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Research Letter

Acne Vulgaris and Quality of Life: A Study of 100 Cases

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To the Editor,

Acne can significantly impact psychosocial well-being, leading to anxiety, depression, and reduced self-esteem. This study evaluated the epidemiological, clinical, and psychosocial aspects of acne vulgaris in patients younger than 25 years and its effect on quality of life (QOL). While reaffirming previous findings, it also provides new insights into age-specific influences on QOL, supporting more personalized management strategies.

Materials and methods

We conducted a cross-sectional study in the Department of Dermatology at *Cheikh Khalifa Hospital* from September 2023 through September 2024, including all patients younger than 25 years who consulted for acne and agreed to participate in the study.

The primary outcome, quality of life (QOL), was assessed using the Cardiff Acne Disability Index (CADI),[1] a validated self-reported questionnaire. The CADI includes 5 questions addressing the emotional, social, and physical impact of acne, with a total score ranging from 0 to 15. Scores were categorized as low (0–4), moderate (5–9), and high (10–15).

Univariate logistic regression analyses were performed to calculate odds ratios (ORs), 95%CIs, and *P* values for clinical factors, including sex, age, family history, precipitating factors, acne severity, scarring, and treatment modalities (e.g., isotretinoin, CO_2 laser). Multivariate analysis used a stepwise regression approach to adjust for confounders and evaluate the independent associations between variables and CADI score. The final model included variables that were significant in the univariate analysis. *P* values $<.05$ were considered statistically significant.

Statistical analyses were conducted using API software, version 6.0.

Results

A total of 100 patients younger than 25 years were included (mean age, 14 years; range, 11–18 years). Acne severity, assessed according to the Global Acne Evaluation (GAE), was mild in 35% of cases, moderate in 54%, and severe in 11%. Male patients tended to have more moderate-to-severe acne than female patients. Smoking and a family history of acne were risk factors for severe forms. Oral isotretinoin was administered in 26% of patients.

The mean CADI score among the 100 patients was 5, with values ranging from 0 to 15. The most widely observed CADI scores were in the low range (0-4) in 47% of patients, followed by moderate scores (5–9) in 32% and high scores (10–15) in 21%. Moderate-to-severe CADI scores were significantly associated with advanced age ($P < .01$), inflammatory and nodulocystic forms ($P < .05$), higher acne severity ($P < .01$), presence of scars ($P < .01$), prolonged acne duration ($P < .05$), and failure or recurrence after previous treatments ($P < .05$). Conversely, low CADI scores were more commonly observed in patients receiving isotretinoin treatment ($P < .05$). No significant correlation was found between CADI scores and sex ($P = .340$). The complete statistical analysis of associated factors is presented in Table 1.

Discussion

Previous studies have shown that acne is generally more prevalent among female patients than male patients, although male patients tend to develop more severe forms, a trend widely documented in the literature.[2-4] A family history of acne has also been identified as a significant risk factor for severe acne.[5]

Regarding severity, the role of smoking in acne remains controversial. Some studies suggest that regular smokers exhibit a significantly lower prevalence of severe acne compared with nonsmokers,[5] whereas others have reported a higher frequency of nodulocystic forms among smokers.

Acne has been shown to have a greater impact on quality of life in individuals older than 18 years, likely because of increased social and professional pressures in this age group.[6] Although several studies[7] have reported higher CADI scores in female patients, other investigations found no significant sex-related differences, suggesting that both male and female patients experience a comparable psychological burden from acne.[2,6]

The relationship between acne severity and quality of life has been extensively studied, with conflicting findings. Some authors reported a strong correlation between disease severity and impairment of quality of life,[2] whereas others found no significant association between CADI scores and acne severity.[8]

Scarring has been shown to contribute to increased psychological distress, with patients often reporting treatment failure, adverse effects, or recurrence, resulting in disappointment and emotional distress. These findings are consistent with previous studies.[3]

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Table 1
Association between clinical characteristics and quality of life in acne patients: univariate and multivariate logistic regression.

Variable	Frequency, %	Univariate OR (95%CI)	*P* value	Multivariate OR (95%CI)	*P* value
Sex					
Male	56	1.1 (0.8–1.5)	.52	1.0 (0.7–1.4)	.89
Female	44	Reference		Reference	
Age group					
<18 years	64	0.7 (0.5–1.0)	.04	0.8 (0.5–1.1)	.20
≥18 years	36	Reference		Reference	
Family history of acne					
Present	75	2.1 (1.6–2.8)	<.001	1.9 (1.4–2.5)	<.001
Absent	25	Reference		Reference	
Precipitating factors					
Diet	77	1.5 (1.1–2.0)	.02	1.4 (1.0–1.9)	.03
Stress	70	1.7 (1.3–2.2)	<.001	1.6 (1.2–2.1)	.01
Clinical features					
Seborrhea	89	2.2 (1.6–2.9)	<.001	2.0 (1.5–2.6)	<.001
Inflammatory and nodulocystic lesions	41	2.0 (1.4–2.7)	<.001	1.8 (1.3–2.5)	<.001
Scarring					
Pigmented macules	65	1.8 (1.3–2.3)	<.001	1.7 (1.2–2.2)	<.001
Atrophic scars	38	1.6 (1.2–2.2)	.002	1.5 (1.1–2.0)	.01
Acne severity (GAE)					
Mild	35	0.6 (0.4–0.9)	.02	0.7 (0.5–1.1)	.20
Moderate to severe	65	Reference		Reference	
Scar treatment (CO_2 laser)	10	3.0 (1.5–6.1)	.002	2.8 (1.4–5.7)	.004
Isotretinoin treatment	26	0.5 (0.3–0.8)	.002	0.4 (0.2–0.7)	.001
CADI score					
Low (0–4)	47				
Moderate (5–9)	32				
High (10–15)	21				

CADI, Cardiff Acne Disability Index; CI, confidence interval; GAE, Global Acne Evaluation; OR, odds ratio; QoL, quality of life.
The analysis examined the relationship between clinical factors and quality of life (QoL) in patients with acne, as measured by the CADI score. Key variables were analyzed using univariate and multivariate logistic regression models. Significant associations were observed between seborrhea, inflammatory lesions, family history of acne, and scar presence with higher CADI scores, indicating poorer QoL. Additionally, CO_2 laser treatment for acne scars was associated with improved QoL. Isotretinoin treatment was associated with lower CADI scores, indicating improved QoL in patients with acne, particularly those with severe or persistent disease.

Few studies have explored the relationship between acne duration and quality of life. A Brazilian study reported that patients with a shorter duration of acne had significantly higher CADI scores.[9] Conversely, Tan et al.[10] found that longer disease duration was associated with a greater negative impact on quality of life.

Finally, our study demonstrated a significant improvement in quality of life following successful isotretinoin therapy, reinforcing findings from former studies.[11]

Conflicts of interest

The authors report no conflicts of interest.

References

1. Abdelrazik YT, Ali FM, Salek MS, Finlay AY. Clinical experience and psychometric properties of the Cardiff Acne Disability Index (CADI). *Br J Dermatol.* 2021;185:711–724.
2. Hanisah A, Omar K, Shah S. Prevalence of acne and its impact on the quality of life in school-aged adolescents in Malaysia. *J Prim Health Care.* 2009;1:20–25.
3. El-Khateeb A, Khafagy NH, Abd Elaziz KM, Shedid AM. Acne vulgaris: prevalence, beliefs, patients' attitudes, severity, and impact on quality of life in Egypt. *Public Health.* 2014:1–3.
4. Hanisah A, Omar K, Shah S. Prevalence of acne and its impact on the quality of life in school-aged adolescents in Malaysia. *J Prim Health Care.* 2009;1:20–25.
5. Yang J, Yang H, Xu A, He L. A review of advancement on influencing factors of acne: an emphasis on environmental characteristics. *Front Public Health.* 2020;8:1–16.
6. Durai PC, Nair DG. Acne vulgaris and quality of life among young adults in South India. *Indian J Dermatol.* 2015;60:33–40.
7. Jankovic S, Vukicevic J, Djordjevic S, Jankovic J, Marinkovic J. Quality of life among schoolchildren with acne: results of a cross-sectional study. *Indian J Dermatol Venereol Leprol.* 2012;78:454–458.
8. Law MPM, Chuh AAT, Lee A, et al. Acne prevalence and beyond: acne disability and its predictive factors among Chinese late adolescents in Hong Kong. *Clin Exp Dermatol.* 2010;35:16–21.
9. Kamamoto S, Hassun KM, Bagatin E, Tomimori J. Acne-specific quality of life questionnaire (Acne-QoL): translation, cultural adaptation, and validation into Brazilian Portuguese. *An Bras Dermatol.* 2014;89:83–90.
10. Tan JK, Li Y, Fung K, et al. Divergence of demographic factors associated with clinical severity compared with quality of life impact in acne. *J Cutan Med Surg.* 2008;12:235–242.
11. Skroza N, Tolino E, Balduzzi V, et al. Advantages of tailored isotretinoin treatment in moderate-to-severe acne: real-life data. *Front Pharmacol.* 2021;12:1–4.