

ORIGINAL ARTICLE

QUALITY OF LIFE AND DEPRESSION AMONG YOUNG PATIENTS SUFFERING FROM ACNE

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Background: In addition to depression, acne has considerable negative effects on the quality of life (QOL) which is estimated to be equal to that reported by patients with other chronic diseases. The immense suffering of acne patients both terms of depression and deterioration in quality of life and subsequent compromised social, vocational and academic performance makes them seek professional help more often for non-cutaneous manifestations e.g., poor body image, anxiety, depression etc. This study was conducted to determine the prevalence of depression and status of quality of life in acne patients visiting outpatient dermatology. **Methods:** This was a cross-sectional study conducted in the outpatient dermatology department of Ayub Teaching Hospital, Abbottabad between January and August 2018. The 74 consecutive acne cases visiting the dermatology OPD during the study period between the ages of 13 and 30 years were assessed for depression and QOL. Data was collected by Dermatology life quality Index (DLQI) and Patient Health Questionnaire (PHQ 9). **Results:** The ages of acne patients ranged between 14 years to 28 years with a mean age of 21.6 ± 3.034 years. Majority 49 of the acne patients (66.2%) were female. Mean DLQI was 59 ± 5.38 . Of the total, 9 (12.2%) acne patients had no effect on the quality of life, 23 (31.1%) had small effect, 23 (31.1%) had moderate effect, 18 (24.3%) had large effect and 1 (1.4%) had extremely large effect on their quality of life. Mean PHQ-9 scale score was 7.72 ± 4.93 . Six (8.1%) acne patients were categorized as having no depression, 17 (23%) had minimal depression, 25 (33.8%) were having mild depression, 18 (24.3%) were moderately depressed and patients with moderately severe depression constituted only 8 (10.8%) acne patients. **Conclusion:** Acne is associated with depression and deterioration in QOL, which are more pronounced in teens and women.

Keywords: Acne; Depression; Quality of Life; Psycho-dermatology

Citation: Haroon MZ, Alam A, Ihsanullah, Ali R, Taimur MF, Raza K. Quality of life and depression among young patients suffering from acne. J Ayub Med Coll Abbottabad 2019;31(3):436-40.

INTRODUCTION

Adolescence is the transitional period of life in which endocrinal changes and mental growth occur, producing emotional changes in young people.¹ During teenage most commonly occurring mental disorder is depression, affecting not only their education but produce negative impact on their social life.² Approaching towards puberty, young people become more and more conscious about their looks and are afraid of being judged by their physical appearance and as a result they gradually fail to develop social skills and self-confidence.³ Usually in the individuals of this age group, the personality and attitude are transferred into a mould of their own imaginations and capacity of their own mental thinking. They develop their own perspective of life making them more self-conscious and thus, opening up new vulnerabilities in them. Since mid-80's anxiety in teens has increased by 70%.⁴ By the end of high school nearly 20% of young people experience various episodes of clinical depression.⁵ Acne is considered as one of the major causes of depression and anxiety in teens because of the embarrassment and frustration they feel when they interact socially.⁶ Acne is a chronic inflammatory dermatological disorder that affects both genders but

females are predominantly affected.⁷ During adolescence with increase in age and with pubertal development, the frequency of acne increases. In females, increase in frequency is also associated with the commencement of menstruation. Acne is known to cause both physical and emotional scars that stick with the effected individuals throughout their lives.⁸ According to the studies, 30–50% of adolescent's have psychiatric disturbance that can be related to the acne.⁹ Acne considerably enhances the stress that burdens most adolescents, particularly the young women in today's demanding society especially with unrealistic body images being projected in the media.¹⁰ Anxiety and depression have been reported to be more common in patients with acne than among control subjects.^{11–14} In addition to depression, acne has considerable negative effects on the quality of life (QOL) which is estimated to be equal to that reported by patients with other chronic diseases like diabetes, epilepsy, asthma, back pain or arthritis.¹⁵ The impact on QOL is greater with female gender, older age and duration of acne of more than 5 years.¹⁶ Quality of life does not correlate with the dermatologist's evaluation of acne severity.^{17,18} Even the mild form of acne can cause

disastrous psychological effects. However, assessing the impact of acne on QOL allows us to comprehend the disease from the patient's point of view. New medications are increasingly being appraised for their impact on QOL, which is in addition to the long-established approach of evaluating only on the basis of drug safety and efficacy. Knowing how a patient's life is affected by acne can assist in choosing the most suitable treatment for that patient which can improve compliance.¹⁹ Recently an emerging sub specialty of dermatology, Psycho-dermatology is gaining importance in treating and designing new therapies to prevent psychological issues arising from dermatological problems like acne etc.²⁰ Psycho-dermatology looks into the relationship between the mind and the skin. Patients with psycho-dermatological disease are very common. They are largely divided in two categories: 1) patients with primarily psychiatric disease who present to dermatologist (e.g. delusional infestation and body dysmorphic disorder) 2) Patients with skin disease (e.g. psoriasis, atopic eczema, vitiligo and acne) for whom there are large psychosocial co-morbidities like anxiety and/or depression and suicide). The immense suffering of acne patients both in terms of depression and deterioration in quality of life and subsequent compromised social, vocational and academic performance makes them seek professional help more often for non-cutaneous manifestations e.g., poor body image, anxiety, depression, anger, frustration, diminished self-esteem and confidence and social isolation. Studies have suggested that effective acne treatment is significantly associated with improvement in the QOL and depression.²¹⁻²³ This study was conducted to determine the prevalence of depression and status of quality of life in acne patients visiting outpatient dermatology department.

MATERIAL AND METHODS

This was a cross-sectional study conducted in the outpatient dermatology department of Ayub Teaching Hospital, Abbottabad between January and August 2018. Sample size was calculated to be 85 by WHO sample size calculator using prevalence as 33%,⁸ confidence interval at 95% and margin of error at 10%. The 85 consecutive acne cases visiting the dermatology OPD during the study period between the ages of 13 and 30 years were enrolled. Data was collected by interviewer administered questionnaire. The questionnaire combined Dermatology life quality Index (DLQI) and Patient Health Questionnaire (PHQ 9) to assess the depression and QOL in acne patients. Some additional questions related to the demographic data were added to the final questionnaire. The tool's content validation was conducted involving physician from psychiatry and dermatology departments. DLQI has a total score of 30 (each question has 3 marks and total questions are 10). DLQI is interoperated as; 0-1 No effect at all, 2-5 small effect on patient's life, 6-10

moderate effect on patient's life, 11-20 very large effect on patient's life, 21-30 extremely large effect on patient's life. (PHQ 9) has a total score of 27 (each question has 3 marks and total questions were 9). It is interpreted as; 1-4 minimal or none depression, 5-9 mild depression, 10-14 moderate depression, 15-19 moderately severe, 20-27 severe depression. Consent was obtained and patients were ensured confidentiality. Data was analysed by SPSS-20.

RESULTS

Of the total 85 enrolled patients, the response rate was 87% and data was collected from 74 individuals whose ages ranged between 14-28 years with a mean age of 21.6 ± 3.034 years. Most of the respondents were between the ages of 20-30 years. Of the total participants, majority 49 (66.2%) were female. Of the patients seeking medical care for acne, 64 (86.5%) were unmarried as shown in (Table-1). Most of the participants 48 (64.9%) with acne, had oily skin making them more prone to acne.

Similarly, the results showed that most of the patients had family history of acne and were mostly using concealer to hide their lesions and scars for social acceptability which in turn blocks the pores and makes a person prone to develop acne (Table- 2). Patient's DLQI scores ranged from 0 to 24 with a mean of 7.59 ± 5.38 . On the basis of the above-mentioned scoring scale, 9 (12.2%) acne patients had no effect on the quality of life, 23 (31.1%) had small effect, 23 (31.1%) had moderate effect, 18 (24.3%) had large effect and 1 (1.4%) had extremely large effect on their quality of life (Figure-1). When patients of acne were assessed for depression, the individual scores ranged from 0 to 19 with a mean value of 7.72 ± 4.93 . Six (8.1%) acne patients when assessed, were categorized as having no depression, 17 (23%) had minimal depression, 25 (33.8%) were having mild depression, 18 (24.3%) were moderately depressed and patients with moderately severe depression constituted only 8 (10.8%) individuals. No patient was recorded as having severe depression (Figure-2).

Study results showed that quality of life was significantly affected ($p=0.049$) in teenagers as compared to patients in 20-30 years age group. More than 50% of patients in 20-30 years age group had no or small effect on quality of life where as 86% of patients in teenage group had moderate to very large affect on quality of life. Similarly, patients using concealers had significant association ($p=0.007$) with quality of life when compared to acne patients not using concealers. More than 58% patients had no or small effect on quality of life and were not using concealers, whereas, more than 76% patients who had moderate to extremely large effect on quality of life were using different concealers to improve body image (Table-3). Study results suggested that female acne patients showed significantly ($p=0.023$) higher proportion of depression as compared to male counterparts. Similarly,

results showed significant ($p=0.031$) association between depression and use of concealers. Around 84% acne patients with depression were using concealers to hide their lesions or scars as compared to 58% depression patients who were not using the concealers (Table-4).

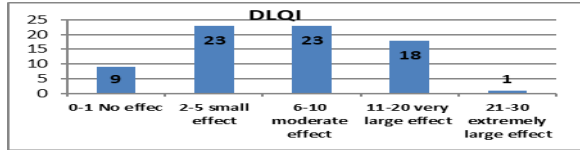


Figure-1: Dermatology life quality index

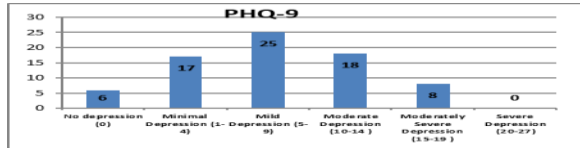


Figure-2: Classification of patient health questionnaire

Table-1: Demographic data

Variable	Frequency	Percentage	
Gender	Male	25	33.8
	Female	49	66.2
Age Group	Less than 20 years	15	20.3
	20-30 years	59	79.7
Marital Status	Married	10	13.5
	Unmarried	64	86.5

Table-2: Risk factors for acne

Variable	Frequency	Percent	
Skin Type	Oily	48	64.9
	Dry	26	35.1
Family History	Present	40	54.1
	Absent	34	45.9
Use of Concealer	No	43	58.1
	Yes	31	41.9

Table-3: Association of QOL with various variables

	No effect at all on patient's life	Small effect on patient's life	Moderate effect on patient's life	Very large effect on patient's life	Extremely large effect on patient's life	p-value
Age Group						
< 20 years	0 (0%)	2 (13.3%)	9 (60.0%)	4 (26.7%)	0 (0.0%)	0.049
20-30 years	9 (15.3%)	21 (35.6%)	14 (23.7%)	14 (23.7%)	1 (1.7%)	
Use of Concealer						
No	8 (18.6%)	17 (39.5%)	13 (30.2%)	5 (11.6%)	0 (0.0%)	0.007
Yes	1 (3.2%)	6 (19.4%)	10 (32.3%)	13 (41.9%)	1 (3.2%)	

Table-4: Association of depression with various variables

	Depression is minimum or none	Mild Depression	Moderate Depression	Moderately severe	p-value
Gender					
Male	12 (48.0%)	4 (16.0%)	8 (32.0%)	1 (4.0%)	0.023
Female	11 (22.4%)	21 (42.9%)	10 (20.4%)	7 (14.3%)	
Use of Concealer					
No	18 (41.9%)	15 (34.9%)	8 (18.6%)	2 (4.7%)	0.031
Yes	5 (16.1%)	10 (32.3%)	10 (32.3%)	6 (19.4%)	

DISCUSSION

Acne is considered as one of the major causes of depression and anxiety in teens because socially. In addition to depression, acne has considerable negative effects on the quality of life (QOL). Acne considerably enhances the stress that burdens most adolescents, particularly the young women in today's demanding society especially with unrealistic body images being projected in the media.²⁴

The immense suffering of acne patients both terms of depression and deterioration in quality of life and subsequent compromised social, vocational and academic performance makes them seek professional help more often for non-cutaneous manifestations e.g., poor body image, anxiety, depression, anger, frustration, diminished self-esteem and confidence and social isolation.¹⁸

The study results suggested that females (66.2%) were more likely to have acne than males (33.8%) and these acne cases were mostly 59 (79.7%) above 20 years of age. These findings are similar to the research conducted by Elizabeth and colleagues which found that prevalence of acne was more in older females than in males.²⁵

However, multiple studies suggest that acne is more common in teenage years,^{26,27} which is contrary to our findings. The difference in the age group can be due to the fact that the teenagers don't have access to hospitals on their own or acne is considered as normal part of teenage years which resolves spontaneously thus left untreated.

Study showed that 68.9% of the acne patients were depressed with a mean value of 7.72 ± 4.93 on PHQ-9 scale. These findings are similar to the results of Javed *et al* where scaled score for depression was 5.34 ± 3.29 in acne patients.²⁸ The overall prevalence of

depression regardless of severity was similar to study conducted in Saudi Arabia where depression was present in more than 40% of the patients.²⁹ Depression was predominant in women (77.6% in female and 52% in males) and this difference was statistically significant with p value =0.023. These findings support the fact that women are more prone to depression as compared to men.³⁰ The depression was also significantly related to use of concealer $p=0.03$ indicating that patients had some element of body dysmorphic disorder. These conditions usually lead the person to sort remedies to hide scars and improve body image.³¹

The study results indicate that 65 (87.8%) acne patients had impaired quality of life and the mean DQLI score was 7.59 ± 5.38 . These findings are similar to the research conducted by Nerita *et al.* which showed mean DLQI score was 7.22 ± 4.45 .²⁶ The impairment in quality of life was significantly associated with age group with QOL being more impaired in teenagers as compared to older individuals which supports the result of study conducted by Lasek and colleagues.³² Similar to the depression, significantly higher number of patients with impaired QOL were using concealers to hide scars $p < 0.05$ as compared to those patients whose QOL was not affected. This association is supported by findings of Tanghetti, *et al.*³³

CONCLUSION

In conclusion, acne can affect people of all ages but it affects young adults more commonly. Females having acne are more prone to develop depression. Patients with impaired QOL and depression often use concealers to improve body image.

AUTHORS' CONTRIBUTION

MZH: Concept and design, data analysis, interpretation of data, drafting, review and supervision, final approval. AA: Acquisition of data, analysis, drafting, critique. IU: Literature search, data analysis. RA, MFT, KR: Data collection, data interpretation, write-up.

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Submitted: 2 July, 2019

Revised: --

Accepted: 9 August, 2019

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