Psychological Problems among Adolescents with Acne Vulgaris

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Abstract

Background: Acne vulgaris is chronic inflammatory skin disease impacts on patient's physical and mental health. The aim of this study was to examine the psychological problems of adolescent related to acne vulgaris (depressive symptoms, body image and self-esteem). Descriptive correlational design was utilized to achieve the aim of this study. This study was conducted at the outpatient clinic of the Dermatological Hospital in Benha City. A convenience sample of 200 patients fulfilled the inclusion and exclusion criteria during the spring season were selected from the above setting. The study tools were composed of four Tools (1): Socio-Demographic and Clinical Data, Tool (2): Beck Depression Inventory Scale to measure depressive symptoms, Tools (3) Rosenberg Scale to assess self-esteem, Tool (4) Body Image Scale to measure body image. The results of the study revealed that there was a statistical significant relationship between acne vulgaris and depressive symptoms, body image and self-esteem. Based on the results of this study it was concluded that: Acne vulgaris influence negatively on patients' psychological status. The study recommended that: Psychological counseling should be integrated as nursing intervention for acne patients to improve their mood, self-esteem and body image.

Key words: acne vulgaris, depressive symptoms, self-esteem and body image.

Introduction

Acne is a common chronic skin disease involving blockage and inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland. It is characterized by blackheads or whiteheads, pimples, oily skin, and possible scarring. It primarily affects areas of the skin with a relatively high number of oil glands, including the face, upper part of the chest, and back (***Rao et al., 2017).***

Several factors are believed to contribute to the onset, development and aggravate of acne, the heritability of acne is almost 80% in first-degree relatives. Family history (genetic) is thought to be the primary cause of acne. Moreover, Acne may be caused by hormonal changes, drugs, diets, infections, life style as (smoking-stress, hygiene and skin care less), and clothing or sweat are risk factor and some disorders such as polycystic ovary syndrome, congenital adrenal hyperplasia, and Cushing syndrome may lead to the development of acne (**Picardo et al., 2017).**

Acne Vulgaris lesions predominate in exposed areas such as face and thorax. Facial appearance has an important role in self- perception, as well as in the interaction with others, face lesions cause a significant impact (**Kodra et al., 2018**). The face is highly connected to one's perception of body image. The presence of acneic lesions, therefore, leads to greater decrease in self-esteem and behavioral alterations. It is indisputable that the experience of acne can influence psychosocial disability (**Alebachew & Ashagrie, 2017**). Psychiatric issues associated with acne include problems with self-esteem, self-confidence, body image, embarrassment or social withdrawal, depression, anxiety, anger, preoccupation with acne, frustration or confusion, limitations in lifestyle, pain, indisposition , and weakened ability to focus on work and school and problems in family relationships, poor body-image, low self-esteem, and depression (**Hazarika & Archana, 2016**). Severe depression from acne has resulted in attempted suicide and, unfortunately, successful suicide (**Oakley et al., 2014**).

Some embarrassed acne patients avoid eye contact and some acne sufferers grow their hair long to cover face. Girls tend to wear heavy make-up to disguise the pimples, even though they know that this sometimes aggravates their acne. Boys often comment: "Acne is not such a problem for girls because they can wear make-up". Acne can reduce participation in sport such as swimming or rugby because of the need to disrobe in public changing rooms (**Oakley et al., 2014**).

The nurse should provide patient and family with psychological support, information about acne, advise them that heat, humidity, and perspiration exacerbate acne. Instruct the patient to wash his face gently (do not scrub) with mild soap twice daily, not to squeeze blackheads, not to prop hands on or rub the face, to wash hair daily and keep it off the face, and to use cosmetics cautiously because some may exacerbate acne. In other hand the nurse should advise adolescent about the importance of balanced diet, adequate fluids, exercise and adequate rest, avoid sunburn because these things promote healthy skin. Explain that it will take four to six weeks of compliance with the treatment regimen to obtain results (**Lawton, 2018**).

Significance of the study

Acne is a very common worldwide skin problem. Its prevalence of acne in adolescents in Egypt ranging from 28.9% to 91.3%. During adolescence, acne tends to be more common in boys than in girls. It reportedly occurs among 95% to 100% of boys 16 to 17 years old and 83% to 85% of girls in the same age group (**Allayali et al., 2017**). The disease can also persist into adulthood, affecting 20-40% of all individuals. Strikingly! (**Aslan et al., 2017**).

Acne can influence the entire life in very real ways. It can be particularly distressing for adolescents because develop often significant physical and psychological morbidity as poor body image, low self-esteem and depression. Patients with acne are at increased risk for psychological problems including anxiety and depression that impact on person's life compared to the normal population. Depression was two to three times more prevalent in acne patients than in the general population, In addition to depression as psychological problems, it can have a major influence on self-esteem and body –image (**Jagtiani et al, 2017**).

Thus, it is of considerable importance to assess the effect of acne vulgaris in adolescent with particular influence on depressive symptoms, body image and self- esteem.

Theoretical and operational definition

Psychological problems theoretically defined, as psychological dysfunction, a behavior or mental pattern that may cause suffering or poor ability to function in life

(**World Health Organization, 2016).** Psychological problem refers to the cessation of purposeful functioning of cognition, emotions or behavior (**Cherry, 2018).**

In the present study, psychological problems operationally mean the mean score of depression, self-esteem and body image.

The mean score of depressive symptoms as loss of interest in activities that were once interesting or enjoyable, loss of appetite, with weight loss, or overeating, with weight gain, loss of emotional expression (flat affect), feeling of hopelessness, pessimism, guilt, worthlessness, or helplessness measured by (**Beck, 1966).**

The mean score of body image scale Which includes how the person perceive his appearance when he looks in the mirror and how he feels about his body measured by (**Gamal, 2016).**

The mean score of self-esteem which reflects a person's overall subjective emotional evaluation of his or her own worth, judgment of one self as well as an attitude toward the self or beliefs about oneself measured by (**Rosenberg, 1965).**

Subjects and Methods

The aim of this study is to examine the psychological problems of adolescent related to acne vulgaris (depressive symptoms, body image and self-esteem) through-

a) Assessing the presence of depressive symptoms in patients with acne vulgaris.

b) Assessing the perceived body image in patients with acne vulgaris.

c) Assessing the self-esteem in patients with acne vulgaris.

d) Examining the relation between degree of acne with the severity of depressive symptoms, self-esteem and body image perception in acne vulgaris patients.

Research Question

What are psychological problems of adolescent related to acne vulgaris?

Research Design:

This is a descriptive correlational design was utilized to achieve the aim of the study.

Research Setting:

The study was conducted at the Outpatient Clinic of the Dermatological Hospital in Benha City. It is the most specialist hospital for dermatological disorder in Qilyubia; this hospital was selected due to the high number of patients seeking help there.

Subjects:

A convenience sample of 200 patients fulfilled the inclusion and exclusion criteria during the spring season were selected.

Inclusion criteria

Medically diagnosed as acne vulgarity.

Willing to participate in the study.

Both sexes (male- female).

Patients at adolescent age group (12-18years old).

Exclusion criteria

1- Subjects with history of a known mental disorder

2- Subjects with somatic diseases such heart, pulmonary and joint disease

Data collection instruments:

In order to achieve the aims of the study, the following tools will be used:

Tool one: Structured interview questionnaire was developed by the researcher to assess the following:

A- Socio-Demographic characteristics of the study sample as (code, age, sex, marital status, grade of education and occupation, etc………).

B- Clinical data: which include: age of first appearance of acne vulgaris, seasonal variation, number of visit to dermatologist, response to medication & history).

Tool two: Beck Depression Inventory. This scale was originally developed by **Beck (1966)**, translated into Arabic by **Ghareeb (1989),** to measure depressive symptoms. It includes 21 questions as sadness, pessimism, past failure, loss of pleasure, guilty feelings, punishment feelings; self-dislike& self-criticalness. Each question was answered from 0-3 grade. Total Score of depressive symptoms scale was categorized as follows: 0-13: indicates no depression, 14-19: indicates mild depression, 20-28: indicates moderate depression and 29 -63: indicates severe depression.

Tool Three: Rosenberg Scale. This scale was developed by **Rosenberg (1965)**, to assess self-esteem. It consists of 10 items classified into negative sentences and Positive sentences. Each question is answered from 0-3 scores in positive sentence 0 means strongly disagree, 1 means disagree, 2 means agree, 3 means strongly agree but negative sentences 0 means strongly agree, 1 means agree, 2 means disagree, 3 means strongly disagree

Total Scoring system of self- esteem scale was categorized as follows:

- 0-10: indicate low self- esteem
- 11-20: indicate moderate self-esteem
- 21-30: indicate high self-esteem

Tool Four: Body Image Scale This scale was developed by **Gamal (2016)**, to measure body image among patients with acne vulgaris. It Includes 30-items, Each question is answered from 0 to 3 grade where (0) mean no negative body image, score (1) mean mild negative body image, score (2) mean moderate negative body image, score (3) mean highly negative body image.

Scoring system of body image scale was categorized as follows:

- 0-13 :indicate no negative body image
- 14-43 :indicate mild negative body image
- 44-73 : indicate moderate negative body image
- 74-90:indicate highly negative body image

Methods:

The preparatory phase:

An extensive literature related to the study area was done including electronic dissertation, available books, articles, doctoral dissertation, research and peer interaction, and idea from external sources and periodicals. A review of literature to formulate knowledge base relevant to the study area was also done to get a clear picture of all aspects related to the research topic.

Validity and reliability:

Tools were provided to a jury of three experts in Psychiatric Nursing Field. Tools were checked for the relevancy, clarity, comprehensiveness and applicability of the questions. The tool proved to be valid according to their opinions.

Reliability of the tool:

It was applied by the researcher for testing the internal consistency of the tools by administration of the same tools to the same subjects under similar condition on one occasion. Answer from repeated testing were compared (test – retest reliability) the tools revealed strongly reliable at .86 for Beck Scale, .67 for Reliability of Rosenberg Scale and .93 for Reliability of body Image Scale.

Approval:

Official letter from the Faculty of Nursing Benha University to all authorized personnel of the dermatology hospital to conduct the study was done. Oral consent of the subjects was taken to participate in the study. Full explanation about the aim of the study was explored.

Consent and Ethical consideration

All subjects were informed that participation in the study is voluntary; no name will be included in the questionnaire sheet. Anonymity and confidentiality of each participant will be respected and protected, confidentiality was assured and subjects were informed that the content of the tool will be used for research purpose only and they had the right to refuse to participate in the study or withdraw at any time without any consequences.

Pilot study:

A pilot study was done after the development of the tools and before starting data collection. It was conducted on 20 patients of acne vulgaris at the outpatient clinic of the Dermatological Hospital in Benha City. Using the tools of the study (1), (2), (3) and (4). The purpose of the pilot study was to test the clarity, applicability and feasibility of the tools and study process. In addition to, it served to estimate the approximate time needed for interviewing the patients as well as to find any problems that might interfere with data collection. After obtaining results of pilot study, modifications of tools were done. A final format was developed under the guidance of supervisors. Those patients were excluded from the actual study.

Field work: (procedure of data collection)

Before data collected an official letter was addressed from Faculty of Nursing Benha University to the Director of Benha Dermatologic Hospital at the above mentioned setting for requesting their permission and cooperation to conduct the study. All of the authorized personnel provided needed information about the purpose and the importance of the study. The patient who fit the inclusion and exclusion criteria was approached by the researcher to fill the questionnaire according to the following:-

1- The researcher introduced herself to the patients then explained the aim of the study to each of them.

2- Oral consent were obtained from every participant who fulfills the inclusion criteria.

3- A brief description about the purpose of the study and the type of questionnaire required for filling was given to each participant.

4- The researcher visited the selected site to collect data from subjects from out patients clinic in Dermatologic Hospital in spring season.

5- Questionnaire sheets were distributed between patients in clinic and they were asked to fill them individually. Each interview lasted from 15to 30 minute.

6- An individual interview was conducted for illiterate participant to help them to fill the questionnaire.

7- The period of study were from beginning of march, 2018 till beginning of June,2018 about two days per week (Saturday-Monday) at 9am to 12am.

Statistical analysis:

Data collected from the study was coded, revised and entered using PC. Data entry and statistical analysis were done using the Statistical Package for Social Science (SPSS) version 20; Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, mean and standard deviation for quantitative variables. Qualitative variables were compared using the chi-square test and correlation coefficient was used to measure the direction and strength of the correlation between variables. A statistical significant difference was considered if p was $<.005$. A very highly statistical significant difference was considered if p was <0.001.

Result

Table (1): Frequency Distribution of Socio-Demographic Data of the Studied Sample. No=200.

Socio-demographic data	N	%
Sex		
Male	30	15.0
Female	170	85.0
Age		
12 to less 15	18	9.0
15 to less17	49	24.5
17to less 19	133	66.5
Mean± SD	15.4±2.08	
Residence		
Rural	146	73.0
Urban	54	27.0
Education		
Illiterate	7	3.5
Basic education	18	9.0
Diploma	73	36.5
High graduate	102	51.0
Occupation		
Unemployed	144	72.0
Employed	56	28.0
Marital status		
Married	40	20.0
Single	160	80.0

Table (1): shows that: Majority of the sample (85%) are females, mean age is **15.4±2.08** years. More than half of studied sample (51%) are highly educated and most of them (80%) are single.

Table (2): Frequency Distribution of the Clinical Data of the Studied Sample. No=200.

Clinical data		N	%
Family history of acne			
Yes		126	**63.0**
No		74	37.0
Age of first appearance of acne			
	Less than 12	39	30.0
	12 to less 15	39	30.0
	15 to less 17	37	28.5
	17 to 18	15	11.5
	Mean± SD	**15.4±2.08**	
seasonal acne increase in appearance			
	In Winter	35	17.5
	In spring	16	8.0
	In Summer	145	**72.5**
	In Autumn	4	2.0

Table (2): reveals that, near to two third of studied samples (63%) have a positive family history of acne. Nearly three - quarters of the studied samples (72.5%) shows an increase of acne in summer and the mean age of first appearance to acne was **15.4±2.08** years.

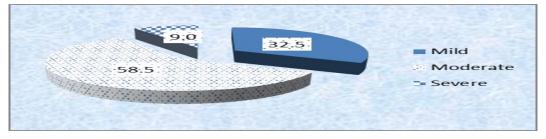**Figure (1):** level of Acne Degree among the Studied Sample

Figure (1): illustrate that more than half of studied sample (58.5%) have moderate acne degree, about one-third of them (32.5%) have mild acne degree.

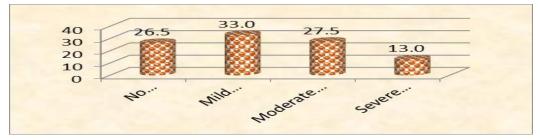**Figure (2):** Level of Depressive Symptoms in the Studied Sample.

Figure (2): illustrate that nearly three-quarter of the studied sample have depressive symptoms ranged from mild, moderate and severe (33%), (27.5%) and (13%) respectively.
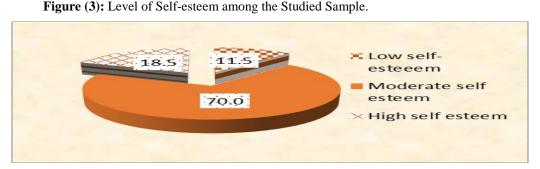
Figure (3): Level of Self-esteem among the Studied Sample.

Figure (3): illustrates that, around three-quarters of studied sample (70%) have moderate level of self-esteem while only around one-fifth of them (18.5%) have high level of self-esteem.

Figure (4): Frequency Distribution of Studied Sample Regarding level of Negative Body Image among The Studied Sample**.**
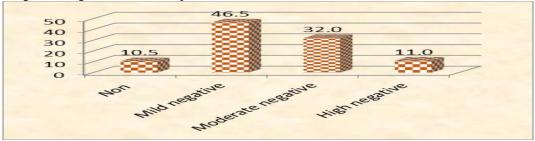

Figure (4):reveals that, majority of the studied sample have negative body image ranged from mild, moderate and severe **(**46.5%), (32%) and (11%) respectively.

Table (3): Correlation between Acne Degree and psychological status (depressive symptoms, Self-Esteem, and Body Image) of the studied sample.

Psychological status	Acne degree	
	r	P-value
Depressive Symptoms	0.32	0.000
Self-esteem	-0.20	0.78
Negative body image	0.27	0.000

Table (3): reveals that, there is positive significant correlation between depressive symptoms and acne degree. There is positive correlation between negative body image and acne degree. Positive correlation mean when acne degree increase negative body image increase, also when acne degree increase depressive symptoms increase.

Discussion

The present study revealed that. Majority of the patients were females. This might be due to the fact the females are more interested in their body image and skin care, these results were similar to a study done by *Sharma et al., (2017) & Skroza et al.,(2018)* they found that most of their studdied sample were women. Also supported by *Coban et al., (2017)* who found that two-thirds of the studied group were female. *Also congruent with the study of Bagatin et al., (2014)&Hazarika and*

Archana(2016)they found that more than half of studied group were female while these results contradicted with *Simic et al., (2017)* they found more than half of studied group were male .

As regards to the age, the present study showed that most of the studied in age group ranging from 15 to 20 years the mean age 15.4±2.08 years This might be due to that hormonal changes which occurred early in life at the time of adolescence or young adulthood. This result is congruent with *Noorbala et* al*., (2013*) who pointed out that most of the studied group had ages range from 15 to 18 years with mean age 16.5 years. Also supported with the result of *Simic et al., (2017)* they found that most acne patients mean age 17.4 years. Also similar to the result of *Bagatin et al., (2014)*who showed that the higher incidence of acne between age of 15-17 years and *Hazarika and Archana (2016*) who found that two-thirds of acne patients between age 15-20years

As regards to the residence, the present study revealed that three quarters of studied sample lives in a rural area. This could be due to the geographical destination of hospital which is beside to rural population, experiencing more adverse living circumstances than urban populations and have lack of knowledge regarding hygienic care than in urban areas. This result was contradicted with **Campbell et al., (2016**) who declared in their results that prevalence of acne more common in urban area and *Jabeen et al., (2017)* they showed that majority of patient belong to urban area .Also contradicted with the result of **Vallerand et al., (2018)** which showed that low rates of acne reported in rural societies.

As regards to the educational level, the result of the present study revealed that more than half of the total samples were highly educated, may be due to they had increase awareness of the problem and the awareness that treatment could be available in clinics. Or this illustrate that patients have the interest to know, learn and retain information regarding management of acne. This result was consistent with *Kawshar & Rajesh, (2013)* they found the same result, most of the studied sample was high graduate followed by secondary school. Also supported by *Uslu et al., (2008)* showed that more than half of patients were high school students. Another study by *Jabeen et al., (2017)* who showed that majority of patient in their study had a college degree.

Regarding to occupation, the result of present study show that three- quarters of studied sample were unemployed. This might be due to most of them were undergraduate, this result contradicted with **Oakley et al., (2014)** they found that most of studied sample were employed.

Regarding seasonal variation, the present study showed that acne increase in appearance during summer in most of the studied sample. This might be due to in summer, the patients sweat more which can bring additional risks. Sweat can bond with dirt, oil and other impurities to clog pores and, if one's enjoy working out, sweat can linger in the clothes making patients more vulnerable to bacterial infections. Summer also brings with it the additional risk of sunburn, which will certainly damage the skin and inspire an inflammatory reaction. This may be due to heat being skin able to produce more sebum. This finding is consistent with *Abo El-fetoh et al., (2016*) who indicated that more than half of his studied sample had an increase in acne appearance in summer months also **Kawshar&Rajesh, (2013)** *Sardana et al., (2014)* they found that acne appearance increase during summer but **Balato et al., (2014)** they showed that the improvement of acne in summer and exacerbation in winter.

As regards family history for acne vulgaris, the result of the present study revealed that nearly two-thirds of the studied patients had a positive family history for acne, this illustrate that positive family history of acne considered one of the most common causes associated with the development of acne. In addition, the study confirmed that the higher familial risks provided strong genetic epidemiological evidence for the overall heritable effects in the etiology of acne, This result supported with the study developed by *Abo El-fetoh et al., (2016)* whose results revealed that more than half of their patient had a positive family history of acne and more than half of them had first-degree relatives of patients with acne, another study supported to the result of study also *Vilar et al.,(2015)* reported that more than half of studied sample suffering from acne had a family history of acne especially their parents.

Regarding to depression among patients with acne, the result of the present study indicated that depressive symptoms were higher among patients who have acne vulgaris ranged from mild, moderate and severe. This might be due to their feeling of negative body image , especially their face and skin which appears worse in the first period of treatment and ointments that treat acne, which makes the person leave treatment and feel despair, which leads to chronic depression. These results was supported by **Al-Huzali et al., (2014)** they found that nearly half of studied group reported severe depression in 12.3%of acne patients while mild &moderate depression were reported by 16.2%&12.3% respectively. This also congruent with **Yentzer et al., (2010) & Haloversan et al., (2011) & Yang et al., (2014)**they showed that acne was associated with higher rate of depression and **Vallerand et al.,(2018)** pointed out that acne had a significant increase risk for developing major depression.

Regarding to acne and self-esteem. The result of present study revealed that. nearly three-quarters of studied group have moderate self-esteem and tenth of them have low self –esteem .This might be due to self-esteem shakes with the irony of others who suffer from acne and this drives the teenager infected with acne to lose confidence in the self and evaluate themselves negatively . This result was supported by **Tasoula et al., (2012) &Vilar et al., (2015)** who noted that embarrassment and decreased self-esteem in all patients with acne this result was supported **Dharshana et al., (2016) & Muffedel et al., (2017)** also showed that self-esteem was significantly lower in patients with acne.

Regarding to acne and body image. The result of present study revealed that. Majority of studied sample with acne vulgaris suffer negative body image, this might be due to the change in the skin appearance complicated by change body image. The result of study was supported by *Feton-Danou, (2010)* who found acne induces a significantly impaired body image .Also supported by the result of *Bowe et al., (2011)* they showed most of patients with acne suffer from body image disturbance and by *Hedden et al., (2008)* showed that patient with acne had significantly lower body image.

Regarding acne degree the result of the present study revealed that more than half of the studied sample had moderate degree of acne, while minority of them had severe degree of acne. This might be due to most patients were interested on their appearance and visit dermatology when acne introduce to moderate degree or mild degree. This result was similar to *Bagatin et al., (2014)* who found the same result in his study that majority of patients had moderate degree of acne while minority of them had severe degree of acne. Also this result was supported with the result of *Dunn et al., 2011* they showed that more than third of patients had mild acne; one- third of them

had moderate acne while minority of them had severe acne. While was contradicted with study *of* ***Coban et al.,(2017)***they reported that more than half of acne patients had mild degree but more than one-third of them had moderate degree.

Moreover Regarding acne degree, the result of study was contradicted with **Skroza et al., (2018)** they showed that mild acne is the most frequent form. Also the result of study was contradicted with **Al-Huzali *et al., (2014*)** they showed in their study that more than half of acne cases were mild degree.

As regard the correlation between acne degree and depressive symptoms. The findings of this study results revealed that there was a highly statistically significant relationship between depressive symptoms and acne degree. This might be due to negative effect of acne and its severity on negative feeling of body image, appearance and mood. This was supported by **Al-Huzali et al., (2014)** they showed severity of acne was significant associated with depression among acne patients. Also consistent to the results of **Al-Shidhani et al., (2015)** they stated that any increase in acne severity would lead to an increase in the negative effects on the patient's feelings and moods also **Mufaddel et al., (2017)** they reported that there were significant association between severity of acne and mental distress. But this result contrary with **Kodra et al., (2018)& Jagtiani et al., (2017)** they showed non-significant correlation between depression and severity of acne vulgaris.

As regard the correlation between acne degree and self-esteem. The finding of this result revealed that there was negative insignificant correlation between acne degree and self-esteem. Most of studied sample had low and moderate self-esteem .this might be due to during the period of adolescents they were preoccupied and

interested with their appearance and self-esteem. Acne develops negative feeling of body image which effect on their self-confidence, mood and self-esteem so whenever acne increases in severity effect on self-esteem. This finding is supported with ***Vilar et al., (2015)*** they showed that there was no correlation between acne severity and self -esteem. Also ***Turrion-Merino et al., (2015) & Mandluru et al., (2016)*** they not reached to the effect of severity of acne on self-esteem while contradicted with ***Su et al., (2015) & Kodra et al., (2018)*** they demonstrated that there was significant correlations between poor self-esteem and severity of acne. Also contradicted to the result of study by ***Hosthota et al., (2016)*** they pointed to moderate and severe acne vulgaris correlated to reduced self-esteem.

Concerning the correlation between acne degree and body image. The result of the present study revealed that there was a statistical positive significant correlation between acne degree and negative body image, this might be due to whenever acne increase in severity leads to disturbed appearance so causes body image disturbance and whenever severity of acne increase lead to deformity in face so effect on body image. (**Do et al., 2009**) they pointed to acne grading correlated more with body-image impairment, supported this finding. But this finding was contradicted with ***Feton-Danou, (2010) & Ghodusi & Heidari (2014)*** they found that body image was not correlated to severity of acne. Also contradicted with the study of ***Amr et al., (2014*)** they showed in their result that the body image satisfaction was unrelated to acne severity.

From the results of the present study, it was concluded that:

Acne vulgaris influence negatively on patients' psychological status. There was correlation between acne vulgaris with

depressive symptoms, body image and self-esteem.

Based on the previous findings of the present study the following recommendations were suggested:

❖ Stress management and assertiveness training program should be given to acne patients to relieve their psychological problems and enhance their coping patterns.

❖ Psychological counseling should be integrated as nursing intervention for acne patients to improve their psychological status.

❖ Psycho educational programs should be conducted to improve people's knowledge about acne, causes, early detection, and management to improve patient's mental health.

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