

Acne Vulgaris and Its Influence on Quality of Life of Female Patients, Makkah, Saudi Arabia

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ABSTRACT

Background: Despite Acne vulgaris does not influence general health of affected patients; it may lead to deterioration of their quality of life.

Objectives: To examine the influence of acne vulgaris on quality of life (QOL) domains in acne female patients in Makkah, Saudi Arabia.

Subjects and Methods: This was a cross sectional study carried out in Makkah city, Saudi Arabia. A representative sample of female patients attended dermatology outpatient clinics in the three hospitals (Al-Noor specialized, Herra and Alzahr) throughout the period of the study (December, 2016) were included. An Arabic validated self-administered questionnaire was used to collect data including personal information, smoking history, physical activity, history of chronic illness and family history of psychiatric illness, specific questions on Acne vulgaris. The diagnosis of acne and its severity was done by dermatology female specialists. QOL was assessed through Acne QOL questionnaire.

Results: The study included 290 female patients. Their age ranged between 14 and 38 years with a mean \pm SD of 22.6 \pm 4.4 years. Prevalence of acne vulgaris was 56.6%. Almost one-third of patients (33.5%) were treated topically, 6.7% were treated orally and 17.1% were treated by both modalities. Severe acne was reported among 15.3% of patients. The acne QoL score ranged between 0 and 114 with a mean of 55.0 \pm 25.9. Quality of life score was significantly higher in

single than married acne patients (57.5 \pm 24.0 versus 46.0 \pm 27.9, $p=0.010$), non-smokers than smokers (57.2 \pm 26.8 versus 44.4 \pm 13.9, 0.013), patients without treatment than those treated by a combination of topical and oral agents (63.0 \pm 24.3 versus 45.1 \pm 29.9, $p=0.004$), and mild cases than severe cases (62.0 \pm 26.2 versus 45.0 \pm 37.3, $p=0.008$).

Conclusion: Acne vulgaris is a common disorder and deteriorates quality of life of female patients attending dermatological clinics at general hospitals in Makkah. psychosomatic treatment and sympathetic approach should be considered particularly for severe cases.

Keywords: Acne Vulgaris, Quality of Life, Females, Prevalence.

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INTRODUCTION

Acne vulgaris is a common disease as its prevalence reaching up to 80% during second and third decades of life.¹ It is a disease of the pilosebaceous units, characterized clinically by seborrhea, comedones, papules, pustules, nodules and, in some cases, scarring.²

Patients with acne can be psychologically disturbed. The interaction of acne and psychosocial impacts is complex and, in young people, can be associated with developmental issues of sexuality, body image, as well as socialization.³ Previous studies on the psychosocial impact of acne have documented dissatisfaction with appearance, embarrassment, self-consciousness, and lack of self-confidence in acne patients.³

Social dysfunction has also been observed, including concerns about social interactions with the opposite gender, appearances in public, interaction with strangers, and reduced employment opportunities.⁴⁻⁶ Furthermore, acne is associated with anxiety, depression,⁷ feel of anger,⁸ and lower body satisfaction.⁹ It can be negatively associated with intention to participate in sports and exercise.¹⁰

It has been documented that depression and suicidal thoughts were two to three times more likely in teenagers with severe acne than in those who did not have the skin condition.¹¹ Psychological impact affects female patients more than male patients.⁷

There is no single disease which causes more psychic trauma and

more maladjustment between parents and children, more general insecurity and feelings of inferiority and greater sums of psychic assessment than does acne vulgaris.³ This study aimed to examine the influence of acne vulgaris on quality of life (QoL) domains in acne female patients in Makkah, Saudi Arabia.

SUBJECTS AND METHODS

This was a cross sectional study carried out in Makkah city, Saudi Arabia. It is a city in the Hejaz in Saudi Arabia. Its resident population in 2012 was roughly 2 million. A representative sample of female patients attended dermatology outpatient clinics in the three hospitals (Al-Noor specialized, Herra and Alzاهر) throughout the period of the study (December, 2016) were included.

A systematic random sampling technique was adopted in each clinic to recruit female patients with diagnosed acne vulgaris, according to the total number of eligible patients visiting each clinic daily till the required sample size was reached (n=278).

An Arabic validated self-administered questionnaire^{12,13} was used to collect data including personal information (age, educational level, marital status, number of children), smoking history, physical activity, history of chronic illness and family history of psychiatric

illness, specific questions on Acne vulgaris (history of acne, duration, mode of therapy and severity). The diagnosis of acne and its severity was done by dermatology female specialists. Accordingly, severity of acne was categorized into three degrees; mild, moderate and severe according to James classification.¹⁴ QoL was assessed through Acne QoL questionnaire which contains 19 questions organized into four domains (self-perception, role-social, role emotional, and acne symptoms). For all domains, higher scores reflect better QoL. The total score varies from zero to 114, distributed as follows: 0- 30 (self-perception), 0-24 (role-social), 0-30 (role-emotional), and 0-30 (acne symptoms).¹²

Approvals from the directors of the involved hospitals and research and ethical committee at Makkah were taken. Individual consent was filled by participants in the questionnaire.

The statistical Package for Social Sciences (SPSS) software version 23.0 was utilized for data entry and analysis. Descriptive statistics (e.g. number, percentage, mean, standard deviation) and analytic statistics using student's-t and ANOVA tests to compare between two groups or more than two groups were applied respectively. P-values <0.05 was considered as statistically significant.

Table 1: Baseline characteristics of the participants

		Frequency (N=290)	Percentage
Age in years	14-20	128	44.1
	21-30	145	50.0
	>30	17	5.9
Educational level	≤secondary school	74	25.5
	≥University	216	74.5
Marital status	Single	194	66.9
	Married	92	31.7
	Divorced	4	1.4
Having children	Yes	64	27.1
	No	226	77.9
Smoking	No	250	86.2
	Yes	18	6.2
	Ex-smoker	22	7.6
Physical activity	No	94	32.4
	Yes	34	11.7
	Sometimes	162	55.9
Family history of psychiatric illness	No	256	88.3
	Yes	34	11.7
History of chronic diseases	No	238	82.1
	Yes	52	17.9

Table 2: Characteristics of acne vulgaris among female patients, Makkah (n=164)

		Frequency	Percentage
Duration in years	≤1	59	36.0
	2-5	61	37.2
	>5	44	26.8
Treatment	No	70	42.7
	Topical	55	33.5
	Oral	11	6.7
	Both	28	17.1
Severity	Mild	64	39.0
	Moderate	75	45.7
	Severe	25	15.3

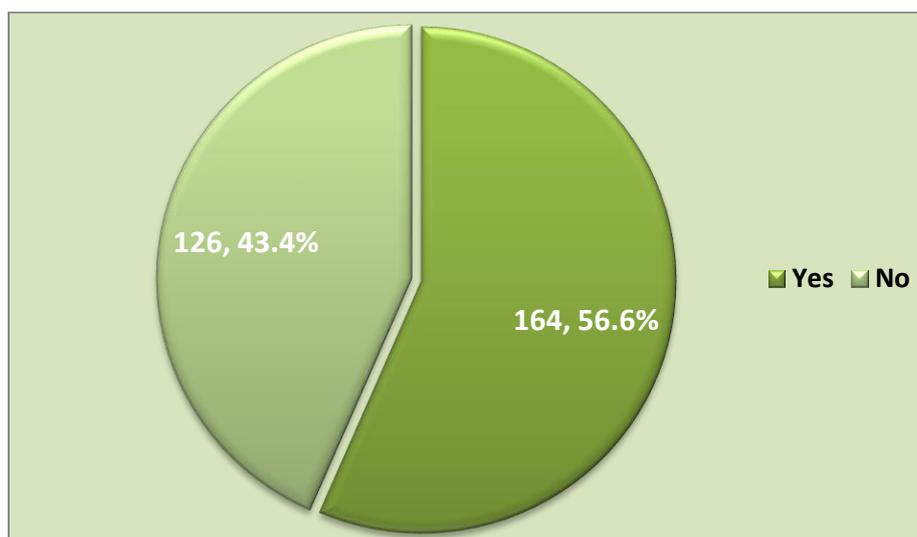


Figure 1: Prevalence of acne vulgaris among the participants

Table 3: Factors associated with QoL among female acne patients, Makkah

		QoL score Mean±SD	p-value
Age in years	14-20 (n=84)	53.4±24.1	0.616**
	21-30 (n=75)	55.9±26.7	
	>30 (n=5)	63.6±43.1	
Educational level	≤secondary school (n=50)	52.6±23.7	0.465*
	≥University (n=114)	55.8±26.8	
Marital status [∞]	Single (n=117)	57.5±24.0	0.010*
	Married (n=45)	46.0±27.9	
Having children	Yes (n=30)	48.2±28.3	0.121
	No (n=134)	56.3±25.2	
Smoking	No (n=141)	57.2±26.8	0.013
	Yes (n=5)	44.4±13.9	
	Ex-smoker (n=18)	39.2±11.8	
Physical activity	No (n=48)	53.1±27.8	0.726
	Yes (n=22)	52.7±25.2	
	Sometimes (n=94)	56.2±25.2	
Family history of psychiatric illness	No (n=22)	48.8±25.0	0.242
	Yes (n=142)	55.8±26.0	
History of chronic diseases	No (n=42)	52.8±24.5	0.558
	Yes (n=122)	55.5±26.4	
Duration in years	≤1 (n=59)	53.0±27.0	0.303
	2-5 (n=61)	52.9±21.7	
	>5 (n=44)	60.0±29.3	
Treatment	No (n=70)	63.0±24.3	0.004
	Topical (n=55)	50.4±24.5	
	Oral (n=11)	49.6±17.5	
	Both (n=28)	45.1±29.9	
Severity	Mild (n=64)	62.0±26.2	0.008
	Moderate (n=75)	52.0±18.8	
	Severe (n=25)	45.0±37.3	

*Student's t-test; **ANOVA test; [∞]two divorced cases were excluded

RESULTS

The study included 290 female patients. Their age ranged between 14 and 38 years with a mean±SD of 22.6±4.4 years. Table 1 presents their baseline characteristics. Half of them aged between 21 and 30 years. Most of them (74.5%) were university graduated or above. About two-thirds (66.9%) were single and

27.1% having children. Current and ex smoking were reported among 6.2% and 7.6% of them, respectively. Physical activity was practiced regularly by 11.7% of the women. Also, family history of psychiatric illness was reported by 11.7% of women. History of chronic diseases was reported by 17.9% of the participants. Prevalence of acne vulgaris was 56.6% as illustrated in figure 1.

The duration of acne vulgaris exceeded 5 years among 26.8% of patients whereas it was less than or equal one year among 36% of them. Almost one-third of patients (33.5%) were treated topically, 6.7% were treated orally and 17.1% were treated by both modalities. Severe acne was reported among 15.3% of patients. (Table 2)

The acne QoL score ranged between 0 and 114 with a mean of 55.0 ± 25.9 .

Quality of life score was significantly higher in single than married acne patients (57.5 ± 24.0 versus 46.0 ± 27.9 , $p=0.010$), non-smokers than smokers (57.2 ± 26.8 versus 44.4 ± 13.9 , 0.013), patients without treatment than those treated by a combination of topical and oral agents (63.0 ± 24.3 versus 45.1 ± 29.9 , $p=0.004$), and mild cases than sever cases (62.0 ± 26.2 versus 45.0 ± 37.3 , $p=0.008$). Patient's age, education, having children, history of chronic diseases, physical activity, family history of psychiatric illness, and duration of acne were not significantly associated with QoL.

DISCUSSION

Despite Acne vulgaris does not influence general health of affected patients; it may lead to deterioration of their quality of life. Thus, this study was conducted aimed at determining the prevalence of acne among female patients attended dermatology outpatient clinics in the three hospitals at Makkah and to identify its impact on quality of life among them.

Current study revealed that the prevalence of acne vulgaris in female patients was 56.6%; with 15.3% of them were sever cases. This is coincides with what has been reported in Quassim University, Saudi Arabia (56.2%).¹⁵ Comparable figure has been reported in Greece (51.2%) has been observed.¹⁶ However, in Scotland, a self-reported prevalence of acne was 83%.¹⁷ In Brazil, the prevalence ranged between 38.1% and 70.3%.¹⁸⁻²⁰ The variation between these studies could be attributed to the mode of diagnosis of acne either through self-reporting, diagnosis by general clinician or by dermatologist.

Women with severe degree of acne affection expressed poorer QoL. The same has been reported by Krejci-Manwaring et al,²¹ Gollnick et al²² and Tasoula et al¹⁶ who reported a negative correlation between acne severity and better quality of life. However, other studies reported no significant association between severity of acne and QoL.^{3,15,23} It has been documented that QoL was more correlated with the severity of acne perceived by the patient than with that identified by the physician.¹²

In the present study, in accordance with Kokandi,³ duration of acne was not significantly associated with QoL. Some other studies reported that patients with shorter duration reported better quality of life.²⁴ On the other hand, others reported that females who have had acne for longer period had higher QoL level.^{25,26}

In the current study, patients who treated with either oral medication or a combination of topical and oral therapy reported the worst QoL compared to those not treated. This could be related to the severity of the diseases as usually severe cases are treated either orally, topically or by both while mild cases did not need treatment which could explain better QoL among them.

Finding that QoL was better among single than married women in the present study could be due to the fact that mostly singles are younger in age and mostly underestimate the situation due to the fact that they are always not able to express their feeling properly

and also deteriorating QoL is often accompanied by other psychiatric diseases which can mask them.²⁷

The present study revealed that non-smokers had better quality of life compared to smokers. The same has been documented by others in Finland²⁸ and USA.²⁹

The limitations of this study were that inclusion of only female was a significant limitation of the study. Also, other factors that could impact QoL were not included to control for them (social, emotional, environmental). Finally, the cross-sectional design which doesn't confirm causality between dependent and independent factors.

Conclusively, acne vulgaris is a common disorder affecting female patients attending dermatological clinics at general hospitals in Makkah. It deteriorates quality of life of the affected patients. Severe acne, and acne treated either oral treatment were significantly associated with poorer quality of life than mild acne and acne doesn't need treatment. Psychosomatic treatment and sympathetic approach should be considered particularly for severe cases.

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