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Quality of Life in Patients with Acne: A Questionnaire Study

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Abstract

Introduction: Acne vulgaris is a self-limited disorder of the pilosebaceous unit. It is primarily seen in adolescent age group. Acne can present with pleomorphic lesions consisting of comedones, papules, pustules and nodules. Both inflammatory and non-inflammatory acne can produce scarring. It has been found that acne significantly affects self-image and quality of life. Effective treatment results in improvement of quality of life.

Objective: The objective of this study was to find the impairment of quality of life in patients with acne.

Materials and Methods: A total of 140 randomly selected patients coming to Dermatology OPD of Bir Hospital with complaints of acne were enrolled. A standard Dermatology Life Quality Index (DLQI) and Cardiff Acne Disability Index (CADI) questionnaires were used.

Results: The average score of DLQI in my study was 9.5 ± 5.6 with a minimum score of 0 and maximum score of 25. Similarly, the mean CADI score was 5.9 ± 2.88 with minimum score of 0 and maximum score of 12. This study found acne to be more common in females as compared to males. Most common age group for acne was 16-20 years. Almost half of the patients (46%) complained of flare-ups during summer season. Similarly, majority (60%) of patients could relate to some aggravating factors. Most common aggravating factors were topical medications, fatty foods and stress.

Conclusion: Acne is a common skin condition among the adolescents. This study conducted in Dermatology and Venereology Department of Bir Hospital showed that there is invariably some impairment in quality of life in acne patient.

Key words: Acne vulgaris; adolescent; quality of life; self concept; surveys and questionnaires

Introduction

Acne vulgaris, a self-limiting disorder of the pilosebaceous unit, is seen primarily in adolescents. It consists of comedones, papules, pustules, and nodules. Although the disorder is self-limiting, the scar formation can be a life-long sequela.¹ The key elements in the pathogenesis of acne are follicular epidermal hyperproliferation, excess sebum production, inflammation and presence and activity of *Propionibacterium acne*. It has been found that certain foods like milk and hyperglycemic foods can promote the development of acne.²

There are different methods of classifying acne, but most commonly used are the classification of the American Academy of Dermatology and Indian authors.^{3,4}

The personal and social consequences of acne mostly commonly affect the adolescent age group.⁵

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Acne negatively affects quality of life. The level of anxiety and depression directly correlates with the impairment in quality of life. A greater impairment in dermatologic quality of life seems to put the patient at an increased risk for anxiety disorder.⁶

Acne can affect an individual's health-related quality of life (HRQoL), notably feelings and emotions, personal relationships, social life and even chances of employment.⁷ It has also been found that acne patients can have low self-esteem, depression, anxiety, shame/embarrassment and social avoidance.^{5,7,8} It is quite surprising that the impact of acne may be equivalent to that of asthma or epilepsy. But on the better side, effective treatment results in improvement in quality of life.⁹

Materials and Methods

A questionnaire study was conducted in the Department of dermatology at Bir Hospital, Kathmandu using "Dermatological life quality index" and "The Cardiff Acne Disability Index".^{10,11} Permission was sought from the institution review board of National Academy of Medical Sciences. Likewise, permission was also obtained from the original authors to use the DLQI questionnaires. Patients were explained about the purpose of the study and the methods used. They were given a written consent form regarding the study and only the patient willing to participate in the study were included. A detailed proforma of the patient was filled up by the researcher, which included age, sex, level of education, profession, severity of acne, duration of acne, aggravating factors and sites of involvement. The patients were requested to fill the questionnaire and every precaution was taken to maintain privacy of the patient.

A total of 140 randomly selected patients were included in the study from January 2010 till December 2010. Patients with acne coming to the dermatology out patient department, only on the even days of the week (Monday, Wednesday and Friday) were included in the study. A total of 140 randomly selected patients were included in the study. Results were analyzed using SPSS software version 17.0 for Windows. Comparison of categorical variables between independent groups was done with Chi-square test. Pearson correlation coefficient was used to correlate the scores of two different questionnaires. A p value of <0.05 was considered statistically significant.

The DLQI was calculated by summing the score of each question resulting in a maximum of 30 and a minimum of 0. The higher the score, the more quality

of life was impaired. The DLQI can also be expressed as a percentage of the maximum possible score of 30. A banding system has been validated in order to help with the clinical interpretation of the scores. According to this system, a DLQI score of 0-1, 2-5, 6-10, 11-20, 21-30 indicates no effect at all, small effect, moderate effect, very large effect and extremely large effect on patient's quality of life, respectively. The questions can be classified under 6 headings: symptoms and feelings (questions 1-2), daily activities (questions 3-4), leisure (questions 5-6), and personal relationships (questions 8-9), each with a maximum score of 6. Questions regarding work and school (question 7) and treatment (question 10) have a maximum score of 3.

Similarly, the CADI score was calculated by summing the score of each question resulting in a possible maximum of 15 and a minimum of 0. The higher the score, the more the quality of life is impaired.

Results

A total of randomly selected 140 patients with acne were enrolled in this study. The results showed a slight predominance of acne among females (56% vs 44%). The mean age was 19.11 ± 3.41 years. The most common age group was noted to be 16-20 years for both sexes. Almost half of the patients (46%) noted flare-up of their acne during summer. More than half of patients (60%) noted presence of some aggravating factors. The most common aggravating factors were topical medicine (16.4%), fatty foods (15%) and stress (4.3%). Majority of patient coming to seek consultation had moderate form (66.4%) of acne in severity and onset of one-year duration (52.9%).

The average score of DLQI in our study was 9.5 ± 5.6 with a minimum score of 0 and maximum score of 25. The distribution of patient according to DLQI banding is shown in Figure 1.

A large group of patients (39.2%) scored between 11-20, which correlated with a very large effect on patient's life and another significant proportion (32.8%) scored between 6-10, which meant a moderate effect on patient's life. Only 11 patients (7.8%) had no effect on their life due to acne whereas six patients (4.2%) had an extremely large effect on their life. But this study failed to show any significant correlation between DLQI score with age group, sex of patient, level of education, duration, severity, or site of acne.

The mean CADI score was 5.9 ± 2.88 with minimum score of 0 and maximum score of 12. Similarly, CADI scores also failed to show any correlation with age

group, sex of patient, level of education, duration, severity or site of acne.

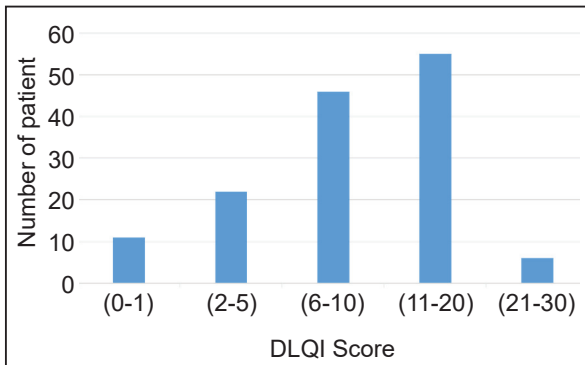


Figure 1: Distribution of patients according to DLQI banding scores.

Discussion

In this study, most patients with acne were noted to have moderate impairment in quality of life using the DLQI questionnaire, which showed similar results to other studies done outside Nepal.^{12,13} Many studies have found that the negative psychological impact of acne being more in females^{14,15} as compared to males, but this study failed to show any such correlation.

No correlation between impairment in quality of life and the severity of acne was noted in this study, which is consistent with many other studies conducted outside Nepal.^{13,15-17}

It was also noted that the no correlation was established between acne severity with both of the scoring system suggesting that the impairment in quality of life is dependent on patients' perception rather than the severity.

In contrast to the study done by Finlay and colleagues, this study failed to show any correlation between CADI

scores with severity and site of acne.¹¹

It was found that both the questionnaire systems were equally effective and comparison of scores from both questionnaires showed significant correlation ($p < 0.001$)

No correlation was noted between the scores in the questionnaires as compared to the level of education, which suggest that certain level of anxiety or impairment may not only depend on peers' exploitation but there are other factors which should be further explored into.

Significant morbidity and decrease in health-related quality of life has been strongly associated with acne. It has also been found that both general practitioners and dermatologists have poor comprehension of the psychological implications of skin disease, being insensitive to their patient's emotional suffering, and trivializing participants' disease.¹⁸ This study in some ways inquired into the patients' emotions and suffering which has not been dealt prior in Bir Hospital.

Conclusion

Acne was more common among adolescents. The common aggravating factors were topical medications, fatty foods and stress. There was invariably some impairment in quality of life and the impairment was not related to sex, severity or duration of acne. So, in treating patients with acne special attention should be taken on finding out the impairment in quality of life and addressing such problem as well. Furthermore, multi-centric studies with larger sample size would be useful in correlating the impairment of acne in the patients.

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Conflicts of interest to disclosure: None declared.

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