

Research Article

Study of psycho-emotional state of patients with acne depending on the severity and hereditary factors

Anastasiia Petrenko*, Oleksander Litus

Abstract

Acne is one of the most common skin disease in young adults and occurs in 85% of boys and girls. The disease is characterized by progressive course of the formation of psycho-emotional disorders, mainly depression row in about half of patients. Installed heredity is almost 80% of first-degree relatives of patients with acne. In patients with positive family history of acne the disease occurs earlier and course harder. The aim of the study – is to determine the impact of acne on psycho-emotional status in patients.

Materials and methods. We examined 78 patients with severe and moderate acne. All patients were questioned by questionnaire CADI (Cardiff Acne Disability Index).

Results. Among the surveyed men with moderate acne average value was 6, median – 6, mode – 6; in men with severe acne course average value was 8.6, median – 9.5, mode – 10. Among women surveyed the results of the form were somewhat different from data that were shown by male patients. Women with moderate acne had average value 7 points, the median – 7.5 mode – 8; among women who had severe acne course the average value was – 8, median – 9.

Conclusions. As can be seen from the results of the questionnaire, respondents in all groups were shown a significant effect of disease on the psycho-emotional state of patients.

Keywords

acne; psycho-emotional state; CADI; a genetic predisposition

Shupyk National Medical Academy of Postgraduate Education, Kyiv, Ukraine

Corresponding author: anastasiia.v.petrenko@gmail.com

Problem statement and analysis of the recent research

Among noninfectious chronic inflammatory dermatoses acne occupies an exceptional position. Acne is one of the most common skin diseases in young adults and occurs in 85% of young people aged from 12 to 20 years, but the incidence peak falls at 16 years of age. Recently, a marked tendency to increase the number of women older than 25 years, in whom in 20-40% of cases occur in adult or acne tarda, which require an individual approach to the administration of therapy [1, 2].

The disease is characterized by progressive course, the formation of psycho-emotional disorders, mainly of depression row, about in half of the patients (because of persistent disease for decades due to inadequate therapy), dramatically reduces the quality of life of patients. Severe forms that lead to complex cosmetic defects and the formation of hypo- and hypertrophic scars are from 5 to 15% of all cases of acne. Acne can cause psychological distress associated with many psychiatric conditions, which include suicidal thoughts, psychiatric problems and isolation from others [10]. 30-50% of adolescents experience psychological distress associated with acne: assessment of image, communication difficulties, social

misadaption, destruction of hopes, anxiety, depression, low self-esteem [13]. However, there are works, which state that young male acne patients do not suffer from depressive symptoms; the risk of suicide is not greater than in the population [12].

In the crossover study 108 patients with three dermatological diseases (acne, psoriasis, atopic dermatitis) in general and dermatological medicinal attendances were examined for the presence of minimal psychological disorders (anxiety, depression, social consciousness, social anxiety, neuroticism and extraversion-introversion, disease severity). In multivariate analysis there were no differences with the control group (98 people who were not suffering from dermatological diseases) [5, 7].

Psycho-emotional state was determined by questionnaire in 347 Greek students. Information on acne respondents received from their parents (31.6%), dermatologist (26.7%), magazines and television (17.5%), pharmacists (16.2%), friends (5.3%), beauticians (1.6%), and other physicians (1.1%). 42% assessed information as inadequate. These figures were not different in questionnaires in patients with acne and healthy ones. Among students with acne 48.6% believed the cause of acne was because of complex interpersonal relationships, and

64.4% - as the cause of lowered self-esteem. Expert report of “Global Alliance” on improvement of the effects of acne emphasizes the importance of a chronic disease that has a significant impact on quality of life of patients and requires active therapeutic approaches [9, 3].

The role of genetic susceptibility in the development of acne is not completely clear, but we know that it has multifactorial character. It is known that the number and size of the sebaceous gland and its subsequent activity is innate. In addition, concordance by susceptibility and severity of acne in identical twins is very high. Also it is widely known that acne including cystic-nodular acne is observed in families, but even in high prevalence of the disease it is difficult to prove the influence of the genetic factors.

Some observations of twins, family of the first link confirmed that the presence of acne among relatives of the first team – especially mothers – has a strong influence on the age during the onset of the disease, course severity and success of treatment [6, 8]. The heredity in almost 80% of first-degree relatives of patients with acne was determined. In patients with positive family history of acne the disease occurs earlier and its course is more severe [4].

The objective of the study – is to determine the impact of moderate and severe degree acne onto the psycho-emotional status of patients.

1. Materials and methods

Patients with acne were examined in the Department of Dermatology and Venereology in Shupyk National Medical Academy of Postgraduate Education. It was planned to identify the relationship between psycho-emotional state of patients and the severity of the disease. Criteria for inclusion into the study: patients over the age of 14, the presence of moderate and severe acne, lack of severe concomitant diseases. Totally 78 patients fitted the inclusion criteria, average age was 20.4 ± 5.4 years.

We have examined 78 patients with moderate acne (moderate papules-pustular) and severe (pronounced papules-pustular and conglobate acne) degree. Numerous inflammatory papules, single pustules, open and closed comedones in typical localization for acne were marked in patients with moderate acne. Patients with severe course of acne had numerous inflammatory papules and pustules, cysts and nodes, including examined patients with fulminant and conglobate acne.

The average age of the disease onset was 15 ± 3 years. The disease started gradually in the vast majority of patients (83%), initially open and closed comedones in the seborrheic areas of the face appeared. Afterwards, the individual inflammatory papules and pustules appeared, and only in 4-5 years after onset the disease became of moderate and severe form (process spread on the face, chest and upper back; the presence of numerous papules and pustules, in patients with severe course were found – cysts, inflammatory nodes and scars at the places of previous rash). Most of the patients were treated for a long time by themselves without pronounced effect. 64% of pa-

tients had dehydrated overdried skin with peeling, with acne elements of the rash, which greatly complicated the selection of topical and systemic therapy. Moreover, half of the patients had resistance to antibiotics (both systemic and topical).

The onset of the disease was marked in 13 patients (17%) aged 16 ± 2 years, was sudden and had a very severe course. We observed the patients with conglobate acne, the majority of them were men (62%). These patients have noted an aggressive start and course of disease and resistance to the previous therapy. In addition, 2 examined patients had fulminant acne and severe systemic manifestations of the disease, such as fever (up to $38.6 \text{ }^\circ\text{C}$), general weakness, polyarthralgia. Typical symptoms of fulminant acne were: cystic and nodular rash with purulent formations, forming confluent necrotic areas. These patients indicated the presence of acne in the immediate family (father, mother, brothers and sisters).

It was noted that patients with more severe course of acne pointed at the presence of this disease among close relatives (parents, brothers/sisters), compared with patients who had moderate acne. Based on data from the family history, it can be assumed that severe course of acne is more genetically determined compared to its mild forms.

All patients were questioned according to the scale CADI (Cardiff Acne Disability Index), which was designed to determine the degree of impact of acne on the psycho-emotional status of patients. Scale CADI contains 5 questions and is rated from 0 to 15 points. Result from 0 to 5 indicates the weak impact on the psycho-emotional stress of the patient, 6-10 – indicates a significant impact, and in indexes from 11 to 15 indicates a high impact disease respectively.

Most of the questions in the questionnaire relates to events that occurred during the last month, but in the latest question he patient is asked to evaluate how the skin condition bothers him at the time of the survey and characterize it as: does not bother, worries a little, worries very much, and is so bad as it is possible.

The remaining questions cover both a description of how internal stress of the patients (such as whether you were aggressive, shy or upset due to the presence of acne in the past month; how you would characterize feeling about the appearance of your skin) and social life of respondents during the last month (e.g. do you think that having acne prevented your everyday social life, social events or relationships with the opposite gender; whether you avoided public changing rooms and so on).

2. Results

There were examined 78 patients with moderate and severe degree of acne. Among the examined men with moderate acne the questioning result was in the range from 0 to 13 points; average value in this group of patients was 6, median – 6, mode – 6. Men with severe course of acne showed the following results of the survey: the range of values ranged from 2 to 15 points; the average value in patients with severe acne flow amounted to 8.6, the median – 9.5 mode – 10.

Among the examined women, the survey results were somewhat different from data that were showed by male patients. Women with moderate acne the results were in the range from 4 to 11 points; the average value was 7 points, the median – 7.5, mode – 8. Among women who had severe course of acne, the results were in the range from 3 to 12 points; the average value was – 8, median – 9, mode for this group of patients we could not determine, since each of the obtained results were not repeated (Table. 1).

Table 1. The results of the questionnaires according to CADI scale in patients with acne

	Women		Men	
	Moderate acne	Severe acne	Moderate acne	Severe acne
Average value	7	8	6	8.6
Median	7.5	9	6	9.5
Mode	8	-	6	10

3. Conclusions

Thus, we can conclude that acne greatly affects the psycho-emotional state of patients with this pathology. As can be seen from the results of the questionnaire, respondents in all groups showed a significant effect of the disease on the psycho-emotional state of patients.

In addition, according to a questionnaire, women with moderate form of acne often pointed to the high impact of the disease on the psycho-emotional state than men, but men with severe form of acne pointed to a more pronounced impact of the disease on their psycho-emotional sphere, compared with women with a similar form of acne.

Based on the aforementioned, it can be said that questionnaires for acne patients can determine their emotional status essentially for objective comprehensive understanding of the patient's condition and helps to determine further medical tactics.

References

- [1] Adaskevich VP. Acne: vulgaris and rosacea. Meditsinskaya kniga. Izdatelstvo NGMA. 2005; 35-37.
- [2] Samtsov AV. Acne i acneiform dermatosis. YUTKOM. 2009; 288.
- [3] Tsepkenko VA, MavrovaDI. Modern approach to the pathogenesis and treatment of acne. Dermat Venerol. 2007; 4(38): 41-44.
- [4] Bhate KW, Williams HC. Epidemiology of acne vulgaris. 2013; 168(3): 474-483.
- [5] Dreno B, Alirezai M, Auffret N, Beylot C, Chivot M et al. Clinical and psychological correlation in acne: use of the ECLA and CADI scales. Ann Dermatol. 2007; 134: 451-455. doi: [https://doi.org/10.1016/S0151-9638\(07\)89212-X](https://doi.org/10.1016/S0151-9638(07)89212-X)
- [6] Karciauskiene J, Valiukeviciene S, Gollnick H, Stang A. The prevalence and risk factors of adolescent acne among schoolchildren in Lithuania: a cross-sectional study. 2014; 28: 733-740. doi: <https://doi.org/10.1111/jdv.12160>.
- [7] Magin PJ, Pond CD, Smith WT, Watson AB, Goode SM. A cross-sectional study of psychological morbidity in patients with acne, psoriasis and atopic dermatitis in specialist dermatology and general practices. JEADV. 2008; 22: 1435-1444. doi: <https://doi.org/10.1111/j.1468-3083.2008.02890.x>.
- [8] Makrantonaki E, Gancencviciene R, Zouboulis CC. An update on the role of the sebaceous gland in the pathogenesis of acne. Dermatoendocrinol. 2011; 3: 41-40. doi: <https://doi.org/10.4161/derm.3.1.13900>.
- [9] Management of acne/ A report from Global Alliance to improve outcomes in acne. J Am Acad Dermatol. 2003; 49: 1-38.
- [10] Misery L. Consequences of psychological distress in adolescents with acne. J Invest Dermatol. 2011; 131(2): 290-292. doi: <https://doi.org/10.1038/jid.2010.375>
- [11] Plewig G, Kligman AM. Acne and rosacea. 3rd ed. Berlin, Springer, 2000. doi: <https://doi.org/10.1007/978-3-642-59715-2>
- [12] Rehn LMH, Meririne E., Hook-Nikanne J., Isometsa E., Henriksson M. Depressive symptoms, suicidal ideation and acne: a study of male Finnish conscripts. JEADV. 2008; 22: 561-567. doi: <https://doi.org/10.1111/j.1468-3083.2007.02514.x>
- [13] Shalita AR, Del Rosso JQ, Webster GF. Acne vulgaris. Informa Healthcare. 2011; 1-228. doi: <https://doi.org/10.3109/9781616310097>

Received: 01 June 2017

Revised: 12 June 2017

Accepted: 15 June 2017