

Original Research Article

A study on the dermatology life quality index in patients with acne vulgaris

Sangaiah Sivaramakrishnan, Thomas Jayakar*

Department of Dermatology, Sree Balaji Medical College Hospital, Chromepet, Chennai, Tamil Nadu, India

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*Correspondence:

Dr. Thomas Jayakar,

E-mail: jayakarthomas@gmail.com

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ABSTRACT

Background: Acne vulgaris is a common, chronic disorder, involving inflammation of the pilosebaceous units that can be varied in presentation and difficult to treat. Most adolescents experience some acne; however, it may linger into adulthood. This study was done to evaluate the dermatology life quality index in patients with acne vulgaris.

Methods: A cross sectional study was done with pretested Dermatology life quality index (DLQI) questionnaire on 100 acne patients 15 years and above, in a tertiary care hospital. Interpretation of score and impact on quality of life (QoL) was done and graded as no effect, small effect, moderate effect, and very large effect.

Results: In our study, females outnumbered males (M: F ratio=1: 1.22). The age group most affected was within 15 and 20 years of age. The mean DLQI score was 5.59 ± 4.07 . Most of them had a 'small impact' on the QoL. QoL was worse in females. The most common grade of acne overall was grade 2 acne. Grade 3 acne was more common in men. Most of the patients (84%) experienced some degree of embarrassment or increased self-consciousness due to their acne.

Conclusions: Our study showed significant impairment of QoL in acne patients. Treatment of acne should not be guided only by the clinical grade of acne, but take into consideration the psychosocial impact the condition has on the patient. Adequate counselling along with early treatment of acne vulgaris is essential in order to reduce the disease-related psychosocial sequelae and increase treatment efficacy.

Keywords: Acne vulgaris, Dermatology life quality index, Quality of life

INTRODUCTION

Acne vulgaris is a common disease that predominantly affects the adolescent age group (80%) but may persist into adulthood, with a fewer fraction experiencing acne for the first time beyond 21 years of age.¹ Acne vulgaris, is thought to be multifactorial in its pathogenesis.² Sebum overproduction occurs under the influence of hormones (mainly androgens). This in conjunction with abnormal hair follicular desquamation causes plugging of the follicles which results in increased growth of

Propionibacterium acnes. This culminates in increased inflammation in the pilosebaceous units. Lithium, hormones, iodides cortisone, some seizure medications, or isoniazid can also induce acne lesions.³

Major complications of acne are scarring and psychosocial distress which persists long after the active lesions have disappeared.⁴ Its onset in adolescence may add to the emotional and psychological challenges experienced during this period, and it can lead to developmental issues of body image, socialization, and

sexuality. Moreover, anxiety and depression are found to be more prevalent among acne patients than controls. Even suicidal ideation was found in 6-7% of acne patients.

The objective of this study was to study the impact of acne vulgaris on the quality of life in patients aged 15 years and above following a thorough clinical evaluation. In this study the dermatology life quality index (DLQI) questionnaire has been used as a tool for life quality assessment in patients. The DLQI is a simple 10-question validated questionnaire that has been used to study the impact of skin disease on the quality of life of an affected person aged 15 years and above.⁵

METHODS

A cross sectional study involving 100 patients aged 15 years and above, who were diagnosed with acne vulgaris. The study population included all patients who attended the skin outpatient department at Sree Balaji Medical College and Hospital. Consecutive sampling method was followed and descriptive analysis of the collected data was done. Patients below 15 years of age and those not consenting to the study were excluded. Those patients 15 years and above were given a written informed consent. Those who agreed to participate in this study were subjected to history taking and a thorough clinical examination to grade the degree of acne lesions. Grading of acne was done based on clinical features and divided into 4 grades of severity, Grade 1 consisting of comedones and few papules, Grade 2 consisting of predominantly papules with a few pustules, Grade 3 with presence of ‘spill over’ lesions onto the chest and back and Grade 4 nodulocystic acne.⁶ The patients were provided with the DLQI questionnaire along with the instructions required to fill them.

The DLQI questionnaire consists of 10 questions encompassing various domains which includes cutaneous symptoms like itching, burning or stinging, degree of embarrassment or self-consciousness, interference with daily activities, influence over the choice of clothing, interference with leisure and social activities, difficulty in performing sporting activities, interference with work or study, difficulty in interpersonal relationships, sexual difficulty and problems due to treatment of the condition.

Each domain has 4 possible responses ranging from 0 to 3 (0- not at all, 1- little, 2- lot, 3- very much) and the total possible score is 30. The impact on QoL is based on the final score and is graded as no effect (0-1), small effect (2-5), moderate effect (6-10), very large effect (11-20) and extremely large effect (21-30). Data entry was done on MS Excel and data analysis was performed in SPSS 22 version. The study was approved by the ethical and research committee.

RESULTS

We divided the ages of the patients into three groups, 15-20 years (n=53), 21-30 years (n=43) and 30-40 years (n=4) [Figure 1], the most common age group affected were those within 15-20 years (53%) [Figure 3]. The highest and the lowest age of the patients affected were 40 years and 15 years respectively and the mean age was 20.7±4.37. In our study females (55%) outnumbered males (45%) [Figure 2] with a M: F ratio of 1: 1.22.

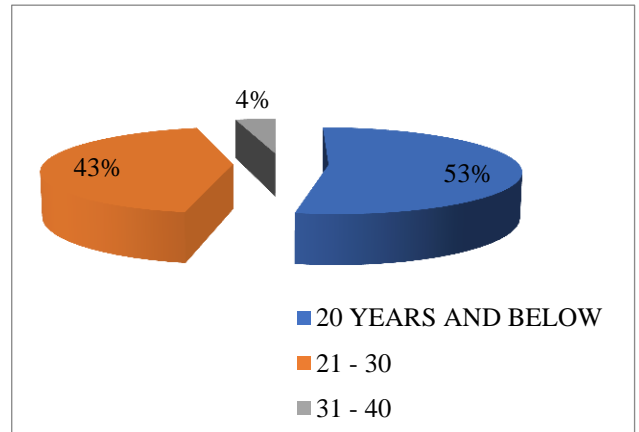


Figure 1: Age distribution of acne.

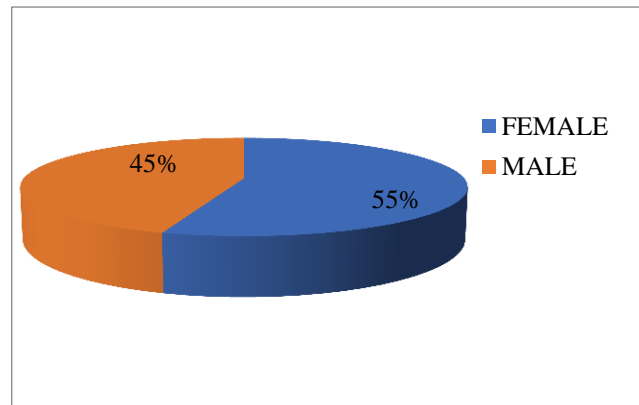


Figure 2: Sex distribution of acne.

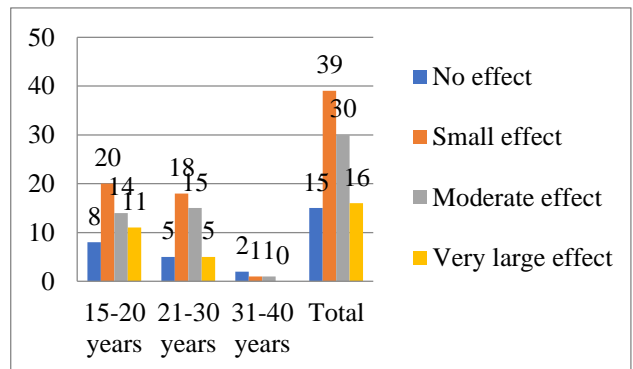


Figure 3: Impact of acne on quality of life of patients in each age group.

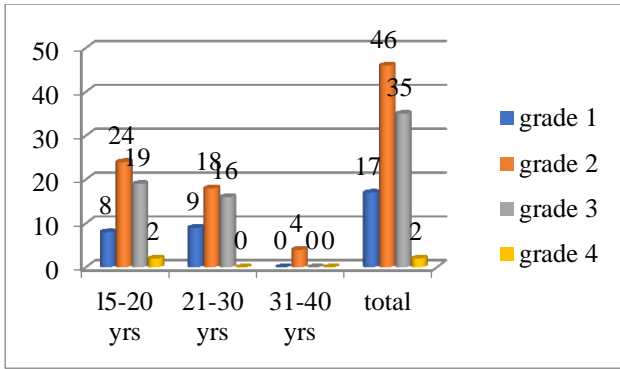


Figure 4: Grade of acne in different age groups.

85 out of the total 100 patients had elevated DLQI scores, while the remaining 15 people were not affected by the condition such as to impair their quality of life (i.e., ‘no effect’ corresponding to total score of 0-1). The mean DLQI scores were highest (5.72) in the age group of 15-20 years [Table 2], followed by patients within 21-30 years (5.67) and 31-40 years (3.0).

Table 1: Grade of acne and mean DLQI score.

Grade of acne	Frequency	Total DLQI score	Mean DLQI score
1	17	39	2.29
2	46	208	4.52
3	35	287	8.2
4	2	24	12.0

Table 2: DLQI in different age groups.

Age group (in years)	Frequency	Total DLQI	Mean DLQI
15-20	53	303	5.72
21-30	43	244	5.67
31-40	4	12	3.0

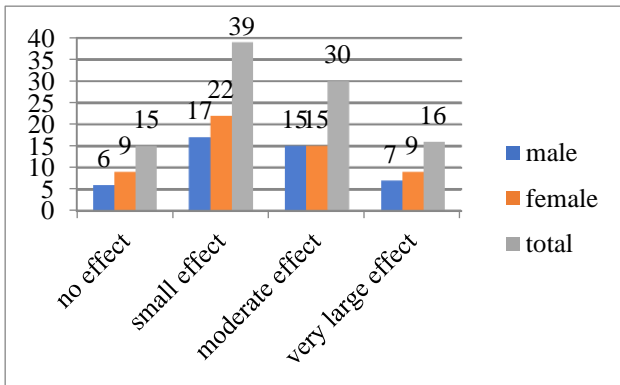


Figure 5: Impact of acne on QoL in both sexes.

Females had more impairment in their QoL than males, (46% versus 39% respectively). Most of the patients had a ‘small effect’ on the QoL due to acne (39%) [Figure 3] followed by ‘moderate effect’ (30%), and ‘very large effect’ (16%). None of our patients had very severe impairment in DLQI scores (extremely large effect).

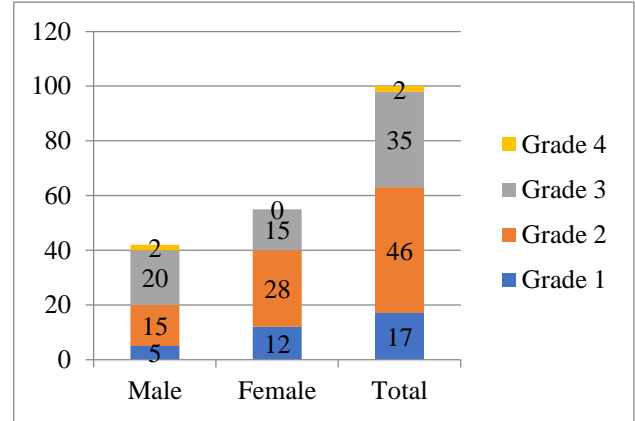


Figure 6: Different grades of acne according to sex.

The most common grade of acne encountered in our study group was Grade 2 acne (46%), followed by Grade 3 (35%), Grade 1 (17%) and Grade 4 acne (2%) [Figure 4]. The most common grade of acne in females was Grade 2, whereas Grade 3 acne predominated in males [Figure 6]. Grade 4 acne patients (n=2) had the highest mean DLQI scores (12.0) followed suit by Grade 3 (8.2), Grade 2 (4.52) and finally Grade 1 (2.29) [Table 1].

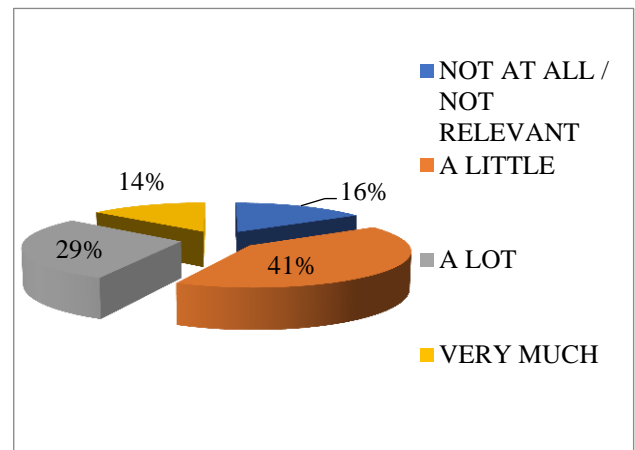


Figure 7: Embarrassment or self-consciousness in patients with acne.

The most common domain of DLQI affected in our patients with acne was the degree of embarrassment or self-consciousness, with 84 out of 100 people having elevated scores (DLQI≥2) [Figure 7].



Figure 8 (A): Grade 1 acne showing comedones and papules; (B): Grade 2 acne with multiple inflammatory papules and pustules; (C): Grade 3 acne showing 'spill over lesions' on the neck, chest and shoulders; (D): Grade 4 acne showing multiple cysts and abscesses.

DISCUSSION

In our study, females outnumbered male (M: F ratio 1: 1.22) in accordance with another study done by Dr. Neirita Hazarika and Dr. Radha K. Rajaprabha.⁷ The same study also showed maximum clustering of cases between 15-20 years which was replicated in our study as well.

The study by Hazarika et al showed an increasing mean DLQI scores with age in contrast to our study which showed a decreasing trend in the mean DLQI scores with age (15-20 years- 5.72; 31-40-5.67).⁷

In our study acne had a greater impact on the QoL in females than in males but this could be attributed to more female patients in our study. While a study by Durai et al reported Grade 1 acne to be the commonest, Grade 2 acne was the commonest in our study.⁸ Our study results agreed with those published by Hazarika et al in the fact that Grade 2 acne was the predominant type in females whereas Grade 3 acne was commoner in males.⁷

85 out of our 100 patients had elevated DLQI scores. Majority of the affected had a small effect (39%) followed closely by moderate effect (30%) and very large effect (16%) with no one having an extremely large effect on their QoL. These results agreed with those of Hazarika et al.⁷

The mean DLQI scores showed an increasing trend with an increase in the Grade of acne (2.29 in Grade 1 acne to

12.0 in Grade 4 acne) with similar results published by Hazarika et al.⁷

CONCLUSION

Acne is predominantly a disease of adolescence with female preponderance. Our study showed that a significant majority of the patients had impairment in life quality with a greater impact felt by females. The results published by our study highlights the importance of early detection of acne as the mean DLQI score increased with increasing grade of acne. In general, it's of paramount importance that dermatologists also incorporate evaluation of the Dermatology life quality Index in their patients along with clinical grading before initiating treatment because reduction in DLQI scores during follow up becomes an important indicator of treatment success and satisfaction among dermatologists and patients alike.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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