoiding (p-value= 0.0056). It also turned out that the patients in the dermatological groups manifested a constant tendency to get involved in vicarious activities (p-value=0.0247).

Discussion. The results of the presented study indicate that there is a statistically significant difference between the patients with dermatological disorders and those in the control group as regards their ways of coping with stress.

Conclusion. The results obtained in the discussed study may be a starting point for designing a complex support for the patients with skin diseases. The therapeutic technique that may prove helpful for this group of patients is the cognitive-behavioral therapy (CTB).

psoriasis / stress coping mechanisms / connective tissue diseases / rosacea

INTRODUCTION

At present it is commonly believed that the persons suffering from psychosomatic disorders are unable to effectively cope with stress. Numerous contemporary authors perceive this inability as a characteristic trait of this group of patients. There exist well documented studies which regard the differences in the ways of responding to stress phenomena by healthy persons and by those with psychosomatic disorders [1]. The authors of these studies claim that healthy persons assume an active attitude, try to find a way out and overcome the difficulties while the ill manifest an inclination to withdraw and seek help, and in those cases in which they become active or aggressive, they manifest the feeling of guilt. Moreover, their emotional reactions are last longer than those of healthy persons [2].

As the results of studies indicate, the experience of stress also combines with the occurrence or aggravation of various skin diseases.

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The group of dermatological disorders in whose course stress may trigger, maintain or aggravate the course of disease includes, among others, psoriasis, atopic dermatitis, alopecia areata, lichen planus, leucoderma, urticaria, hyperhidrosis, dyshidrotic eczema, nodular prurigo, and recurrent herpes [1, 3, 4, 5, 6, 7, 8, 9].

From the point of view of health psychology, the most lively discussions are evoked nowadays by the conception of stress as presented in 1984 by Lazarus and Folkman, called transactional, relational model of stress. In this approach stress is understood as a relation between an individual and the environment, which can be assessed as burdening or exceeding the resources and thus potentially dangerous for their welfare. It can be said that the occurrence of the situation assessed as stress is supported by the features of the individual as well as the properties of the acting stimulus. Whether stress occurs or not depends on the importance that a given person assigns to the situation they experience. It can be evaluated as indifferent, favourable or stressing, and here we speak of the so called primary evaluation. These particular evaluations are connected with evoking of different emotional responses. In the secondary evaluation the person involved considers all possible ways of coping with the situation recognized as stressful [3, 11, 12]. On the basis of the assumption of the discussed theory and the results of sumerous studies in the area of health psychology we can say that the effects of stress appearing in the form of a somatic illness depend on cognitive assessment and effectiveness of coping [3, 11, 13, 14].

Ineffectiveness of the processes of adjustment may bring about the occurrence of biological results of stress, e.g., hypertonia, increased heart rate, biochemical changes or disregulation of the immune system. This was emphasized already by the first researcher into the stress phenomena, Hans Selye, who indicated what consequences may be caused by chronic stress unmodified by remedial actions. Chronic stress is destructive for the health mainly due to the high levels of glycocorticosteroids, which brings about hypertension, increased levels of lipoids and increased risk of artherosclerosis [15].

In literature we can find numerous studies focused on the problem which of the ways of coping with stress is the most favorable for the health and which is the least favorable. These studies have not brought any clear results yet. Some authors emphasize the negative influence on adjustment of coping through avoidance, others point at correlations between the emotional style and the higher rate of somatic ailments.

The goal of the study was to identify the dominant ways of coping with stress in the patients with chronic dermatoses. The study comprised three groups of patients – those with psoriasis, acne rosacea, and cutaneous forms of lupus. These dermatological disorders were selected due to their chronic and persistent nature, difficult, long term and often unsatisfactory treatment, the results of studies suggesting the importance of stress in their occurrence, course and therapy, and also because of their prevalence in the population.

MATERIAL AND METHOD

Acne rosacea is a chronic, multi-stage skin disease that occurs most frequently in women, but more disfiguring skin changes are observed in men. According to various authors this disorder constitutes ca. 10% of all dermatoses that the patients report to dermatologists. Etiopathogenesis of the disease remains unknown. Hypotheses include vasomotor disturbances, disorders of angiogenic factors in the blood and gastrointestinal disorders (Helicobacter Pyroli). The course of illness is influenced by environmental factors, allergies and infections (Demodex folliculorum). Numerous physicians and researchers dealing with this problem witness recurrence of intensification of skin changes that are often connected with stress [16, 17].

Connective tissue diseases comprise disorders of autoimmune origin, which vary as regards their clinical picture and course. Due to the clinical picture of these diseases on the skin (often really large and exceptionally disforming skin changes), various organ related complications, chronic character and difficult, often unsatisfactory treatment, the patients with connective tissue diseases frequently manifest neuroses and depressions [17, 18]. Dermal form of lupus erythematous is a disease in the course of which erythematous infiltrating patches occur on the skin, accompanied by keratosis pilaris and an

inclination to scar formation without disintegration. The changes are usually localized on the uncovered parts of the head and the hirsute skin of the head. In the course of this form of lupus no organ related complications have been detected [19]. Etiopathogenesis of the disease is closely connected with the immune process similar to that taking place in the systemic form.

Psoriasis is a condition affecting 1.5–2% of the population in the industrialized countries. It occurs most frequently in the white race, less often in the oriental races and very rarely in the black race. According to the Polish Dermatological Society, the prevalence of psoriasis in Poland amounts to 1.5–2.8% [11].

While the clinical manifestations and the histological picture of the disease are well studied, pathogenesis of the disease remains obscure [20]. Neither is it known which of the above mentioned processes are primary and, as it were, initiate the cascade of the phenomena, and which of them are secondary [11]. At the moment the opinion prevails that acceleration of keratinocyte proliferation results from immune disorders.

In the case of psoriasis the role of psychological factors has been well documented. In the studies conducted by Gupta and Gupta an occurrence of a stressful life event was detected a month before the first symptoms of the disease appeared in 72% of patients with psoriasis [3]. It may be important here that the persons suffering from psoriasis evaluated a hypothetical stress situation as more stressful than those in the control group or the patients with atopic skin inflammation, as was shown in the investigations of Arnetz et al. [21].

The group under study included patients receiving treatment in the Dermatology Clinic of Collegium Medicum, Jagiellonian University. They were either hospitalized patients or those who came for control examinations at the Outpatient Clinic. The patients who handed in their written consent were included in the study groups in accord with their dermatological diagnoses. The following groups were formed: the patients with psoriasis, those with rosacea, and those with cutaneous forms of lupus. The groups consisted of forty persons each. Examinations of the patients were held in the Dermatology Clinic of Collegium Medicum, Jagiellonian University, in a separate room. All patients qualified for the study expressed their informed consent in writing and accepted the form of personal data protection before they started to fill in the questionnaires.

The control group consisted of forty persons who did not undergo dermatological treatment. Due to the fact that the investigations were carried out in an academic center, for logistic and organizational reasons the control group consisted of students as well as their friends and acquaintances.

The instruments used to analyze stress included the Coping Inventory for Stressful Situations (CISS), the COPE and Brief COPE Inventory, Sense of Stress Questionnaire (KPS), Perceived Stress Scale-10 (PSS-10) and others.

To assess the forms of coping with stress we used the questionnaire developed by Endler and Parker (Coping Inventory for Stressful Situations – CISS). This instrument reflects the basic dimensions of coping in a simple and clear way and, what is more, it is standardized and normalized in Poland.

The results of the questionnaire are presented on three scales:

- TOC – Task-oriented coping,
- EOC – Emotion-oriented coping,
- AOC – Avoidance-oriented coping.

This style may assume two forms:

- Distraction,
- Social Diversion [22].

All statistical calculations were executed with the help of STATISTICA 8.0 software package developed by Stapsoft Poland Ltd. Checking of the statistical significance of the differences between the mean of the examined variables was based on Mann-Whitney test, due to the fact that the empirical distributions did not coincide with the normal distribution. On the other hand, chi-square was used to examine the relations of two qualitative features.

The results of the test were recognized as statistically significant when the value p was lower than the level of significance α=0.05.

Major limitations

Full demographic description shows that the dermatological group and the control one are

Table. Comparison of the whole dermatological group with the control group as regards the demographic data

	Control group	Dermatological group	p
Age			
Mean	24.625	43.875	0.0000
Standard deviation	30.06.305	30.11.116	
Min-max	20-55	17-66	
Sex			
Female	27 (67.50%)	80 (66.67%)	0.9227
Male	13 (32.50%)	40 (33.33%)	
Education			
Level 1	1 (2.50%)	46 (38.33%)	0.0000
Level 2	34 (85.00%)	46 (38.33%)	
Level 3	5 (12.50%)	28 (23.34%)	

statistically significantly different as regards their age and education. So great statistically significant differences could be perceived as a weakness of the study if they influenced the obtained results. The executed multifactorial analysis of regression proved that the above mentioned differences did not exert any influence on the results obtained in the tests, particularly in those in which statistically significant differences occurred. The main criterion qualifying the patients for the study was the dermatological diagnosis. The disqualifying criteria included refusal of expressing informed consent to participation in the study and disturbances of cognitive functions preventing participation in the examinations.

RESULTS

The diagrams 1–5 *next pages*, show the differences between the group of dermatological patients and the control group as regards the ways of coping with stress. It is conspicuous that the patients with skin diseases apply the avoidance-oriented coping strategy significantly more often (p = 0.0056). Also, they get involved in distracting actions significantly more often than the control group (p = 0.0247).

DISCUSSION

The results of the presented study show that the patients with dermatological disorders differ with statistical significance from the control group as regards the ways of coping with stress. On the level of statistical significance they apply avoidance-oriented strategy of coping (p-value = 0.0056).

It also turned out that the patients in dermatological groups manifested constant inclination to involvement in distracting actions (p-value=0.0247). The results of the discussed study suggest that the patients with dermatological disorders significantly more often avoid problems and do not experience a stress situation adequately.

As the data coming from literature of the subject show, avoidance-oriented style of coping with stress dominates in persons with various somatic disorders. Therefore it is possible that this style is the least effective with respect to health. Stress is not dealt with and the difficult, stressful situation is not resolved.

In the case in which the stress situation is not resolves the individual experiences an increasing level of anxiety and fear, develops depressive responses and immunosuppression may occur. In this context avoidance-oriented strategies may influence the person's health in a negative way.

The presented study involved frontier research and was a pilot study indicating the directions of further investigations. It would be possible to design a study that would assess coping with stress by persons suffering with the first manifestation of, e.g., psoriasis. It would allow for recognition whether the avoidance-oriented coping strategy was present in the initial stage of the illness or whether it is a specific reaction to the chronic disease disturbing normal functioning of the patient.

As the results of the presented study show, patients with skin diseases significantly more often withdraw in the face of stress and problems, they do not seek solutions, avoid or negate difficulties. They confront neither the difficult situation nor the accompanying emotions.

As we mentioned in the introduction, patients with psoriasis manifest a stronger inclination to assess events as more stressful and are characterized by poorer ability to cope with stress than healthy persons [21]. These results indicate that it is not the very occurrence of a stress situation

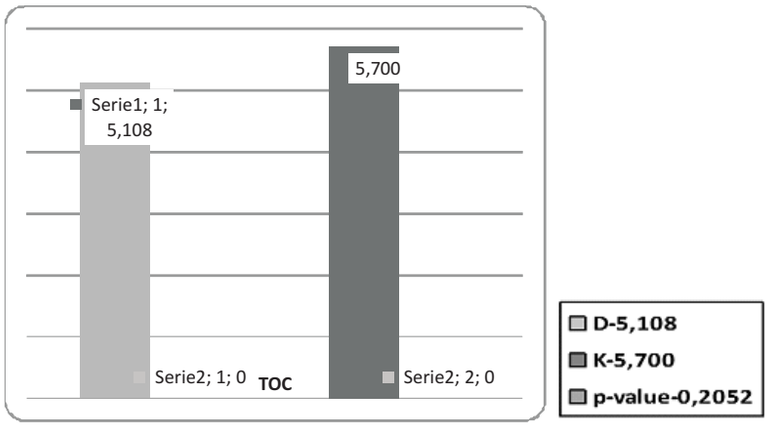

Diagram 1. Comparison of the TOC variable in the group of dermatological patients (D) and in the control group (K). TOC- task-oriented coping

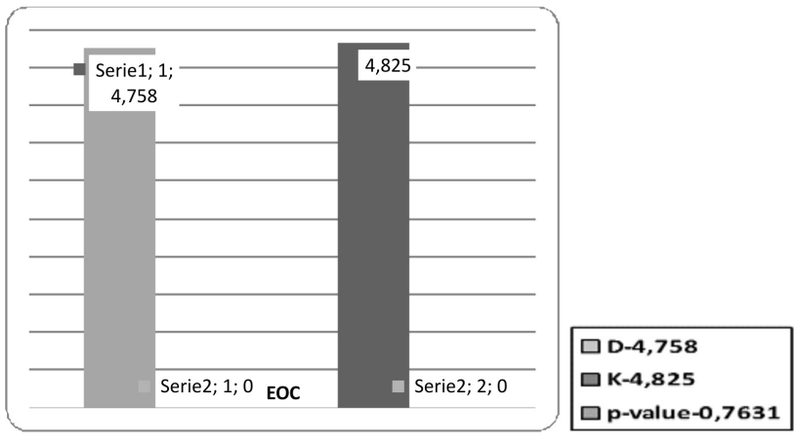

Diagram 2. Comparison of the EOC variable in the group of dermatological patients (D) and in the control group (K). EOC- emotion-oriented coping

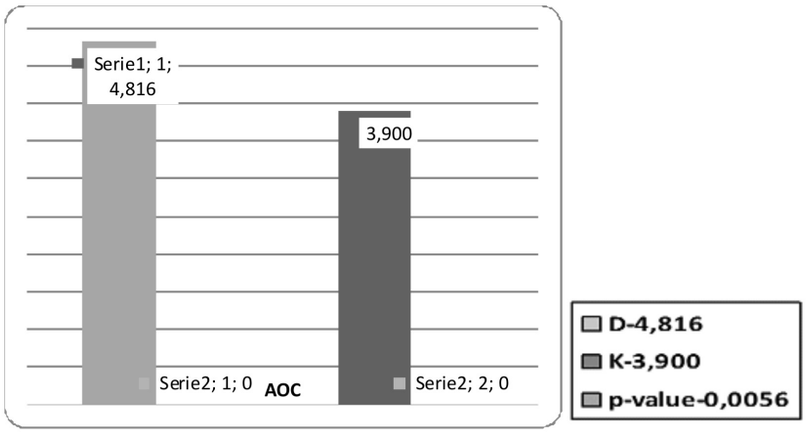

Diagram 3. Comparison of the AOC variable in the group of dermatological patients (D) and in the control group (K). AOC- avoidance-oriented coping

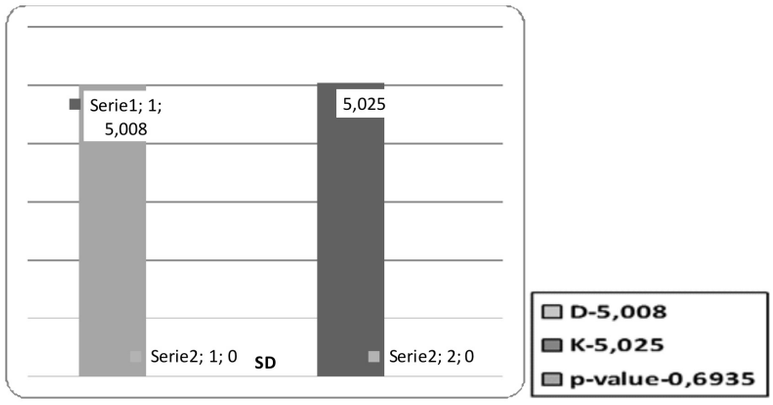

Diagram 4. Comparison of the Social Diversion (SD) variable in the group of dermatological patients (D) and in the control group (K). Social Diversion- seeking social contacts

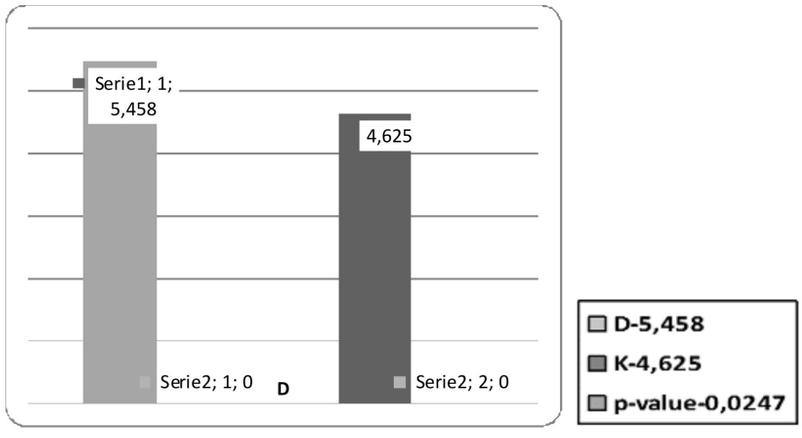

Diagram 5. Comparison of the Distraction (D) variable in the group of deramtological patients (D) and in the control group (K). Distraction – getting involved in distracting actions

that may trigger a psoriatic attack, but the way in which it is perceived and experienced, and what ways of coping with it are applied [21].

The results obtained in the discussed study may constitute a starting point for designing a complex help and support for the patients with skin diseases. The few research works executed in this area suggest that the avoidance-oriented style of coping with stress may exert a negative influence on health.

Bearing in mind the fact that the patients with dermatoses applied the avoidance-oriented strategies of coping with stress more frequently, we could teach these patients better adaptive forms of coping. Cognitive-behavioral therapy (CBT) is one of the psychotherapeutic techniques that might prove effective as regards this group of patients.

CBT is a therapeutic technique that focuses on transforming of the non- adaptive ways of thinking, perceiving and acting through application of cognitive and behavioral interventions. In this approach it is assumed that the external situation is not stressful in itself, but it becomes stressful as a result of individual perception of a person. According to the cognitive model, the patient's convictions often influence the way in which they cope and adjust to the surroundings. Cognitive errors bring about formation of non-adaptive patterns of the patient's general functioning, especially difficulties in the domain of feelings. CBT focuses on examining and trying to transform these dysfunctional convictions and approaches that may imply, e.g. avoidance of definite situations or actions on the part of the patient [1].

According to the data from the literature of the subject CTB is sometimes applied together with the standard dermatological therapy in various skin diseases. In the 1980s Horne applied this type of therapy in three patients with eczema achieving improvement of the skin condition in all three patients. This therapy was also administered to a group of patients with psoriasis. It was used independently by Price, Zacharie and Fortune, achieving lesser psychological distress connected with the illness and reduced intensity of symptoms [1]. In 1995 Ehlers et al. Applied cognitive-behavioral therapy in a group of patients with atopic skin inflammation achieving a significant decrease of the anxiety and fear levels as well as frequency of itching and scratching, to the extent comparable with application of cortisone.

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