

THE EFFECT OF ACNE ON THE PSYCHOLOGICAL AND NERVOUS STATE OF IRAQI ADOLESCENTS

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Abstract: Background: As a psychosomatic condition, acne vulgaris (AV) has the potential to significantly impair the quality of life (QoL), psychological well-being, and self-esteem of Iraqi adolescents.

Objective: The goal of this study was to examine the extent to which acne affects the psychological and emotional well-being of Iraqi adolescents.

Methodology: A total of 88 adolescents with acne, aged between 10 and 20 years, were recruited for the study. All data were collected from the Dermatology Departments of different hospitals in Iraq between March 2022 and August 2023. A series of tests were conducted, including the measurement of acne severity using the GAGS, in addition to the administration of the DASS 21, RSES, CADI, DLQI, and WHOQoL tests. The impact of acne on the psychological and neurological status of Iraqi adolescents was demonstrated through the implementation of univariate analysis.

Findings: Our results found adolescents with age ≥ 15 years got 70.45%, which are the most class of patients with acne, symptoms were painful skin and itching with 22.73% and 15.91%), sleep hours (9 to 10) were 60.23%, and family history of acne got 37 cases. According to the GAGS scale, the severity of acne was divided into mild, < 18 lesions with 22 cases; moderate, 19 - 30 lesions with 30 cases; severe, ≥ 31 lesions with 36 cases. In terms of poor psychological status, depression with 22.73%, anxiety with 25%, and stress with 12.5%.

Conclusion: The findings of our study indicate that acne has a deleterious effect on the patient's self-esteem and quality of life, which is directly proportional to the severity of the condition.

Key words: Acne; Adolescents; Psychological and Nervous State; and Quality of Life.

Introduction

Acne is a common chronic pathology affecting the sebaceous hair complex, resulting in a range of skin lesions [1,2]. It is associated with various pathogenic factors and can manifest in individuals of all ages, from adolescents to adults. [3]

The age group most affected by acne worldwide is adolescents, representing 85% of cases. The condition typically presents as moderate or severe injuries between the ages of 15 and 17 [4,5,6]. It can have a significant impact on an individual's physical, psychological, and emotional well-being,

particularly during a period of rapid physical, psychological, and emotional changes. This can lead to a predisposition towards mood disorders. [7,8]

The detrimental effect of acne on the standard of living of adolescents is well documented. Furthermore, it is the most frequent dermatological pathology in young people, with a prevalence of 9% across all age groups. [9,10,11]

A family history of acne is associated with an earlier onset and more severe clinical form of the disease [12]. Genetic polymorphisms have been reported in different populations of patients with acne [13]. The genes involved are those of the androgen receptor, the genes of androgen metabolism enzymes, tumour necrosis factor alpha, and growth factor. [14]

In countries of the East, such as China, it has been reported that 50% of adolescents are affected by acne [15]. Similarly, on the American continent, in the USA, 50% of adolescents are affected by acne. [16,17] In the USA, the prevalence of acne in the same population is approximately 70%. It has been hypothesised that this higher prevalence in the Western world is attributable to the hyperglycaemic diet, which is prevalent at this age.

It is noteworthy that anxiety and depression disorders affect one in eight people worldwide, representing the most prevalent mental health issues in comparison to other psychiatric conditions [18]. The World Health Organization (WHO) estimates that approximately 280 million individuals worldwide suffer from depressive disorders, with 23 million of these cases occurring in children and adolescents. However, the impact of depression extends beyond this demographic, affecting individuals across various age groups for various reasons. [19,20]

In Latin America, the most prevalent mental disorder is depression, affecting 5% of the population. Of those affected, six out of ten do not receive treatment. Additionally, studies in Peru have indicated that depression is more common in women than in men. Acne has been linked to a decline in psychosocial well-being, particularly among adolescents aged 13 to 18. [21]

The recurrence of the condition causes discomfort and hinders work activities and social interactions [22]. Consequently, it is a cause of disability in the world, capable of causing 20% of healthy days to be lost. However, despite its treatability, only 10% of patients receive care. For this reason, it is regarded as a public health issue. [23]

In the dermatological consultation, one in four young people with acne vulgaris also presents with a depressive disorder. Although the patient may be unaware of this condition, the attending physician should investigate by asking some systematic and direct questions in order to provide comprehensive assistance in still confidence and encourage the adolescent to pursue an appropriate treatment plan for a more optimal quality of life. [24,25]

Patients and methods

We conducted a cross-sectional study of 88 adolescent patients with acne vulgaris aged 10-20 years. This study collected patient data from the Dermatology Departments of different hospitals in Iraq between March 2022 and August 2023. The demographic and basic data of the adolescent patients were recorded in terms of age, gender (males 45.45% and females 54.55%), body mass index (BMI 15.5-29.9, 20.0-25.9, 26.0-30.0), symptoms, smoking, number of hours of sleep, and use of cosmetics. We assessed the severity and prevalence of acne in adolescent patients, using the GAGS scale to classify the severity of the disease into three levels: (mild) GAGS score of less than 18, (moderate) GAGS score between 19 and 30, and (severe) GAGS score 31 or higher. We also conducted the CDLQI, which describes the impact of acne on adolescents' quality of life in terms of physical, social, environmental, and psychological aspects, with the scale ranging from 0 to 15, with higher scores indicating greater impact on the patient's quality of life and lower scores indicating less impact on the patient's life.

The WHOQoL scale measures the quality of life issues along physical, psychological, social and environmental dimensions. In the context of acne, the WHOQoL scale measures the extent to which

acne affects an individual's overall quality of life. On the typical WHOQoL scale, the worst possible quality of life score is around zero, whereas scores approaching 100 represent an absolute and flawless quality of life, with no impairment and a high level of well-being in all areas. The Depression Anxiety Stress Scales: an internationally recognised questionnaire on depression, anxiety, and stress. It has three subscales: an activity rate ranging from 0 to 21, that is, for each subscale, with 21 being the maximum level of symptoms with an increased indication of susceptibility to these symptoms.

Results

TABLE 1. Distribution of demographic characteristics data on adolescent participants with acne.

Characteristics	Adolescents, 88	%
Age, years		
< 15	26	29.55%
≥ 15	62	70.45%
Gender		
Boys	40	45.45%
Girls	48	54.55%
BMI, [Kg/m ²]		
15.5 – 29.9	22	25%
20.0 – 25.9	44	50%
26.0 – 30.0	22	25%
Symptoms		
Whiteheads and blackheads	11	12.5%
Small red bumps	8	9.09%
Pustules	14	15.91%
Skin redness and inflammation	11	12.50%
Scarring	10	11.36%
Itch	14	15.91%
Painful skin	20	22.73%
Smoking		
Yes	18	20.45%
No	70	79.55%
Number of sleep hours		
5 to 8	31	35.23%
9 to 10	53	60.23%
11 to 12	4	4.55%
Family history of acne		
Present	37	42.05%
Absent	51	57.95%
Poor diet		
Yes	46	52.27%
No	42	47.73%
Cosmetics use		
Yes	38	43.18%
No	50	56.82%

TABLE 2: Distribution severity of acne on adolescents' patients with acne by CAGS scale.

Items	Adolescents, 88	%
Mild, < 18 lesions	22	25.0%
Moderate, 19 - 30 lesions	30	34.09%
Severe, ≥ 31 lesions	36	40.91%

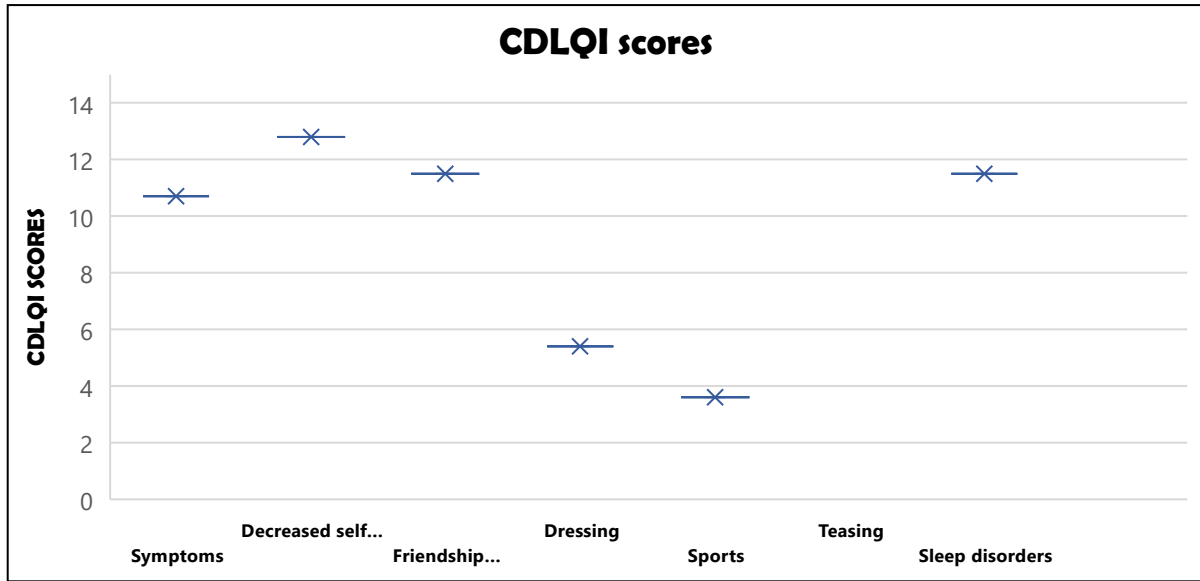


FIGURE 1. Determining the severity of acne on CDLQI quality-of-life.

TABLE 3: Evaluation of general – health of WHOQoL scale for adolescents’ patients.

Items	WHOQoL scores
Physical	60.48 ± 5.30
Psychological	54.32 ± 12.81
Emotional and social	64.29 ± 9.65
Environmental	62.15 ± 8.44
RSES Scale ranges from 10 (worst) to 40 (better), where all patients were 20.86 [10 – 40].	

Table 4: A self-report questionnaire of evaluation of psychological aspects by DASS-21 scale.

Items	Depression	Anxiety	Stress
Normal	11 [12.5%]	30 [34.09%]	28 [31.82%]
Mild	34 [38.64%]	16 [18.18%]	33 [37.5%]
Moderate	23 [26.14%]	20 [22.73%]	16 [18.18%]
Severe	20 [22.73%]	22 [25%]	11 [12.5%]

TABLE 5: Univariate linear regression analysis describing the effect of acne on psychological aspects of adolescents.

Variables	OR CI 95%
Age	3.51 [0.46 – 7.44]
Gender	2.01 [1.25 – 5.33]
Family history of acne	4.63 [3.89 – 6.69]
Poor diet	2.96 [0.52 – 4.88]
Depression	4.78 [2.61 – 8.97]
Anxiety	3.27 [1.92 – 4.84]
Stress	2.15 [0.78 – 3.76]

Discussion

In the current study, a dermatologist employed GAGS to evaluate the severity of acne, and DASS 21 was used to gauge psychological distress in AV patients. Our analysis of the DASS-21 revealed high internal consistency in each of its subscales, with stress scoring 12.5%, anxiety scoring 25%, and

depression scoring 22.73%. These findings are consistent with the research of Sagaltici and Tas, who also found that the DASS-21 subscales for evaluating mental health had strong Cronbach's alpha values.

Our results demonstrate that acne considerably lowers self-esteem and quality of life, despite some studies showing relatively low mean scores for both the CADI (5.57 ± 0.15 ; maximum potential score 15) as well as DLQI (8.20 ± 0.27 ; highest possible score 30). The high incidence for mild to moderate acne (78.0%) among community settings may be the primary cause of the relatively low scores.

Acne and psychosocial problems interact in a complicated way that can affect AV sufferers' quality of life and even self-esteem by causing negative emotional reactions, including sadness, anxiety, tension, helplessness as well as frustration, along with suicidal thoughts. Furthermore, several earlier research found that AV patients had much greater levels of psychological stress. Data from a national study of youth health carried out in New Zealand (Young People 2000) showed that acne was associated with an increased risk of anxiety, depression symptoms, and suicide attempts. [26,27,28]

In line with the majority of research that examined the relationship between acne and dealing with anxiety, stress, and depression, our study's findings indicate a substantial, beneficial, and strong connection between acne patients and these conditions. Furthermore, a recent meta-analysis that included research [29,30] suggested that anxiety and depression may be linked to acne. Nevertheless, a small number of studies show no connection at all between acne and anxiety or depression. Differences in the study design and sample demographics may be the reason for these discrepancies.

According to the current study, female patients had more severe acne than male patients, which is in line with findings from other studies. This female preponderance may be brought on by hormonal changes that occur during menstruation or higher stress levels in women. This was supported by a statistically significant distinction with the mean CADI, DLQI, as well as WHOQoL scores, which showed that females were said to be more affected in terms of QoL. Furthermore, DASS-21 results showed that women experienced a greater psychological impact from AV than did men. According to a number of other research, females are more susceptible than boys to the detrimental psychological effects of AV. [31,32]

Conclusion

The effects of acne upon quality of life and the connection between acne severity and quality of life have been discussed in our study. Acne results in symptoms, low self-esteem, and feelings of inadequacy. Relationship building, attractiveness, self-image, and self-consciousness are all adversely affected in proportion of the level of severity of acne.

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