

The quality of life and psychological impact of acne vulgaris among university students in Nizwa- Oman

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Abstract: Acne vulgaris is the most disseminated dermatological disease amongst adolescents. Along with the main attributing factors, various elements can worsen or exacerbate acne, among which psychological stress is the most significant.

Aims and Objectives: This study sought to determine the impact of acne vulgaris on the quality of life among undergraduate and postgraduate students attending Nizwa university, Nizwa, Oman.

Materials and Methods: This study is a cross-sectional questionnaire-based survey including randomly selected undergraduate and postgraduate students in Nizwa university. Evaluation of the impact of acne vulgaris on their quality of life was determined using the Dermatology Life Quality Index (DLQI). Data are analyzed using SPSS software.

Results: This study included 900 students from whom 75 participants were acne patients. Most of the students were within age range of 26-30 years. The majority of the students, i.e. 60 (80%), were undergraduates and they were equally distributed between science and humanity streams. DLQI scores revealed that the quality of the life of the subjects was impaired by this dermatological condition, as approximately half of the students 39 (52%) has been moderately or severally affected by acne vulgaris. Interestingly, 55 students (73%) have expressed being stressed by having acne vulgaris and only 24 students (32%) have sought counselling service to manage the stress related to their acne. Both the direct stress associated with acne problem and seeking counselling service were found to be significantly correlated with DLQI score ($P < 0.05$). In conclusion, our findings demonstrate that acne vulgaris has a valuable impact on the quality of life amongst students attending Nizwa University, which raise concerns regarding its psychological effect on them and suggests offering appropriate counselling service alongside the medical intervention.

Keywords: Acne Vulgaris, Dermatological diseases, Dermatology Life Quality Index, Psychological impact, Quality of life, and University students.

I. INTRODUCTION

Acne vulgaris is a multifactorial chronic inflammatory disease, which originates in the pilosebaceous apparatus. It is characterized by the formation of open and closed comedones in addition to papules, pustules and nodules. Acne vulgaris mainly affects the face, chest, upper back and upper arms. Given that inflammatory acne is usually associated with scarring and hyperpigmentation, appropriate medical treatment and following up are essential.^[1]

Globally, acne vulgaris is the most prevalent skin condition affecting young adults. Studies showed that a certain degree of acne, ranging from mild to severe, affects almost all young adult aged 15-17 years. Moreover, acne consistently represents the top three most prevalent dermatological conditions in the general population based on large studies conducted in the U.K., France and the U.S.A.^[2]

Acne vulgaris is a localized skin disease which is not associated with any known systematic manifestations and not deemed as a life-threatening condition. Nonetheless, studies have highlighted the negative psychological impact accompanied by this dermatological condition. Acne disease has been directly linked with lower self-esteem, higher risk of anxiety, depression and suicidal ideation, with overall impairment of the quality of life of acne patients.^[3-5] Therefore, it is essential to observe and assess the quality of life of these patients. According to various studies, the influence of this disease on quality of life varies according to different parameters, the aim of the present study is to evaluate the quality of life among students with acne at the University of Nizwa - Nizwa, Oman.

II. BODY OF ARTICLE

II.I. Materials and Methods

This cross-sectional questionnaire-based survey was conducted between February 2019 - April 2019. The sample involved university students from both scientific and humanistic streams (undergraduate and postgraduate students) at the University of Nizwa - Nizwa, Oman. The study was conducted on 900 subjects from whom 75 students were acne patients.

The students were invited to take part in the study, the purpose of the study was explained, and verbal consent was taken before handing in the questionnaires. Confidentiality and anonymity of results were assured.

The Dermatology Life Quality Index (DLQI) was utilised as an index measure in this study after granting a licence confirmation (License ID CUQoL2135). The DLQI questionnaire was first introduced in 1994 by Finlay and Khan.^[6] DLQI was developed based on the answers of a hundred and twenty patients with different skin diseases regarding the influence of their diseases on their lives.

DLQI is a validated 10 question based-questionnaire which grades the scoring of each question as follows:

- 1- "very much" (score 3),
- 2- "a lot" (score 2),
- 3- "a little" (score 1), and
- 4- "not at all" (score 0).
- 5- 'not relevant' (score 0)

Final DLQI score is the sum of all scores, resulting in a maximum of 30 and a minimum of 0. The higher the score, the greater the impairment of quality of life.^[6] The classification of the DLQI scores is shown in table 1.

Table 1: DLQI scores interpretation.

DLQI Score	Interpretation
0-1	no effect on patient's life
2-5	small effect on patient's life
6-10	moderate effect on patient's life
11-20	very large effect on patient's life
21-30	extremely large effect on patient's life

DLQI was chosen as a simple index that could be accurately and rapidly completed by patients with no required supervision, several reports and reviews have confirmed the feasibility and applicability of this index to the clinicians as well as to the academic researchers.^[7]

Data were entered and analyzed using Microsoft Office Excel 2016. Statistical significance calculated using t-test and Chi-square test on SPSS. Significance was defined as p value < 0.05 .

II.II. Results

In this work, 75 students with acne were studied, of whom 50 students (66.7%) were female. The majority of the students were within age range of 26-30 years. Regarding the education level, 60 students (80%) were undergraduates and the participants were almost equally distributed between science and humanity streams (Table 2). Only 28 subjects (37.3%) were living in Muscat. 61.3% of the studied subjects were married (Table 2).

Table 2: Demography of the study population

	Number (percentage)
Gender	
Male	25 (33.3%)
Female	50 (66.7%)
Age	
(18-20)	17 (22.7%)
(21-25)	10 (13.3%)
(26-30)	36 (48%)
Above 31	12 (16%)
Level	
Undergraduate	60 (80%)
Postgraduate	15 (20%)
Stream	
Scientific	39 (52%)
Humanistic	36 (48%)
City	
Muscat	28 (37.3%)
Other cities	47 (62.7%)
Status	
Single	29 (38.7%)
Married	46 (61.3%)

According to the obtained DLQI scores, one can notice that the quality of the life of the subjects were impaired by this condition whereby about half of the students (52%) has been moderately or severally affected by this dermatological problem and 48% of the subjects were mildly affected by acne vulgaris (Fig.1).

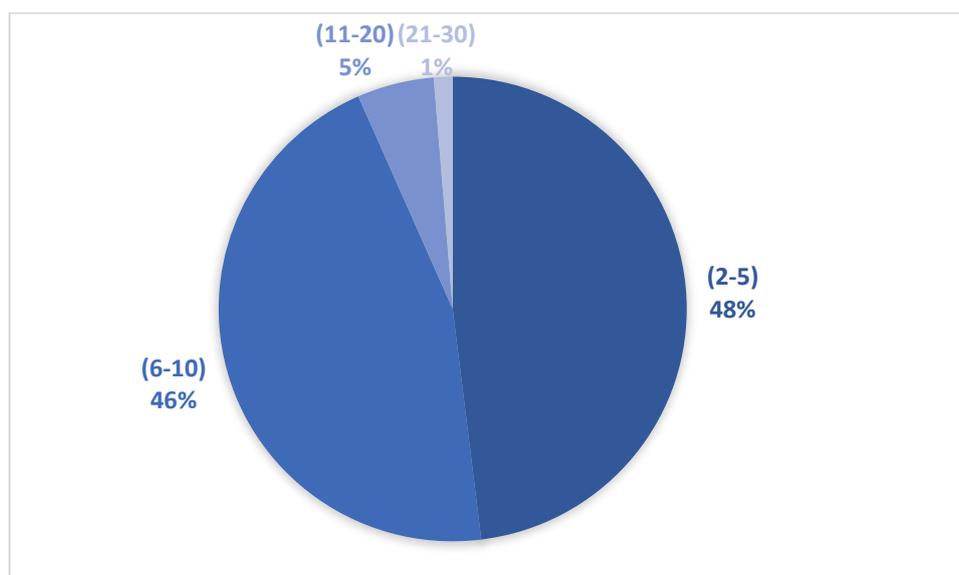


Figure 1: The DLQI score distribution among the studied sample, the data were presented as a percentage of the total 75 students.

The quality of life of female and male subjects was found to be impaired differently by acne vulgaris problem as 64% of male subject were moderately affected by acne and none of the male subjects was severely affected by acne. On the other hand, 46% of the female subjects were moderately affected by acne with 5 female students (10%) reported severe impact of acne on their life (DLQI score between 11-30) (Fig. 2).

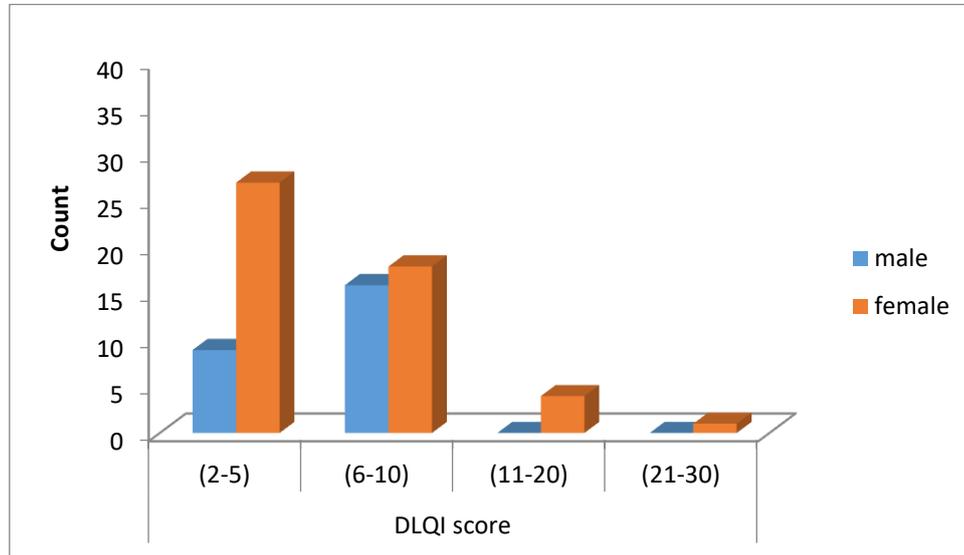


Figure 2: The difference distribution of DLQI scores between male and female subjects.

Interestingly, around 55% of undergraduate students were moderately or severely affected by acne, while 9 subjects (60%) out of 15 postgraduate students were found to be mildly affected by acne (Fig. 3).

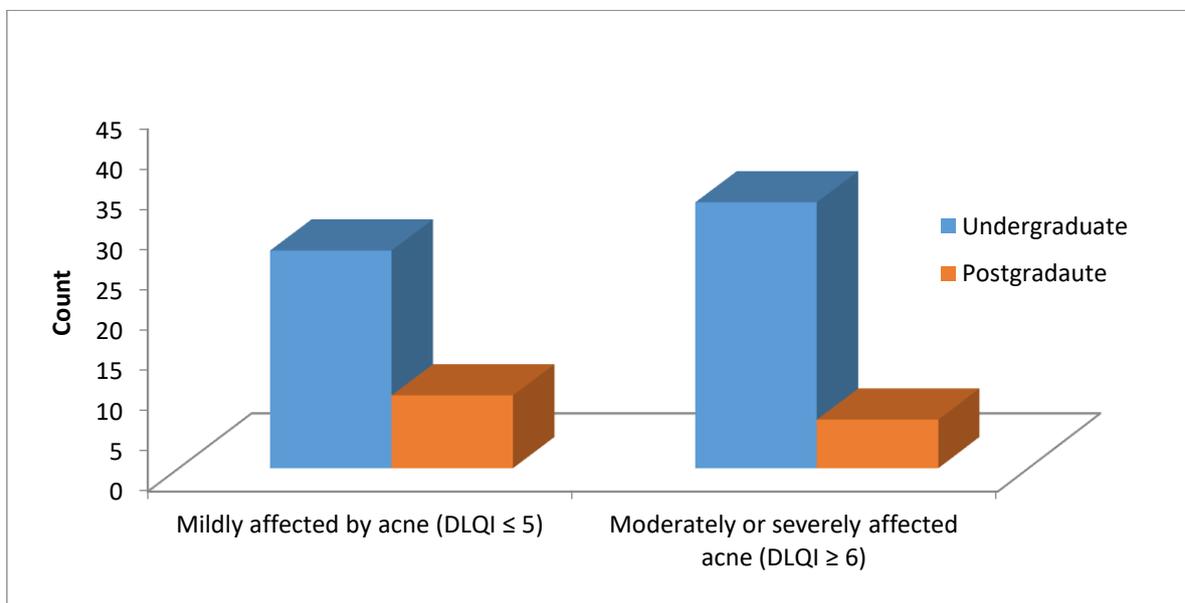


Figure 3: The difference in distribution of DLQI score between undergraduate and postgraduate students.

Lastly, this work aimed to directly assess the psychological impact of acne and whether this problem has prompted them to seek proper counselling services, including specialized counselling centres in order to tackle the associated stress. Interestingly, 55 subjects (73%) have expressed being stressed by this condition. 32 students (60%) out of the 55 student who expressed psychological stress, displayed DLQI scores more than 6 (Table 3). Moreover, only 24 students (32%) have sought counselling to tackle the psychological stress (Table 3). In line with our expectations, it was found that there is a significant relation between DLQI score and both the direct stress associated with acne and seeking counselling service ($P < 0.05$).

Table 3: The DLQI score distribution amongst the studied students relative to the associated stress and seeking counselling.

		Count		Total
		Mildly affected by acne (DLQI ≤ 5)	Moderately or severely affected acne (DLQI ≥ 6)	
Stress	stressed	23	32	55
	not stressed	13	7	20
Total		36	39	75
Counseling	yes	9	15	24
	no	27	24	51
Total		36	39	75

II.III. Discussion

This cross-sectional study sought to evaluate the quality of life of acne patients and the psychological impact of this dermatological problem among college students at the University of Nizwa.

Given that the process of providing health care is becoming patient-personalised, assessing the quality of life is essential to determine the impact of skin conditions on individual patients.^[7]

The psychological impact of acne vulgaris has been widely evaluated, high school students and college students using the DLQI score and other scores. The majority of the published researched has confirmed the negative impact associated with this dermatological problem worldwide.^[8-11] Previously, the negative effect of acne on the students at Sultan Qaboos University has been confirmed and the researchers have recommended the physicians to pay more attention toward the quality of the life of acne patients.^[12]

Acne affects mainly teenagers and young adults as it is associated with the notable increase in the sebaceous glands and the hormonal changes at the puberty phase. Interestingly, we found that the majority (48%) of the included subjects in this study with acne were aged between 26-30 years. On one hand, these numbers highlight the persistent manifestation of acne vulgaris beyond puberty phase.

On the other hand, the observed persistency of acne amongst the studied group can be attributed to gender-associated differences. Previously, it has been found that female patients, in contrary to male patients, may continue to suffer from this problem during adult life.^[13] Building on previous studies, a wider age range between 20-30 years was employed to classify the age of the subjects. In this regard, according to a study conducted on a German population, it has been found that 64% of those aged between 20-29 had acne.^[14] Moreover, almost 50% of the subjects with acne included in a study conducted in Saudi Arabia were aged between 21-30 years.^[15]

One of the most important findings of our present study is that 52% subjects displayed a score of DLQI of more than 6, which indicates that acne vulgaris has critical impact on their quality of life, these results were in line with the previously conducted studies.^[8-11]

Our results showed that there is an observed correlation between the level of education and the quality of life, which revealed that postgraduate students had lower DLQI score compared to undergraduate students. These observations can be correlated with other inter-related factors, including the age of the students, their financial, marital and social status. Postgraduate acne sufferers who tend to be less stressed about their acne are most probably mature, self-funded and married. Therefore, these parameters could build self-confidence of acne sufferers and more self-conscious about their acne and how to cope with it.

Building on a previous study conducted in Iran, they found that the subjects with university degrees had a lower impact of acne on their life and better quality of life compared with the subjects with diploma degree and below.^[9]

Although there was no significant correlation between gender and DLQI score, a worthwhile pattern was obtained, indicating that female students have expressed severe negative impact of acne on their quality of life. This obtained results could be attributed to some reasons, such as the lower number of the male participants and the cultural factors that could

limit some female participants to express their experience associated with this dermatological condition. Previously, it has been shown that female university students were more effected by acne disease and being more concerned about the appearance of their skin.^[16]

Lastly, we aimed to directly evaluate the associated stress among our subjects, 73% of the recruited students expressed stress as a result of having acne disease. On one hand, these findings are in line with the negative psychological impact of acne on patients manifested by stress, anxiety, low self-esteem and depression.^[17] On the other hand, acne disease is known as a complex multifactorial disease that starts in the pilosebaceous follicle. Acne can be primarily attributed to four inter-related pathogenic factors, including high production of sebum, accompanied by shedding of follicular epithelial cells, colonization of *Propionibacterium acnes* and inflammation.^[1] However, various endogenous and exogenous parameters can worsen, trigger or exacerbate acne, such as genetics, hormonal factors, psychological stress, diet, and smoking.^[3] It has been widely acknowledged that emotional stress is allied with the pathogenesis mechanism of acne.^[3] Therefore, it's essential to understand the principal interplay of role psychological stress on further exacerbation of this condition whereby patients should be aware of the negative impact of psychological stress on the outcome of their treatment course.

III. CONCLUSION

In conclusion, our conducted study aimed to assess the quality of the life of acne subjects and the direct psychological impacts of this common dermatological disease. Our findings highlight the impairment of the quality of the life of these subjects and found that emotional stress is largely associated with acne. According to these findings, an interdisciplinary therapeutic approach is required in the treatment of acne patients, which should involve both dermatologists and psychologists at different stages of the patient's prognosis.

REFERENCES

- [1] S. Das, R V. Reynolds, "Recent Advances in Acne Pathogenesis: Implications for Therapy," Am J Clin Dermatol, Vol. 6, No. 15, pp. 88–479, 2014.
- [2] K. Bhate, HC. Williams, "Epidemiology of acne vulgaris," Br J Dermatol, Vol.3, No.168, pp. 85–474, 2013.
- [3] A. Jović, B. Marinović, K. Kostović, R. Čeović, A. Basta-Juzbašić, Z. Bukvić Mokos, "The Impact of Psychological Stress on Acne," Acta Dermatovenerol Croat, Vol. 2, No. 25, pp. 41–1133, 2017.
- [4] S. Aktan, E. Ozmen, B. Sanli, "Anxiety, depression, and nature of acne vulgaris in adolescents," Vol. 5, No. 39, pp. 7–354, 2000.
- [5] M. Jones-Caballero, M. Chren, B. Soler, E. Pedrosa, P. Peñas, "Quality of life in mild to moderate acne: relationship to clinical severity and factors influencing change with treatment," J Eur Acad Dermatology Venereol, Vol. 2, No. 21, pp.26–219, 2007.
- [6] AY. Finlay, GK. Khan, "Dermatology Life Quality Index (DLQI)-a simple practical measure for routine clinical use," Clin Exp Dermatol, Vol. 3, No. 19, pp. 6–210, 1994.
- [7] V. Lewis, AY. Finlay, "10 Years Experience of the Dermatology Life Quality Index (DLQI)," J Investig Dermatology Symp Proc, Vol. 2, No. 9, pp.80–169, 2004.
- [8] M. Abu, EEEA. Nada, MA. Moustafa, R. Ahmed, "Prevalence of acne vulgaris and its impact of the quality of life among secondary school-aged adolescents in Sohag Province, Upper Egypt," Vol. 3, No. 16, pp. 3–370, 2017.
- [9] H. Safizadeh, S. Shamsi-Meymandy, A. Naeimi, "Quality of Life in Iranian Patients with Acne," Dermatol Res Pract, Vol. 12, No. 20, pp. 1–4, 2012.
- [10] NK. Chowdary, SS. Prabhu, SD. Shenoi, "Uk S. Quality of life in acne patients: A clinical and Dermatology Life Quality Index (DLQI) based cross-sectional study," Vol. 4, No. 28, pp.9–415, 2018.
- [11] N. Hazarika, RK. Rajaprabha, "Assessment of Life Quality Index Among Patients with Acne Vulgaris in a Suburban Population," Vol. 2, No. 61, pp. 8–163, 2016.

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- [12] A. Al-shidhani, S. Al-rashdi, H. Al-habsi, S. Rizvi, "Impact of Acne on Quality of Life of Students at Sultan Qaboos University," Vol. 6, No. 29, pp. 7– 42, 2015.
- [13] AW. Lucky, FM. Biro, LA. Simbartl, JA. Morrison, NW. Sorg, "Predictors of severity of acne vulgaris in young adolescent girls: results of a five-year longitudinal study," J Pediatr, Vol. 1, No. 130, pp. 9–30, 1997.
- [14] T. Schäfer, A. Nienhaus, D. Vieluf, J. Berger, J. Ring, "Epidemiology of acne in the general population: the risk of smoking," Br J Dermatol, Vol. 1, No. 145, pp. 4– 100, 2001.
- [15] AA. Robae, " Assessment of general health and quality of life in patients with acne using a validated generic questionnaire," Vol. 4, No. 18, pp. 64– 157, 2009.
- [16] MD. Inder Pal Singh, MD. Rajwinder Singh, MD. Vinay Shanker, M. Simran Singh Aujla, "Quality of life of university students with acne," J Med Sci Clin Res, Vol. 10, No.6, pp. 45– 139, 2018.
- [17] JYM. Koo, LL. Smith, "Psychologic Aspects of Acne." Pediatr Dermatol, Vol. 3, No. 8, pp. 8– 185, 1991.