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Psychosocial Impact of Acne Vulgaris among Adolescent Iraqi Patients

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ABSTRACT

Background: Acne vulgaris is one of the most common disorders affecting the skin which predominantly affects adolescents. Its impact is significant on the psychological well-being of an individual with depression and suicide ideation are the major consequences. Acne impact on the quality of life (QoL) among various populations and subgroups was assessed by several studies. Therefore, the current study will determine the impact of acne vulgaris severity on adolescents' QoL.

Patients and Methods: This is a cross-sectional survey conducted by recording both skin lesions severity depending on the Global Acne Grading Scale (GAGS) and its impact on the patient's QoL (using the Cardiff Acne Disability Index (CADI) of all adolescents consulted Kirkuk Teaching Hospital in Kirkuk city. The correlation between GAGS and CADI results was then calculated.

Results: A total of 65 patients complaining of acne vulgaris were included, 27/65 were males and 38/65 were females. Patients with severe acne vulgaris were not detected, 26/65 has moderate acne (GAGS 19-30), and 39/65 has mild acne (GAGS 1-18). The correlation between acne severity measured by (GAGS) and the psychological impact measured by (CADI) was not significant with p-value <0.05.

Conclusion: The correlation between acne vulgaris severity and the resulting psychosocial impact is not significant. However, further studies are necessary to evaluate this issue at a larger scale and to determine the reliability of the existing scoring systems of acne vulgaris impact on psychological wellbeing.

Keywords: Acne Vulgaris; Adolescents Dermatosis; CADI; Quality of Life; Psychosocial Impact; GAGS

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INTRODUCTION

The human body interacts with the surrounding external environment by its largest organ, the skin, both physically and psychologically; therefore, skin appearance can affect patients' feelings and interactions with each other [1-3]. It can also affect public relationships and psychological wellbeing. As a result, skin diseases can both negatively and positively affect a person's functionality in the society [4], mainly because of the psychological impact of the disease other than the disease itself. Acne vulgaris is an example of such skin diseases that dominantly affect adolescents and is generally limited in its course. It usually occurs concomitant to changes in sex hormone and the development of the secondary sexual characteristics which, therefore, can further exacerbate the psychological and emotional challenges of this critical period [5]. According to Thomas, "*In the long run acne may cause cutaneous as well as psychological scars*" [6].

Lesions of acne vulgaris (AV) develop mainly on the face which result in loss of confidence, shame and may leads to social isolation. The facial appearance plays a major role in building self-esteem and interaction with peoples. Facial lesions can, therefore, cause a significant impact on person's quality of life [7]. Although there are more than 25 methods used to assess acne severity [8], GAGS is considered the most easily used method. Scaling the impact of acne on the QoL, CADI score considered an easy and reliable scale in dermatology practice [9].

The quality of life impairment secondary to skin disorders can be adequately assessed by using questionnaires. Examples of other scale questionnaires particularly designed to evaluate skin diseases are: the Dermatology Life Quality Index [10], Skindex [11], Dermatology Quality of Life Scales [12], Dermatology Specific Quality of Life [13], Children Dermatology Life Quality Index [14], Psoriasis Disability Index [15], and the Acne Disability Index [16].

Methods

This cross-sectional study, conducted for 3-weeks during January 2018, involve adolescents with acne vulgaris attending Kirkuk Teaching Hospital. The calculated sample size determined a minimum of 65 patient (with 10% attrition rate). Sixty-five patients completed a questionnaire providing demographic data and relevant history. Thereafter, all patients were examined, and the severity of acne lesions was graded depending on the Global Acne Grading Scale (GAGS) [8].

The GAGS scale determines acne severity depending on the types of acne lesions (comedonal, papular, pustular, and nodular) and the anatomic distribution (forehead, nose, cheeks, chin, back, and chest).

Acne severity according to GAGS score classified as no acne (0), mild (1-18), moderate (19-30), severe (31-38) and very severe forms of acne (>39). The psychological impact of acne was evaluated by predetermined and interviewer delivered questionnaire: the (CADI) [9]. It includes five questions with Likert-type options to assess the psychological impact of acne covering emotional, social and personal aspects. The minimum score is 0 for each question whereas the maximum score is 3. Therefore, the obtained score range between 0–15. In this study, patients were categorized according to CADI score as no (0), mild (1-5), moderate (6-10) and severe (11-15) psychological impairment from acne. Statistical Package for the Social Sciences software, (SPSS) version 17 was used to analyze data collected.

Results

Table 1. Distribution of severity of acne according to gender.

Type of Acne	Female	Male	Total
Mild Acne	24	15	39
Moderate Acne	14	12	26
Severe Acne	-	-	-
Total	38	27	65
Non-significant at p-value < 0.05		Chi-square=0.3	
		p-value=0.5	

Table 2. Disability of acne patients by gender using CADI score.

Disability	Female	Male	Total
Non-Impairment	2	2	4
Mild Impairment	16	8	24
Moderate Impairment	18	15	33
Sever Impairment	2	2	4
Total	38	27	65
Non-significant at p-value < 0.05		Chi-square=1	
		p-value=0.7	

Table 3. Association between CADI and GAGS.

Disability	Female	Male	Total
Non-Impairment	2	2	4
Mild Impairment	8	16	24
Moderate Impairment	14	19	33
Sever Impairment	2	2	4
Total	26	39	65
Non-significant at p-value < 0.05		Chi-square=0.83	
		P value=0.7	

Table 4. Association between CADI and GAGS in male.

Male	Severe acne	Moderate	Mild acne	Total
Non-Impairment		1	1	2
Mild Impairment		2	6	8
Moderate Impairment		8	7	15
Sever Impairment		1	1	2
Total		12	15	27
Non-significant at p-value < 0.05			Chi square=1.75	
			P value=0.6	

Table 5. Association between CADI and GAGS in female.

Female	Severe acne	Moderate acne	Mild acne	Total
Non-Impairment		1	1	2
Mild Impairment		6	10	16
Moderate Impairment		6	12	18
Sever Impairment		1	1	2
Total		14	24	38
Non-significant at p-value < 0.05			Chi square=0.39	
			p-value=0.94	

Table 6. Frequency of responses of acne patients to CADI questions.

Response		"Modified CADI questions" 9
No/65	Yes/65	
29	36	Have you felt aggressive, frustrated or embarrassed on account of your acne?
8	57	Do you think acne has interfered with your social life and relationship with the opposite sex?
15	50	Have you avoided wearing swimming costumes or clothes which may exposed areas of your trunk with acne?
5	60	Have you concerned about the appearance of your acne?
4	61	Does your acne pose a problem to you now?

Discussion

Acne vulgaris is considered one of the most common skin diseases affecting adolescents. However, it was initially denied in 42% of participants in this study.

In the Current study (Table 1), 39/65 patients show mild acne and 26/65 patients show moderate acne. Both Yahya H (2009) in Kaduna and Hanisah A, et al. (2009) in Malaysia observed similar findings with 93.1% and 90.2% of patients has mild and moderate forms of acne, respectively [17-19]. On the other hand, Tan HH, et al. (2007) recorded almost equal frequency of moderate to severe (48.6%) as well as mild acne (51.4%) among adolescents in Singapore [20]. However, Agheai S, et al. (2006) observed [21], in a hospital based study, a higher frequency of moderate to severe acne (84%) in comparison to mild form of the disease (16%) which was also observed in the UK by Mallon E, et al. (1999) [22]. Their findings are actually expected, as patients suffering from severe acne seek medical treatment more frequently, records from hospital-based studies involve more severe acne grades when compared to community-based studies similar to the present work (Tables2-5).

In the current survey, more severe acne grades were observed more in females than in males. This observation is contrary to the well- established fact that acne tend to be of greater severity among adolescent males, as shown by Hanisah A, et al· (2009) and Aktan S, et al. (2000) in Turkey [23]. One possible explanation could be the mistreated acne vulgaris by non-dermatologists prescribing steroid-mixed creams, a common malpractice among female patients. Moreover, topical steroid containing creams used for skin bleaching is more commonly used in females than in males which may lead to the development of steroid acne [24].

The current study shows higher scores of CADI (Table 2) in which 24/65 patients have mild impairment; 33/65 patients have moderate impairment and 4/65 patients have severe impairment while no impairment was observed in 4/65 patients. These findings agree with studies of both Motley RJ, et al. (1992) in the UK and Oakley AM, et al. (1996) in Newzealand [18,25]. Many reasons are behind the high CADI scores observed by Motley RJ, et al. (1992) study that is a hospital- based study [18]. First of all, higher numbers of patients suffering from more severe forms of acne are observed in hospital-based studies when compared to community-based studies. In addition, participants' age range is wider in hospital-based surveys compared to the exclusive involvement of adolescents in community-based surveys. Other factors to be considered are cultural and/or racial factors, that is why most high CADI scores studies are from Western societies [18,25]. The role of body image in such societies is highly emphasized, particularly by the social media, and a higher satisfaction rate and positive perception of body image between white and dark skinned women might account for the differences of CADI scores [26].

The impact of some questions of CADI questionnaire produced more impact on patients in this study than other studies. As shown in table 6, most of patients felt mild (27/65) or no (23/65) aggression or embarrassment from acne (question one) and just fewer (9/65) has aggressive or embarrassing feel. Forty-nine (49/65) patients thinking that acne interfere with social life and relationship with the opposite sex (question two).

Most of the times (17/65) and sometime (23/65) patient have avoided wearing clothes which may expose areas of their trunk with acne while only (11/65) have no problem about that (question three). Fewer patients (12/65) were not concerned about the appearance of their acne while most of the others were concerned about that (53/65) (question four). Fifty patients (50/65) pose that acne is a problem to them (question five). In the present study, questions 4 and 5 showed the highest percentage of QoL impairment among respondents, as shows in table 6, which reveals that 50/65 (question four) were psychologically disturbed by the appearance of their acne lesions and 60/65 (question five) believed that their acne is a problem. These questions also demonstrated the highest responses by Hanisah A, et al. (2009) and Perić J, et al (2013) indicating that these questions elicited a higher problem articulation than other [19,27]. The degree of social and emotional problems in patients with acne are comparable to those with more chronic severe disabling diseases like epilepsy, arthritis and psoriasis [28,29]. Nevertheless, the majority of patients in this study showed no impact on their quality of life due to acne and post inflammatory hyper pigmentation.

The present study shows no correlation between psychological impact evaluated by CADI and the severity of acne evaluated by GAGS (Table 5). A comparable study in Hong Kong demonstrated a similar result which also did not found any correlation between CADI and GAGS [30]. Additionally, other systems are used to assess acne severity like the Echelle de Cotation des Lesions d'Acn´e (ECLA) scale which also demonstrated similar results in a French population sample as well as in Turkish sample [31,32]. Furthermore, anxiety or depression (assessed by HAD hospital anxiety and depression scale) showed no correlation with acne severity. However, Walker N, et al. (2006) demonstrated, in Scottish teenagers, a positive correlation between CADI Children's Dermatology Life Quality Index (CLDQI) [32].

Conclusion

The severity of acne vulgaris does not correlate with the associated psychosocial impact.

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