

An evaluation of the quality of life in acne - A prospective study at a tertiary care hospital

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Abstract

Acne is a disorder of the pilosebaceous unit that causes considerable cosmetic effect. An individual affected by acne is adversely affected psychologically. Several studies in the past have shown that acne is associated with decrease in health-related quality of life. These individuals suffer from frustration, embarrassment and lack of self-confidence.⁽¹⁾ This prospective study was undertaken to determine the impact of acne vulgaris on quality of life among patients of different grades of acne patients in various age groups using a questionnaire Cardiff acne disability index (CADI).⁽²⁾ In our study the females were more affected than male. The most common age group involved as 21-25 years. In our study we found that the males were more concerned about the acne and the incidence of depressive symptoms was more in them as compared to females.

Keywords: Acne vulgaris, CADI, Quality of life.

Introduction

Acne is a disorder of the pilosebaceous unit that causes considerable cosmetic effect. An individual affected by acne is adversely affected psychologically. Previous studies have shown that acne is associated with decrease in self-esteem. These individuals suffer from frustration, embarrassment and lack of self-confidence.⁽¹⁾ This study was undertaken to determine the impact of acne vulgaris on Quality of life among patients of acne using a questionnaire Cardiff acne disability index (CADI).⁽²⁾

Materials and Methods

The study was a non-randomized prospective cross sectional observational study. Two hundred consecutive patients diagnosed with acne vulgaris attending dermatology outpatient department at Father Muller Medical College Hospital, Mangalore were chosen by convenient sampling method. The study period was of 1-year duration from January 2016 to December 2016. Cases who met a pre-defined inclusion and exclusion criteria were enrolled for the study after obtaining written informed consent.

Inclusion criteria: Patient with Acne vulgaris aged between 14-45 Years of both sexes were included.

Exclusion criteria: Patients with acne having known Psychiatric Disorders, Known Diabetics, Known Hypothyroid Cases, immunocompromised and those not willing to participate in the study

Study procedure: The data was collected by interview method after taking written informed consent from the subjects. A pre structured questionnaire containing details like basic demographic data was collected. Quality of life was measured using the CADI, a five-item questionnaire devised by Finlay.⁽²⁾ The data so obtained was fed into Excel sheet and analyzed using SPSS software version 23.0. A 'p' value less than 0.05(p<0.05) is considered significant.

Results and Observations

Quality of life was measured using a five-point questionnaire (CADI) and the results of the study have been elucidated in Table 1 as frequency against each question. The age distribution of the study group has been shown in Table 2. The distribution of patients according to their gender is shown in Table 3 and Fig. 1. The most common age group involved was 21-25 years. Overall the females (56%) were more affected than male (44%).

Table 1: Quality of life measured using the CADI: frequency of response of acne patients to each question

1. As a result of having acne, during the last month have you been aggressive, frustrated or embarrassed?	Frequency
(a) Very much indeed	65
(b) A lot	34
(c) A little	96
(d) Not at all	5
Total	200
2. Do you think that having acne during the last month interfered with your daily social life, social events or relationships with	

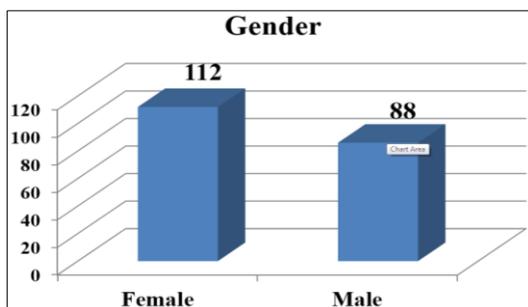
members of the opposite sex?	
(a) Severely, affecting all activities	12
(b) Moderately, in most activities	101
(c) Occasionally or in only some activities	80
(d) Not at all	7
Total	200
3. During the last month have you avoided public changing facilities or wearing swimming costumes because of your acne?	
(a) All of the time	10
(b) Most of the time	26
(c) Occasionally	32
(d) Not at all	132
Total	200
4. How would you describe your feelings about the appearance of your skin over the last month?	
(a) Very depressed and miserable	4
(b) Usually concerned	149
(c) Occasionally concerned	31
(d) Not bothered	16
Total	200
5. Please indicate how bad you think your acne is now:	
(a) The worst it could possibly be	56
(b) A major problem	118
(c) A minor problem	24
(d) Not a problem	2
Total	200

Table 2: Age distribution of Acne patients

Age (in years)	Frequency
14-20	14
21-25	62
26-30	71
31-35	31
35-40	18
41-45	4
Total	200

Table 3: The distribution of acne patients according to gender

Sex	Frequency	Percent	P value
Female	112	56	0, 001
Male	88	44	
Total	200	100	

**Fig. 1: The distribution of acne patients according to gender**

Discussion

Acne vulgaris is a common dermatological condition occurring in adolescence resulting in cosmetic concerns. It causes has a significant psychological impact on affected individuals resulting in distress.⁽¹⁾

There are several factors contributing to its occurrence such as diet especially fast foods, refined carbohydrates and foods with high glycemic index. Lifestyle and the stress associated with it worsens acne. Obesity is on a rise and the hormonal imbalance associated with it aggravates acne. In this modern era, external appearance has a prominent role. Confidence at place of work or in public is affected by how an individual present themselves. Presence of acne especially on the face adversely affects appearance of the individual hence lowering the self-esteem. They tend to hide from public and avoid social gatherings. They hesitate to interact with their peers and members of opposite sex. Because of such embarrassment these individuals are frustrated and at times aggressive.^(3,4,5)

Acne vulgaris treatment goals are directed towards reducing the inflammation in the pilosebaceous unit, normalize the abnormal cornification, control the colonization of *Propionibacterium acnes* and reduce the sebaceous gland over activity. The type of Fitzpatrick skin type as well as susceptibility to post-inflammatory hyperpigmentation has to be borne in mind. Treatment consists of several topical and systemic modalities.

Topical treatment consists of comedolytic such as tretinoin for non-inflammatory acne and for inflammatory acne, topical adapalene or benzoyl peroxide. Systemic medications include oral antibiotics such as macrolides and tetracyclines like doxycycline or Minocycline and in severe conditions oral isotretinoin which are helpful in cases resistant to topical medication. Prompt treatment of acne ensures improved cosmesis and hence mitigates anxiety.^(6,7,8)

In our study we found that the males were more concerned about the acne and the incidence of depressive symptoms was more in them as compared to females. Overall the females were more affected than male. This is in contrast to study by Al-Shidhani et al. in which females reported more adverse quality of life effects.⁽⁹⁾ The most common age group involved as 21-25 years. In a study conducted by Tasoula et al they found a directly proportional negative psychological effect of the acne especially in middle and late adolescents.⁽¹⁰⁾ Face was the commonest site (82%). The severity of acne was more in computer professionals and students as compared to home makers. In another study by Durai PT and Nair DG study population were students (73.6%). Face (99.3%) was the commonest site of acne and comedones (95%) were the commonest type of lesion.⁽¹¹⁾

Conclusion

Acne has a negative psychological impact on the affected individual especially in adolescents and young adults as it affects the physical appearance of the individual. Early diagnosis and prompt psychological intervention as well as treatment of acne will mitigate their anxiety and significantly improve the quality of life.

References

1. Magin P, Adams J, Heading G, et al. Psychological sequelae of acne vulgaris: results of a qualitative study. *Can Fam Physician* 2006;52:978-9.
2. Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI) – A simple practical measure for routine clinical use. *Clin Exp Dermatol.* 1994;19:210-6.
3. Golchai J, Khani SH, Heidarzadeh A, et al. Comparison of anxiety and depression in patients with acne vulgaris and healthy individuals. *Indian J Dermatol* 2010;55(4):352-4.
4. Yosipovitch G, Tang M, Dawn AG, et al. Study of psychological stress, sebum production and acne vulgaris in adolescents. *Acta Derm Venereol* 2007;87:135-9.
5. Purvis D, Robinson E, Merry S, et al. Acne, anxiety, depression and suicide in teenagers: a cross-sectional survey of New Zealand secondary school students. *J Paediatr Child Health* 2006;42(12):793-6.
6. Nast A, Dréno B, Bettoli V, et al. European evidence-based (S3) guidelines for the treatment of acne. *J Eur Acad Dermatol Venereol* 2012;26(Suppl. 1):1-29.
7. Shalita A, Weiss JS, Chalker DK, et al. A comparison of the efficacy and safety of adapalene gel 0.1% and tretinoin gel 0.025% in the treatment of acne vulgaris. *J Am Acad Dermatol* 1996;34:482-5.
8. Thiboutot D. New treatment and therapeutic strategies for acne. *Arch Fam Med* 2000;9:179-87.
9. Al-Shidhani A, Al-Rashdi S, Al-Habsi H, Rizvi S. Impact of acne on quality of life of students at Sultan Qaboos University. *Oman medical journal.* 2015 Jan;30(1):42.
10. Tasoula E, Gregoriou S, Chalikias J, Lazarou D, Danopoulou I, Katsambas A, et al., The impact of acne vulgaris on quality of life and psychic health in young adolescents in Greece. Results of a population survey. *An Bras Dermatol* 2012. Nov-Dec;87(6):862-869.
11. Durai PT, Nair DG. Acne vulgaris and quality of life among young adults in South India. *Indian J Dermatol* 2015;60:33-40.