

Impact of Acne Vulgaris on Quality of Life in College Going Students

Srinivasapur Fiza Iyman¹, Rathlavath Mounika Rathod², Chilakapati Laxmi Shalini³

¹3rd Year Postgraduate, Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation

²2nd Year Post Graduate, Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation

³Associate Professor, Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation

Abstract: Background: Acne vulgaris affects the quality of life more in adolescents. Facial acne is associated with severe negative impact on the quality of life. The impact of acne on quality of life in Indian patients remains undocumented. Aim: To study the impact of acne vulgaris and related factors that may influence the Quality of life using acne specific-questionnaire. Methods: In this study 50 patients with acne vulgaris were enrolled and a thorough dermatological examination was performed. QoL was measured using a combination of skin disease (DLQI) and acne specific-questionnaire (CADI). Results: Out of the 50 patients with AV, there were 29 (58%) females and 21 (42%) males with a female to male ratio of 1.38: 1. A majority (68%) of patients were between 18 and 23 years of age. There was a statistically significant difference in the acne grading impairments across the different categories. Conclusion: Our study shows that acne vulgaris considerably impacts quality of life and this is more pronounced in patients with severe grades of acne. The impact of AV on QOL of patients needs to be examined more acutely. So, it is recommended to psychologically evaluate all patients of acne vulgaris.

Keywords: Acne vulgaris, Quality of life, Dermatology Life Quality Index

1. Introduction

Acne vulgaris is a chronic condition affecting more than 85% of adolescents and two-third of adults aged 18 years and older. It is a chronic inflammatory disease of pilosebaceous units, characterized by seborrhea; open and closed comedones; papules; pustules; and in more severe cases nodules, pseudocysts, and scarring¹.

Human skin is considered as social organ that acts as an interface for external world interaction³. Acne is associated with greater psychological burden². Psychosocial implications of acne include occupational consequences, financial burden, anxiety, anger, social withdrawal, depression and low self esteem^{4,5}.

Acne vulgaris remains one of the most common diseases affecting humanity and measurement of its impact on patient's quality of life QoL is important using validated and age appropriate measures along with an objective assessment of acne status.

WHO defines QoL as the "individual's perception of their position in the context of culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns"⁶. It provides a valuable insight into the debilitating effects of acne, that patients do not address themselves. Several general health-related quality of life (HRQoL) measures and acne specific HRQoL questionnaires have been developed. Acne specific HRQoL measures include Acne Disability Index (ADI), Cardiff Acne Disability Index (CADI)³, Assessment of the Psychological and Social Effects of Acne APSEA, Acne Quality of Life AQOL, Acne-Quality of Life Index QOLI, Acne-QoL, and Acne Q³. The CADI was developed to quickly assess the level of disability caused by acne. Clinical trials indicate that

use of global and specific scales together has complementary benefits³.

Although QoL assessment was almost unknown in dermatology until around 20 years ago, it has become increasingly important. This is due to the visibility of dermatological diseases, which affect patient's appearance, and impair emotional status and social interactions.

In this study we assessed Impact of Acne vulgaris on quality of life in students using Dermatology Life Quality Index and Cardiff Acne Disability Index.

Aim of the Study:

To study the impact of acne vulgaris and related factors that may influence the Quality of life using acne specific-questionnaire.

2. Material and Methods

All the patients with acne vulgaris who attended dermatology opd between january 2024 to june 2024 were enrolled in the study. The study was approved by the institutional ethics committee. Patients who satisfied the inclusion and exclusion criteria were enrolled. Informed consent was taken. Diagnosis of acne vulgaris was done clinically.

Inclusion Criteria:

- Old and new cases of Acne in students between 18 and 30 years visiting to the Dermatology OPD.

Exclusion Criteria:

- Patients with medical disorders or on drugs likely to interfere with assessment of acne.
- Those not consenting to participate in the study.
- Patients with any psychiatry disorders

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A detailed history pertaining to the following parameters like demographic data, presenting illness, personal history/factors aggravating acne, presence of medical/surgical diseases, family, and treatment history was elicited for all patients.

A thorough dermatological examination was performed to look for: Type of lesion, site, and grading. QoL was measured using a combination of skin disease (DLQI) and acne specific-questionnaire (CADI).

The Dermatology Life Quality Index questionnaire given by Finlay et al⁷., was used, which had a total of 10 questions related to symptoms, feelings, friendships, sports activities, family activities, clothing pattern, work, studies, sexual activities, and treatment.

Each question was answered by 'not at all', 'only a little', 'quite a lot' or 'very much'. The maximum score for each of the 10 questions was 3, making a maximum possible score of 30. The validated DLQI score bandings used were:

Table 1: Interpretation of score

Score	Interpretation
0 – 1	No effect at all
2 – 5	Small effect
6 – 10	Moderate effect
11 – 20	Very large effect
21 – 30	Extremely large effect

The cardiff acne disability index ⁸(CADI) questionnaire analysed various aspects of QOL including psychological, social and professional life. CADI is specific for acne and consists of five questions that assess the patient's attitude towards his/her condition. They are related to patient's feelings about the disease interfering with his/her social life, interaction with opposite gender, avoidance of public places and perception of the severity of the condition in the last one month. Each question consists of four options and each question is graded with a maximum score of 3 and a minimum of 0. The CADI score is calculated by summing the score of each question resulting in a possible maximum of 15 and a minimum of 0.⁸ The higher the score, the more the quality of life is impaired. Based on CADI score the QOL can be graded as not impaired (score 0), mildly impaired (score 1-5), moderately impaired (score 6-10) and severely impaired (score 11-15).

Statistical Methodology:

Data was entered in MS excel and descriptive statistics done. Percentages, line diagrams, pie charts were used for the analyzation of the data.

3. Results

Out of the 50 patients with AV, there were 29 (58%) females and 21(42%) males with a female to male ratio of 1.38: 1. A majority (68%) of patients were between 18 and 23 years of age. The duration of the disease was found to be extremely variable. It varied from two weeks to several years. 85% patients were concerned about their disease.

Table 2: Age wise distribution

Age (years)	Sex		Total
	Female	Male	
18-20	9	7	16
21-23	10	8	18
23-26	6	5	11
27-30	4	1	5

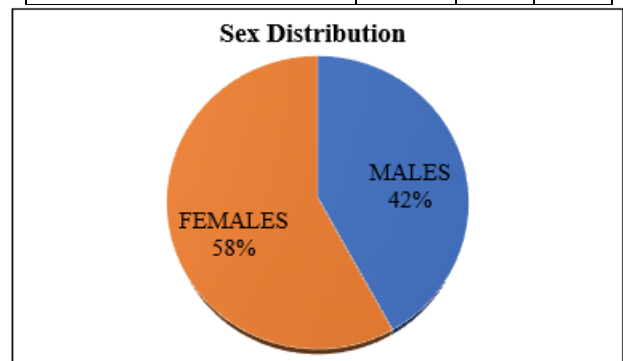


Figure 1: Sex distribution of patients

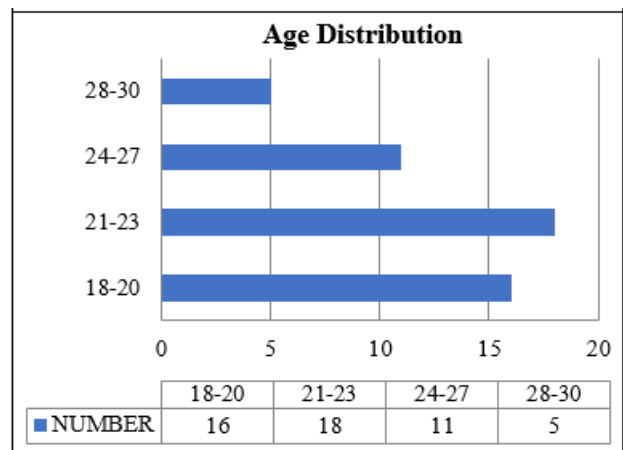


Figure 2: Age distribution of patients

Table 3: Gender wise DLQI severity

Severity	Females	%	Males	%	Total	%
No Effect	0	0	1	4.76	1	2
Small Effect	4	13.79	2	9.52	6	12
Moderate Effect	13	44.83	10	47.62	23	46
Very Large Effect	10	34.48	7	33.33	17	34
Extremely Large Effect	2	6.89	1	4.76	3	6

P Value IS 0.564, there is no statistically significant difference between the severity effects for females and males

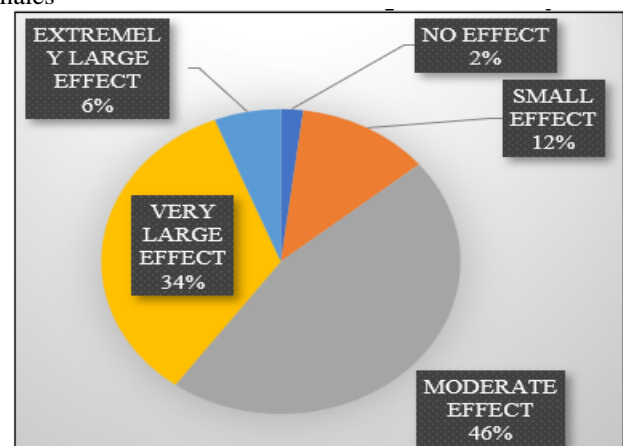


Figure 3: Severity distribution

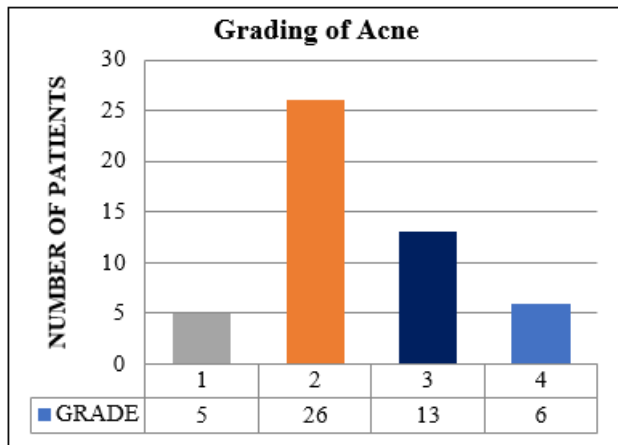


Figure 4: Acne grading

Table 4: Gender wise CADI severity

	Females	%	Males	%	Total	%
Not Impaired	0		0		0	
Mildly Impaired	1	3.44	1	4.76	2	4
Moderately Impaired	21	72.41	14	66.67	35	70
Severly Impaired	7	24.13	6	28.57	13	26

With a p-value of 0.975, this indicates that there is no statistically significant difference in the impairment levels between females and males.

Table 5: QOL impairment based on CADI scores

Acne Grading	No Impairment	Mild Impairment	Moderate Impairment	Severe Impairment	P value
1	0	4	1	0	<.00001*
2	0	1	22	3	
3	0	0	7	6	
4	0	0	2	4	

Test of significance; Chi-square test; *significant p<0.05) This indicates that there is a statistically significant difference in the acne grading impairments across the different categories.

4. Discussion

Acne vulgaris remains one of the most common diseases affecting humanity and measurement of its impact on patient's quality of life is important using validated and age-appropriate measures along with an objective assessment of acne status.

Numerous QOL tools have been validated to assess the influence of skin disorders on quality of life.⁶

A well-validated quality of life (QOL) measure unique to dermatology, is the Dermatology Life Quality Index (DLQI) and utilized in numerous disorders⁷ and cardiff acne disability index (CADI) is specific for acne⁸.

Shams N et al. reported there were more female cases, i.e. 76% females Vs. 24% males⁹. Similarly in our study, females 58% were more affected than males 42%. Do JE et al. in Korean adolescents claim that males were more prone to acne as compared to females¹⁰.

As reported in table 2, majority of patients in this study were below 23 years 34(68%) similar to Jaber et al¹¹, who reported 26.7% of the participants were aged between 15 - 20 years, 34.7% aged between 21 - 25 years and 19.3% aged between 26 - 35 years.

The duration of the disease was found to be extremely variable. It varied from two weeks to several years

In our study 4% patients had mild impairment, 70% moderate impairment and 26% severe impairment based on CADI score. Whereas Shahzad et al¹² reported, CADI score

varied from 0-13 out of a maximum of 15 and the score was in the range of mild impairment (0-4) in 81.3%, moderate impairment (5-9) in 15.5% and severe impairment (10-13) in 3.2%.

In our study there was a statistically significant difference in the acne grading and severity of impairment across the different categories similar to Shahzad et al¹¹ which demonstrated a good correlation between severity of acne and reported disability.

In research studies, people with acne have said that their skin makes them feel unattractive, embarrassed, or self-conscious. These feelings can cause some teens to avoid trying out for sports, getting a job, or participating in class^{13,14}.

Some people say that having acne makes them feel on edge^{14,15}.

Acne can leave various scars after healing, which may present as depressed scars or hypertrophic and keloidal scars. Similar to other inflammatory skin conditions, acne vulgaris lesions may lead to the development of postinflammatory hyperpigmentation, which is more common in individuals with darker skin (phototypes IV to VI)¹⁶.

In our study, 2% were completely unaffected by the lesion, and it had no effect on their ability to work, study, shop, play sports, or engage in other social activities. Neither did the lesion cause issues with any of their close friends or family members.

- 12% were having small effect in terms of embarrassment and affected social activities.
- 46% showed moderate effect due to lesions, embarrassment and social activity.

- 34% showed very large effect due to lesions, sexual difficulties, disturbance in studying, work life and social activity.

The lesion had no effect on sexual activity in 94% of cases.

5. Conclusion

Our study shows that acne vulgaris considerably impacts quality of life and this is more pronounced in patients with severe grades of acne. The impact of AV on QOL of patients' needs to be examined more acutely. So, it is recommended to psychologically evaluate all patients of acne vulgaris.

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Ethical issues involved in the study: Nil

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