

The Effect of Acne Vulgaris on Body Image Satisfaction, Self Esteem and Quality of Life of Adolescents at Tanta city

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Abstract

Background: Common chronic inflammatory skin disorders, such as acne vulgaris, are more prevalent in teens. Their quality of life, self-esteem, and perception of their bodies are negatively impacted. **Aim:** is to determine the effect of acne vulgaris on body image satisfaction, self-esteem and quality of life of adolescents at Tanta city. **Design:** Descriptive cross-sectional study design. **Setting:** This study was conducted in the dermatological outpatient clinics of Tanta University Hospitals at Tanta city, Gharbia governorate. **Subjects:** A convenience number of 110 adolescents diagnosed with acne vulgaris and aged from 10 to 22 years and free from any other systemic, psychological, or dermatological diseases. **Tools:** Four tools were used in order to obtain the necessary data for this study: **Tool I:** A structured interview schedule which composed of two parts, **part (I):** Socio-demographic characteristics of the studied adolescents and **Part (II):** Global Acne Grading System used to measure adolescents' actual levels of acne, **tool II:** Scale of Acne Body Image Satisfaction, **tool III:** Rosenberg Self-Esteem Scale and **tool IV:** The Quality of Life Scale for Acne. **Results:** Over three fifths (61.8%) of the teens studied struggled with their body image. Less than two thirds (65.5%) had a low sense of self and most (78.2%) of them had poor acne QoL. There was a positive highly statistically significant relationship between the teens' quality of life and satisfaction with their bodies and acne severity. **Conclusion:** Acne vulgaris has been demonstrated to have clear effects on adolescents' satisfaction with their bodies, self-esteem and quality of life. **Recommendations:** It can be recommended that increase the awareness of young adults and adolescents regarding the importance of prevention and management of acne vulgaris can improve different aspects of their quality of life.

Key words: *Acne Vulgaris, Body Image Satisfaction, Self-Esteem and Quality of Life.*

Introduction

All ages can be impacted by acne vulgaris, however teenagers and young adults between the ages of 12 and 24 are typically the most affected. Acne is a chronic inflammatory skin disorder caused by pilosebaceous unit blockage or inflammation (hair follicles and sebaceous gland) ^(1,2).

Acne disease occurs in a psychologically labile period during adolescence involving particularly the face which cannot be covered and may produce scars that can persist for years or for life ⁽³⁾. Adolescence is an important period in which identity development, social and physical changes are at the highest level ⁽⁴⁾. Dermatological diseases not only affect adolescents' lives but also the lives of their family members. Over 85% of teenagers and young adults experience acne vulgaris at some point during their adolescent years, when prevalence is highest ^(5,6).

The type and quantity of lesions determine the severity of acne vulgaris, which can be mild, moderate, or severe. Although it poses no danger to life, acne is a common reason people visit a dermatologist. Adolescents' body image satisfaction, self-esteem and quality of life are negatively impacted. Body image disturbance is when a person feels unhappy, dysfunctional, or distressed about the way he looks. The importance of appearance affects both how we see ourselves and how others see us. Skin has a significant function in social interaction and self-perception ^(6,7).

Teenagers with acne vulgaris experience unfavorable psychological

impacts such anxiety, depression, self-esteem, psychic trauma, increased maladjustment, general insecurity, and inferiority as well as social phobia. The severity of skin involvement ranges from minimal lesions to highly inflammatory lesions that may lead to deformity. Even mild lesion can have major effects on the quality of life for adolescents ^(8,9).

Acne has a great impact on visual appearance. It has a lasting impact on adolescents' social standing, interpersonal interactions, everyday activities, and quality of life ⁽¹⁰⁾. Patients with acne have severe quality of life impairment comparable to that experienced by those with other chronic conditions. The level of anxiety and despair increases as the quality of life is negatively impacted by acne ⁽¹¹⁾.

The community health nurse plays a major role in the identification of acne and its physical, social and psychological effects including satisfaction of body image, self-esteem and patient's quality of life. The nurse is also concerned with proper referral of patients to dermatologists to receive proper treatment in order to prevent psychological repercussions of acne and to enhance quality of life especially in adolescent patients ^(12,13).

Significance of the study:

Acne vulgaris is a chronic inflammatory skin disorder which may impact people of all ages, but teenagers and young adults are most likely to experience it. It can affect more than 85 percent of them. It has adverse effect on body image, self-esteem, and quality of life of adolescents. So, the community health nurse has an

important role in assessing and screening the various effects of Acne vulgaris on the affected people especially adolescents.

Aim of the study:

The aim of this study is to determine the effect of acne vulgaris on body image satisfaction, self esteem and quality of life of adolescents at Tanta city.

Research questions:

- 1- What is the level about body image satisfaction of adolescents having acne vulgaris?
- 2- How confident are adolescents with acne vulgaris in themselves?
- 3- How is the quality of life for teenagers with acne vulgaris?
- 4- How does acne vulgaris affect adolescents' satisfaction with their bodies, self-esteem and quality of life?

Subjects and Method

Subjects

Design:

A descriptive cross- sectional study design was used in this study.

Setting:

This study was conducted in the dermatological outpatient clinics of Tanta University Hospitals at Tanta city, Gharbia governorate.

Subjects:

A convenience sample of 110 adolescents aged 10-22 years was included in the current study from the previous settings. The inclusion criteria include adolescents who willing to participate in the study, diagnosed as having acne vulgaris and free from any

other systemic, psychological, or dermatological diseases. Software called Epi Info was used to determine the sample size. statistical package created by World Health Organization (WHO) and center of diseases control and prevention (CDC), Atlanta, Georgia, USA version 2002. The criteria used for the sample size calculation were as following: the study design is cross sectional, 95% confidence limit with a margin of error 10%.

Tools of data collection:

Four tools were used in order to collect the necessary data for this study as follows:-

Tool (I): A structured interview schedule:-

It was developed by the researchers after reviewing the related literatures^(14, 15). It consisted of the following two parts:

Part (1): Socio-demographic characteristics of the studied adolescents:-

This part included: Adolescents' age, age at onset of acne, residence, sex, race, family income, weight, height, BMI and duration of acne.

Part (2): Global Acne Grading System:-

The Global Acne Grading System was created by Doshi et al. (1997)⁽¹⁶⁾, and Adopted by the researchers and is employed to assess the teen population's objective acne severity.

Scoring system:

The local result is calculated a factor of multiplication (forehead = 2, right cheek = 2, left cheek = 2, nose = 1, chin = 1 and, chest and upper back = 3) and grade (0, no

lesions; 1, \geq one comedone; 2, \geq one papule; 3, \geq one pustule and 4, \geq one nodule). To determine the grades of acne severity, the local scores were added together to create the global score. Patients were subsequently separated into four groups based on the severity of their acne: mild acne (1–18), moderate acne (19–30), severe acne (31–38), and extremely severe acne (\geq 39).

Tool (II):- Acne Body Image Satisfaction Scale:-

This scale was developed by James (2014)⁽¹⁷⁾, and adapted by the researchers to evaluate whether teenagers are satisfied with their bodies. It was consisted of 16 items which contained three subscales relating to the societal, interpersonal, and interpersonal factors that affect teenagers' body image.

Scoring system:

The Likert scale had four points as following: for the negative statements, (strongly disagree = 4, disagree = 3, agree = 2, and strongly agree = 1). Reverse coding would be used to rate the oppositely scored parallel item (strongly disagree = 1, disagree = 2, agree = 3, and strongly agree = 4). For a total score, the scores were added together. A stronger level of body image dissatisfaction correlates with higher scores. It was classified as following:

- Body image satisfaction < 65%
- Body image dissatisfaction \geq 65%

Tool (III):- Rosenberg Self-Esteem Scale:

This scale was developed by Rosenberg in 1965⁽¹⁸⁾, and adopted by the researchers to assess self-esteem of the adolescents. The scale measures global self-worth by measuring both positive and

negative feelings about self-esteem. It was consisted of 10 items. The scale is a 4-point Likert-type scale ranging from strongly agrees to strongly disagree. Item numbers 1, 2, 4, 6, and 7 measure positive self-esteem and are scored from 3 (strongly agree) to 0 (strongly disagree). The remaining items measure negative self-esteem and are scored from 0 (strongly agree) to 3 (strongly disagree).

Scoring system:

The total scale values ranged between 0 and 30. It was summed and categorized as following:

- Low self-esteem < 15
- Normal self-esteem \geq 15

Tool (IV):- The Acne Quality of Life Scale:-

The acne quality of life scale was developed by Madhulika A et al. (1998)⁽¹⁹⁾, and adapted by the researchers. The scale consisted of 12 items. It was used to assess both social and vocational impact of acne. The social impact of acne consisted of nine items (item numbers 1, 2,3,4,5 and 9, 10, 11 and 12) and vocational impact of acne consisted of 3 items (6, 7 and 8).

Scoring system:

The acne quality of life scale was used four point rating scale, 0 (not at all), 1 (mild), 2 (moderate) and 3 (very markedly). The total score of quality of life scale was summed and categorized as following:

- Good quality of life: \geq 65% of the total score.
- Poor quality of life: < 65% of the total score.

Method

1. An official letter to conduct the study was obtained from the Dean of the Faculty of Nursing and directed to the managers of the dermatological outpatient clinics.
2. The managers of dermatological outpatient clinics were informed about the objectives of the study to obtain their permission and cooperation during collecting the data from the previous settings.
3. Ethical and legal considerations: -
 - The approval of the ethical committee was obtained to conduct the study with code of ethics No (106).
 - Each and every study participant provided their informed permission after providing appropriate explanation about the purpose of the study.
 - Each participant was informed that he/she has the right to withdraw from the study any time.
 - Nature of the study will not cause any harm or pain for the entire subjects.
 - Confidentiality for data and privacy for participants were considered.
4. A pilot study was carried out by the researchers on 10% of adolescents for testing the tools for its clarity, applicability and to identify obstacles that may be encountered with the researcher during data collection.
5. Each adolescent was interviewed individually in a suitable place in the mentioned settings.
6. The researchers met the participants two days a week. The number of adolescents who can be interviewed daily was ranged from three to five adolescents.

7. The time needed to fill each questionnaire was ranged from 20-30 minutes.
8. The duration of data collection took about four months from May to August 2021.

Statistical analysis:

The collected data were organized, tabulated using SPSS software (Statistical Package for the Social Sciences, version 26, SPSS Inc. Chicago, IL, USA) ⁽²⁰⁾. The range, mean, and standard deviation were computed for quantitative data. The Chi-square test (χ^2) was used to compare two groups and more for qualitative data, which describe a categorical set of data by frequency, percentage, or proportion of each category. For comparison between means of two groups of parametric data of independent samples, t-test was used. For comparison between more than two means of parametric data, F value of ANOVA test was calculated. For correlation between variables was evaluated by using Pearson's correlation coefficient (r). Significance was adopted at $P < 0.05$ for interpretation of results of tests of significance, highly significance was adopted at $P < 0.001$ for interpretation of results of tests of significance.

Results

Table (1): Demonstrates the distribution of the studied adolescents according to their socio-demographic characteristics. It shows that more than three fifths (62.7%) of the studied adolescents their age ranged from 15 to less than 20 years with a mean age 16.73 ± 2.408 years old. More than half (54.5% and 57.3%) of the studied adolescents were from rural areas and they had enough family income respectively. Regarding the

age at onset of acne, less than three quarters (74.5) of them had acne when their age was between 10 and less than 15 years. As well, 67.3% of them were females and 72.7% had white skin color. More than one half (55.5%) of the studied adolescents had normal BMI and more than one third (35.5) of them were overweight. Regarding duration of acne, the majority (90%) of adolescents reported duration of acne ranged between one and less than five years.

Table (2): Demonstrates the Global Acne Grading System's classifications of acne severity. It shows that about one third (32.7%) of studied adolescents had mild acne, Only 13.6% of them had really severe acne, compared to 34.5% who had moderate acne and 19.1% who had severe acne.

Figure (1): Illustrates the levels of the acne body image satisfaction scale of the studied adolescents. It demonstrates that more than three fifths (61.8%) of the adolescents tested had body image dissatisfaction, whereas 38.2% of them reported feeling confident about their bodies.

Figure (2): Illustrates the levels of Rosenberg self-esteem scale of the studied adolescents. According to the Rosenberg self-esteem scale, more than one third (34.5%) of the researched adolescents had a normal self-esteem, and less than two thirds (65.5%) of them had low self-esteem.

Figure (3): Illustrates the levels of the acne quality of life scale of the studied adolescents. It shows that only 21.8% of the adolescents surveyed had good acne quality

of life, whereas the majority (78.2%) of them had bad acne quality of life.

Table (3): Shows the relationship between the socio-demographic details of the examined adolescents and acne severity as measured by the Rosenberg scales for self-esteem, quality of life, and body image satisfaction. It demonstrates that there was a highly statistically significant relationship ($p = 0.0001$) between the age and gender of the studied adolescents and the severity of their acne. Furthermore, a statistically significant relationship was discovered between the examined adolescents' acne severity and their age at acne beginning, place of residence, family income, and acne length ($p = 0.029, 0.011, 0.042,$ and $0.038,$ respectively). Additionally, there was a highly statistically significant relationship ($p = 0.0001$) between the teenagers' level of self-esteem and their family's wealth, as well as a statistically significant relationship ($p = 0.001$ and 0.021) between the age of acne development and residence.

Regarding body image satisfaction, there was a highly statistically significant relationship between the adolescents' family income and their perceptions of their bodies ($p = 0.0001$), as well as a statistically significant relationship between age and the age at which acne first appeared ($p = 0.002$). Regarding adolescents' quality of life, it was found that there was a highly statistically significant relationship between it and age and age at acne onset for the studied adolescents ($p = 0.0001$), as well as a statistically significant relationship with gender, race, and family income ($p = 0.002, 0.002,$ and 0.001).

Table (4): Demonstrates the correlation between the body image satisfaction scale, the Rosenberg self-esteem scale, the Global Acne Grading System, and the severity of acne. The severity of the adolescents' acne was found to have a negative, highly statistically significant link with their quality of life ($p = 0.0001$) and a

negative, highly statistically significant correlation with their contentment with their body image ($r = -0.357$ and 0.422), respectively. Additionally, there was a weak statistically significant negative association ($p = 0.005$ and $r = -0.265$) between the severity of the adolescents' acne and their level of self-esteem.

Table (1): Distribution of the studied adolescents according to their socio demographic characteristics

Socio-demographic characteristics	The studied adolescents (n=110)	
	No.	%
Age (year)		
10 - <15	23	20.9
15 - <20	69	62.7
≥ 20	18	16.4
Range	12 – 22	
Mean ± SD	16.73 ± 2.408	
Age at onset of acne (year)		
10 - <15	82	74.5
15 - <20	28	25.5
Range	10 – 17	
Mean ±SD	13.354 ± 1.769	
Residence		
Urban	50	45.5
Rural	60	54.5
Sex		
Male	36	32.7
Female	74	67.3
Race		
White	80	72.7
Black	11	10.0
Oriental	19	17.3
Family income		
Not enough	40	36.3
Enough	63	57.3
Enough and save	7	6.4
Height (cm)		
Range	120 – 175	
Mean ±SD	151.663 – 13.030	
Weight (kg)		
Range	40 – 82	
Mean ±SD	57.24 ± 9.164	
Body Mass Index (kg/m²)		
Normal (18.5 – 24.9)	61	55.5
Overweight (25 – 29.9)	39	35.5
Obese (30 – 34.9)	8	7.3
Extremely obese (≥ 35)	2	1.8
Range	20 – 39.6	
Mean ±SD	25.020 ± 3.819	
Duration of the acne (year)		
1 – ≤5	99	90.0
5 – 10	11	10.0
Range	1 – 10	
Mean ±SD	3.463 ± 1.825	

Table (2): levels and total mean scores of acne severity according to Global Acne Grading System

levels of acne severity	The study samples (n=110)	
	No.	%
Mild acne (1 - 18)	36	32.7
Moderate acne (19 – 30)	38	34.5
Severe acne (31 – 38)	21	19.1
Very severe acne (≥ 39)	15	13.6
Range	8- 44	
Mean \pmSD	25.85 \pm 10.228	

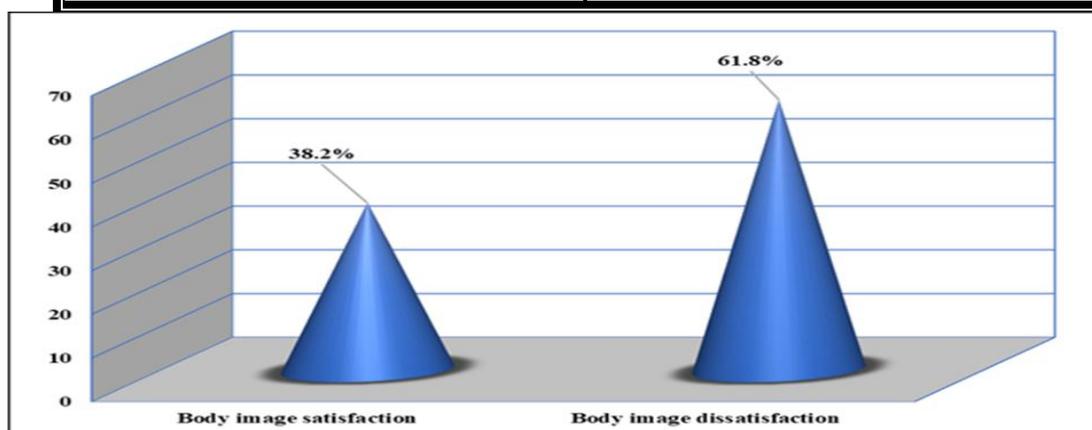


Figure (1): Levels of the acne Body Image Satisfaction Scale of the studied adolescents

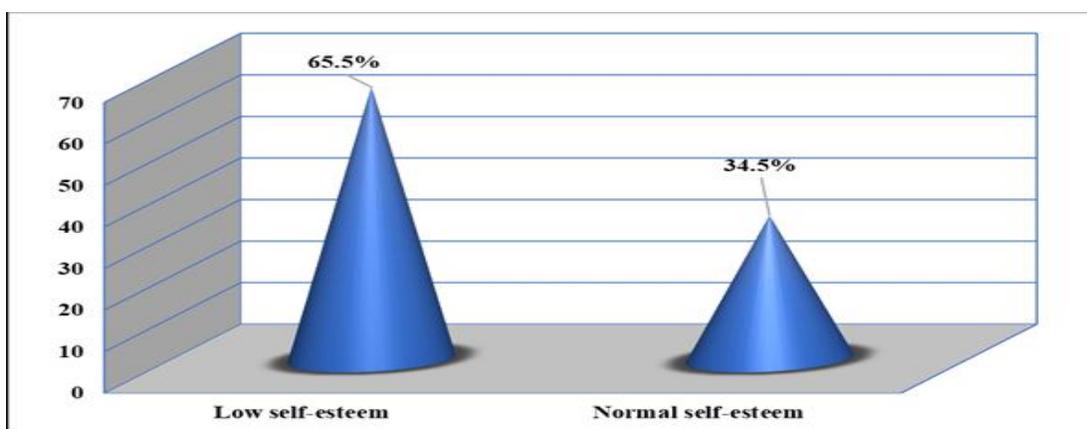


Figure (2): Levels of Rosenberg self-esteem scale of the studied adolescents

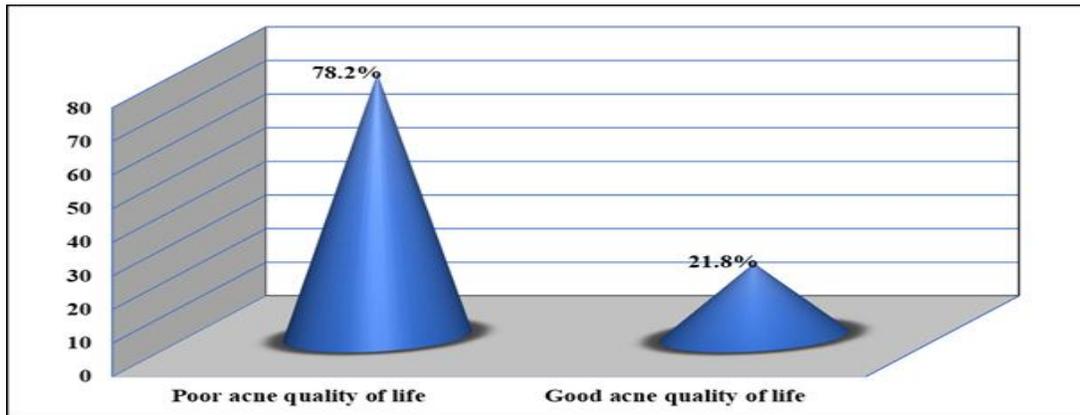


Figure (3): Levels of the acne quality of life scale of the studied adolescents

Table (3): Relationship between socio-demographic characteristics of the studied adolescents and Global Acne Grading System, Rosenberg Self-Esteem, Acne Quality of Life, and Acne Body Image Satisfaction Scale assessments of acne severity

Socio-demographic characteristics	The studied adolescents (n=110)			
	Acne severity according global acne grading system	Rosenberg self-esteem scale	Acne quality of life scale	Acne body image satisfaction scale
	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD
Age (year)				
10 - <15	33.30 \pm 7.87	13.21 \pm 1.75	23.78 \pm 4.64	43.95 \pm 3.47
15 - <20	23.98 \pm 9.70	14.11 \pm 1.70	18.68 \pm 5.21	38.91 \pm 6.55
\geq 20	23.50 \pm 10.88	13.94 \pm 1.21	19.44 \pm 5.05	37.50 \pm 8.56
<i>F value, P</i>	8.842, 0.0001**	2.578, 0.081	8.787, 0.0001**	6.595, 0.002**
Age at onset of acne (year)				
10 - <15	30.82 \pm 9.84	12.64 \pm 1.69	24.35 \pm 5.30	44.41 \pm 5.38
15 - <20	24.94 \pm 10.80	14.12 \pm 1.56	19.05 \pm 5.06	38.88 \pm 6.65
<i>t-test, P</i>	2.217, 0.029*	3.538, 0.001*	3.941, 0.0001**	3.234, 0.002*
Residence				
Urban	28.56 \pm 10.92	13.50 \pm 1.78	19.66 \pm 5.99	39.72 \pm 7.80
Rural	23.60 \pm 9.10	14.23 \pm 1.49	20.05 \pm 4.95	39.75 \pm 5.80
<i>t-test, P</i>	2.598, 0.011*	2.303, 0.021*	0.374, 0.709	0.39=87, 0.714
Gender				
Male	20.80 \pm 8.89	13.86 \pm 1.62	17.61 \pm 6.73	38.33 \pm 7.92
Female	28.31 \pm 9.97	13.91 \pm 1.70	20.97 \pm 4.30	40.41 \pm 6.05
<i>t-test, P</i>	3.831, 0.0001**	0.213, 0.866	3.173, 0.002*	1.393, 0.169
Race				
White	26.37 \pm 10.86	13.95 \pm 1.72	19.50 \pm 4.85	39.06 \pm 7.26
Black	25.81 \pm 7.88	13.81 \pm 0.40	25.09 \pm 6.90	43.27 \pm 5.83
Oriental	23.68 \pm 8.66	13.73 \pm 1.93	18.42 \pm 5.36	40.52 \pm 3.97
<i>F value, P</i>	0.527, 0.592	0.138, 0.872	6.561, 0.002**	2.073, 0.131
Family income				
Not enough	28.92 \pm 10.26	13.05 \pm 1.64	21.47 \pm 4.20	42.35 \pm 4.80
Enough	24.10 \pm 9.85	14.38 \pm 1.48	18.95 \pm 5.84	38.24 \pm 7.27
Enough and save	27.00 \pm 7.32	14.42 \pm 1.13	24.71 \pm 9.79	46.71 \pm 2.36
<i>F value, P</i>	3.276, 0.042*	9.403, 0.0001**	8.035, 0.001*	13.236, 0.0001**
Duration of the acne (year)				
1 – 5	26.55 \pm 10.36	13.95 \pm 1.68	20.07 \pm 5.56	39.86 \pm 6.79
6 – 10	19.54 \pm 6.15	13.36 \pm 1.50	18.09 \pm 3.67	38.54 \pm 6.57
<i>t-test, P</i>	2.103, 0.038*	0.878, 0.382	1.213, 0.228	0.353, 0.725

*Statistically significant at ($P < 0.05$)** Highly statistically significant at ($P < 0.001$)

Table (4): Correlation between the Global Acne Grading System for acne severity, the Rosenberg Self-Esteem Scale for acne, the Quality of Life Scale for acne, and the Body Image Satisfaction Scale for acne

Correlation items	Acne severity according Global Acne Grading System (n=110)								r	P
	Mild acne (n=36)		Moderate acne (n=38)		Severe acne (n=21)		Very severe acne (n=15)			
	No.	%	No.	%	No.	%	No.	%		
Rosenberg self-esteem scale										
Low self-esteem	22	61.1	24	63.2	16	76.2	10	66.7	- 0.265	0.005*
Normal self-esteem	14	38.9	14	36.8	5	23.8	5	33.3		
Acne quality of life scale										
Poor acne quality of life	32	88.9	27	71.1	18	83.7	9	60.0	- 0.357	0.0001**
Good acne quality of life	4	11.1	11	28.9	3	14.3	6	40.0		
Body Image Satisfaction scale										
Body image satisfaction	22	61.1	14	36.8	2	9.5	4	26.7	0.422	0.0001**
Body image dissatisfaction	14	38.9	24	63.2	19	90.5	11	73.3		

**Statistically significant at (P<0.05)*

*** Highly statistically significant at (P<0.001)*

Discussion

Acne vulgaris is the most prevalent skin condition affecting teenagers and young adults. Small, non inflamed acne lesions may not be more than a slight nuisance, but, in individuals with more severe inflammatory disease, pain, social embarrassment, and both physical and psychological scarring can be life altering ⁽²¹⁾. According to the results of the current study, a third of the adolescents were found to have mild acne, a third to have moderate acne, and a small percentage to have severe and extremely severe acne. This is nearly in the same line with **Gudiya et al., (2022)**, who reported that 61.6% of adolescents and young adults had moderate form of acne whereas 32% had severe acne ⁽²²⁾. **Tayel et al., (2020)**, found also that the majority (75.5%) of students had mild acne, 22.92% had moderate acne, and only 1.56% had severe acne ⁽²³⁾.

Ghorpade et al., (2020), as well, stated that 31.94% of their participants had severe acne ⁽²⁴⁾ and **Eyüboğlu et al., (2018)**, found that thirty-three percent of their participants had mild acne, 57.1% had intermediate, 9% had severe, and 0.6% had extremely bad acne. ⁽²⁵⁾. **Ogedegbe and Henshaw (2014)**, also revealed that 89.4% of students had mild acne vulgaris, 10% had moderate, and only one had severe acne vulgaris ⁽²⁶⁾. In both Nigeria (88.5%) and India (81.9%), mild acne predominated among teenagers. ^(27, 28).

On the contrary, more moderate/severe grades of acne (67%) compared to mild grades (33%) were found in a Turkish hospital-based study ⁽²⁹⁾. This is not surprising because people with more serious illnesses are more likely to seek medical attention. As a result, investigations conducted in hospitals are likely

to reveal more severe types of acne than those conducted in communities.

Additionally, a highly statistically significant correlation between the age and gender of the researched adolescents and their acne severity was discovered in the current study. In general, women had more severe acne than men did. This is supported by **Tayel et al., (2020)**, who reported that among acne group, females significantly reported acne more frequently than males (39.1% vs. 30.3%). This may be due to hormonal changes during menstruation or higher level of stress among females ⁽²³⁾. On the other hand, **Alanazi et al., (2018)**, discovered that age had no discernible impact on the prevalence of acne vulgaris overall ⁽³⁰⁾ and **Eyüboğlu et al., (2018)**, concluded that there was no difference between genders for acne severity ⁽²⁵⁾. As well, **Ogedegbe and Henshaw (2014)**, stated indicates 48.1% of female and 51.9% of male adolescent students have acne ⁽²⁶⁾. This discrepancy in gender acne prevalence and severity may be attributed to the ratio between males and females in each study as female adolescents presented the most of participants in this study, and to the hormonal changes in females as mentioned before.

In addition, a statistically significant relation was found between the acne severity of the studied adolescents and their age at onset of acne, family income and duration of the acne. The highest mean of acne severity was observed more is not enough family income, lowest acne age at onset and lowest duration of the acne. This could be explained that low income adolescents have difficulties and fewer opportunities to seek medical treatment due to their inadequate income and due to having inadequate knowledge because of their age. This is obvious through our results as we found that about three quarters of

the studied adolescents had acne when their age was between 10 and less than 15 years and more than one quarter of them had not enough family income. The majority of them reported duration of acne ranged between one and less than five years.

This is supported by **Eyüboğlu et al., (2018)**, who found that the mean acne severity was 21.5 ± 7.4 ; the mean period of acne in the case group was 26 months. Lesions lasting for over 1 year were present in 85% of the boys and 83% of the girls. This shows that adolescents do not get referred early for treatment ⁽²⁵⁾. **Abo El-Fetoh et al., (2016)**, also revealed that the mean age of acne onset was 15.0 ± 1.2 years ⁽²¹⁾. As well, **Situmorang (2020)**, in his study suggested the importance of students to having knowledge about skin health, receiving the right sources of information about acne skin care in order to enhance a good attitude and minimize the incidence of acne vulgaris ⁽³¹⁾.

Adolescents with acne lesions may experience behavioral and emotional problems during this sensitive period. It has been reported that individuals with acne experience dissatisfaction, shame and embarrassment due to their appearance, as well as a decrease in their self-confidence and self-esteem ^(23, 32-35). Regarding acne body image satisfaction, the current study revealed that more than three fifths of the studied adolescents had body image dissatisfaction and 38.2% of them had a body image satisfaction. This is nearly in accordance with **Ghorpade et al., (2020)**, who reported that 72.22% of patients had high body image disturbance and more than half of patients with acne had high level of perceived stress ⁽²⁴⁾. **Schroeder et al., (2012)**, also showed that, compared to their counterparts without acne, most participating teenagers with acne expressed unhappiness with their

looks and shown increased emotional instability ⁽³⁶⁾. This highlights the importance of the psychological impact of acne vulgaris on adolescents suffering from it. This is supported by **Alanazi et al., (2018)**, who reported that twenty nine percent of the cases had no impact; 56.3% had small to moderate impact and 14.5% had large effect. The psychological impact was significantly increased with increased severity ⁽³⁰⁾.

Liasides and Apergi (2015), stated that for adults with acne, perceived stigma is a significant predictor of acne, contributing more than factors such as severity, gender, or age ⁽³⁷⁾. In the current study, there was a highly statistically significant relation between the body image satisfaction of the studied adolescents and their family income and also statistically significant relation found with age and age at onset of acne. This predicts the importance of early counseling and treatment.

Concerning self esteem of the studied adolescents, about two thirds of them had a low self-esteem and more than one third of them had a normal self-esteem. This is nearly in the same line with **Ghorpade et al., (2020)**, who reported that almost three quarters of the acne patients had low self-esteem ⁽²⁴⁾. While, **Gudiya et al., (2022)**, concluded that 67.60% of adolescents and young adults had normal self-esteem ⁽²²⁾.

Furthermore, there was a negative statistically significant correlation between acne severity of studied adolescents and their level of self-esteem in this study. On the other hand, **Gudiya et al., (2022)**, concluded that severity of acne had not related with self-esteem ⁽²¹⁾ and **Ghorpade et al., (2020)**, also found no significant association between severity of acne with perceived stress, self-esteem, body image disturbance and suicidal ideation ⁽²⁴⁾. As well, **Eyüboğlu et al., (2018)**,

discovered no connection between the severity of acne and psychological difficulties ⁽²⁵⁾. While, **Schroeder et al., (2012)**, claimed that the best predictor of low self-esteem in patients was their subjective assessment of the severity of their disease ⁽³⁶⁾. This could be attributed to the cultural differences of the subjects of each study which can influence on the method of self perception of acne patients. As well, may be related to the attitudes of the surrounded people to the acne patients either accepting or refusing them. This is supported by **Fabbrocini et al., (2018)**, who found that most participants had experienced people being mean or insensitive to them about their acne. Some participants felt that they are judged on the basis of their acne and it is related to their behaviors ⁽³⁸⁾.

Numerous research conducted globally have revealed that acne has significant negative consequences on patients' quality of life (QoL) ^(22, 23, 25, 39, 40). The present study revealed that most of the studied adolescents with acne had poor quality of life and only 21.8% of them had good quality of life. This is nearly in accordance with **Gudiya et al., (2022)**, who reported that 69.64% of adolescents and young adults had mild impairment in quality of life ⁽²²⁾ and **Tayel et al., (2020)**, also concluded that acne vulgaris is the most common dermatoses affecting adolescents with significant impact on their QoL ⁽²³⁾. **Eyüboğlu et al., (2018)**, as well, reported that quality of life scores of the case group were lower, and life quality was worse ⁽²⁵⁾. **Pemmanda and Umashankar, (2017)**, also stated that their study indicating a mild impairment of QoL among adolescents ⁽⁴⁰⁾ and **Al-Shidhani et al., (2014)**, As a result, acne had an impact on all aspects of the patient's quality of life, with the emotional domain showing the greatest impact ⁽³⁹⁾.

In addition, it was found in this study that there was a negative highly statistically significant correlation between acne severity of the studied adolescents and their quality of life. This is supported by **Gudiya et al., (2022)**, who concluded that severity of acne had significant association with quality of life among adolescents and young adults ⁽²¹⁾. In the same context, **Fabbrocini et al., (2018)**, revealed that moderate–severe acne has an extensive impact on adolescents' and adults' health-related QoL ⁽³⁸⁾. **Ogedegbe and Henshaw (2014)**, also reported that the solitary student with severe acne had severe QoL impairment ⁽²⁶⁾. While, **Sadowsky et al., (2020)**, revealed that the impact of acne on adolescents' QoL with clinically mild acne severity was relatively low ⁽⁴¹⁾.

Finally, a highly statistically significant relation was found between quality of life of the studied adolescents and their age and age at onset of acne and also statistically significant relation with gender, race and family income in the current study. In the same context, **Fabbrocini et al., (2018)**, reported that for adolescents, acne is more common among people in the same age; therefore, many adolescents had friends with acne or other people at school had acne and thus they had some support from others who understood how it felt ⁽³⁸⁾. **Al-Shidhani et al., (2014)**, revealed that, on average, greater negative QoL impacts were reported by female patients. The gender gap in the role-social domain was approaching significance ⁽³⁹⁾. This highlights the importance of studying QoL of adolescents suffering from acne vulgaris and investigates factors affecting them.

Conclusion

It can be concluded from this study that acne vulgaris has an obvious effect on body image satisfaction, self esteem and quality of life of the studied adolescents. About one third of the studied adolescents had mild acne and more than one third of them had moderate acne. More than three fifths had body image dissatisfaction, less than two thirds had a low self-esteem and most of them had poor acne QoL. There was a positive highly statistically significant correlation between acne severity of the studied adolescents and their quality of life as well as their body image satisfaction. And there was a negative statistically significant correlation between acne severity of studied adolescents and their level of self-esteem.

Recommendations

The following suggestions are made in light of the study's findings:

- 1- Increase the awareness of adolescents and young adults regarding the importance of early screening and management of acne vulgaris.
- 2- Highlight the importance of assessment for psychosocial aspects associated with adolescent acne as self-esteem and satisfaction with their image.
- 3- Collaboration should be emphasized between dermatologists and psychiatrists when providing physical and psychosocial acne intervention.
- 4- A strong patient-physician relationship should be developed for helping acne patients to receive the needed knowledge, advices and support regarding acne disease.
- 5- Effective measures should be applied acne in teenagers and young adults to improve their different aspects of their quality of life.

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