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# Effect of Acne Vulgaris on the Body Image of Adolescents and Young Adults

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## Abstract

Acne vulgaris is a prevalent skin condition that often impacts individuals' psychological and emotional well-being. This study aimed to investigate the influence of acne severity on the body image of adolescents and young adults. Adolescents and young adult patients who were actively seeking treatment for their acne participated in the study. Through convenience sampling, data was collected in-person from 122 acne patients in Islamabad, encompassing both male and female participants aged between 15-32 years. Utilizing the Body Image Scale and Global Acne Grading System Scale, the findings revealed a significant positive association between the severity of acne vulgaris and body image issues. Participants with severe acne vulgaris reported more issues with body image, thereby suggesting the pervasive impact of acne vulgaris on body image. Women reported significantly higher levels of body image concerns as compared to men. However, there was no significant gender difference in terms of acne severity. These findings underscored the intricate connection between dermatological conditions and psychological health. Moreover, the findings also emphasized the need for holistic approaches of interventions that address both physical and emotional dimensions.

**Keywords:** adolescents, acne vulgaris, body image, dermatology, young adults

## Introduction

Acne vulgaris is a prevalent and persistent skin disorder characterized by the blockage or inflammation of pilosebaceous units, comprising hair follicles and sebaceous glands (Dawson & Dellavalle, 2013). Common among teenagers, acne vulgaris shows occurrence rates ranging from 27% in the early teenage years to 93% in the later stages of adolescence (Lynn et al., 2016). Even in their twenties, around 53% women and men tend to experience acne, which may persist into adulthood (Wolkenstein et al.,

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2018). Various factors including environmental, hormonal, nutritional, and genetic predispositions contribute to the development of this skin condition (Lynn et al., 2016). In Pakistan, no large-scale data is available to determine the prevalence of acne vulgaris. However, the data from 1,140 female medical students from Rawalpindi and Islamabad revealed that 14.47% ( $n = 165$ ) of them had acne vulgaris (Babar & Mobeen, 2019).

Acne vulgaris may leave lasting mental and physical impacts. While acne vulgaris itself does not pose any significant physical harm, it often causes psychological distress in adolescents (Koo, 1995; Stamu-O'Brien et al., 2021). Emotional reactions to acne commonly include heightened anxiety, anger, despair, and frustration (Sereflican et al., 2019; Thomas, 2004). Teenagers experiencing acne grapple with countless psychological concerns, such as poor body image, shame, social impairment, anxiety, anger, frustration, and low self-esteem (Baldwin, 2002; Yoqub et al., 2020). Numerous studies have indicated that individuals with moderate to severe acne often face challenges related to low self-esteem, heightened body image issues, and social isolation (Fried & Wechsler, 2006; Stamu-O'Brien et al., 2021). Adolescents with acne may encounter psychological suffering manifested in the form of body image issues.

Body image refers to the perception of one's physical self and the associated thoughts and feelings (Slade, 1994; Yoqub et al., 2020). Individuals worldwide often harbor self-consciousness about their appearances. Gender differences in body image concerns are notable, with women more likely to adopt a restricted diet, express a preference for a slimmer physique, as well as fear of gaining weight and appearing unattractive as compared to men (Tiggemann, 1994; Tiggemann & Slater, 2014). Studies have consistently indicated that women tend to experience lower levels of body satisfaction than men (Neagu, 2015). Men who are conscious of their appearance may be more inclined to the desire of having a good height or a more muscular build (Davis & Cowles, 1991; Voelker et al., 2015).

The perception of an ideal physical appearance can be attributed to the media's role, which defines the approach and reflects dominant attitudes (Rehman, 2023). Numerous studies have connected excessive exposure to media and children to negative body image among young adults (Gallagher et al., 2015). Women develop an analytical self-image due to critical inspection, leading towards continual self-evaluation and comparison (Yasmin et al., 2015).

It has been determined that media is responsible for the rising social comparisons among adolescent girls' perception of their physical beauty (Khan et al., [2017](#)). Research has concluded that the intensification and normalization of physical appearances and body exposure as criteria for feminine beauty are detrimental to society and women, as they rely on these standards to find acceptance in the world of fantasy (Ullah & Khan, [2014](#)).

The persistent condition of acne is associated with severe psychological distress accompanied by various issues (Singam et al., [2019](#)). De Sousa ([2010](#)) conducted a study on individuals with acquired facial deformities. The study revealed that they undergo a lengthy process to adjust their body image which significantly affects their quality of life. It was found that patients with facial damage were more prone to experience uncomfortable thoughts about their bodies in social settings as compared to control participants. Similar to how majority of the individuals feel about their bodies, people who have been disfigured may experience anything from minimal psychological anxiety to intense anxiety about their appearances (De Sousa, [2010](#)).

In a survey conducted with individuals over 16 years old, those with skin diseases exhibited lower self-esteem and poorer body image as compared to individuals without the disease. Similarly, a study conducted by Yoqub et al. ([2020](#)) found that acne significantly negatively impacted quality of life, self-esteem, and body image of people experiencing the problem. Girls and boys with acne reported higher levels of sadness, low self-worth, and self-attitude, as well as feelings of unhappiness with their appearances as compared to those without acne. In line with these findings, Kaymak et al. ([2007](#)) researched the perceptions about body image and anxiety in college students who were without skin illnesses and with skin illnesses and had visited an outpatient dermatology clinic with skin disease. The mean body image scores of patients with skin conditions were lower than those of controls.

Babar and Mobeen ([2019](#)) examined the effect of acne vulgaris on the psychosocial health of women by collecting data from 1,140 female medical students across Islamabad and Rawalpindi, Pakistan. It was found that around 15% of their study sample had acne vulgaris. Additionally, 60% of them were found moderately to severely impacted in terms of psychological functioning by their condition.

Dermatological issues, such as skin diseases can impact one's body image (Neagu, [2015](#)). Recent studies on body image also suggest that acne is associated with the feelings of embarrassment, shame about one's body image, and lower self-esteem (Sereflican et al., [2019](#); Tan, [2004](#)). The presented data concluded that body image concerns related to acne vulgaris affected both men and women. However, in Pakistan, due to inflated norms and expectations, women are more likely to experience these feelings frequently. The lack of research on men' body image concerns may be attributed to the widespread belief that they are unimportant. This belief is possibly influenced by the misconception that only women are affected by societal pressures and consequences related to appearances and beauty standards (Brennan et al., [2010](#)).

The current study is significant as it aimed to address a critical gap in order to understand how acne vulgaris impacts body image among adults within the Pakistani cultural and societal context. Most findings were derived from investigations conducted in the Western world where cultural norms and societal pressures differ significantly. Limited research has been conducted in Pakistan on the adult population experiencing problems due to acne vulgaris. Studying the outcomes and the extent to which body image problems arise in adulthood due to acne vulgaris in the Pakistani context would be highly significant. However, it can be asserted with certainty that they are not immune to these problems. The exploration of these outcomes in Pakistan would not only provide insights into the psychological and social implications of acne vulgaris, however, would also call for culturally-tailored interventions to mitigate body image concerns. Based on the extant findings from the literature, the study hypothesized that the severity of acne vulgaris has a positive relationship with body image issues, and this relationship is stronger for women than for men.

## Methodology

### Sample

The study sample comprised a clinical population seeking treatment for acne vulgaris, encompassing both male and female patients across the adolescent to young adult age range. Participants were selected based on their age groups, categorized as adolescents and young adults, and their clinical diagnosis of acne vulgaris. A total of 122 individuals participated in the study who were diagnosed with acne vulgaris and were seeking

treatment at dermatological clinics or hospitals. Data was collected in person across various hospitals and skincare clinics in Islamabad. The sample size was determined using G-power, consisting of 57 male and 65 female patients residing in Islamabad and the surrounding area. The age of the participants ranged between 15-32 years. The majority of participants (77%) fell into the young adult category, with ages ranging from 20-32 years. The mean age of participants was 22.7 years ( $SD = 3.47$ ) and a significant portion of the participants was single (77%). On average, the participants had been dealing with acne problems for 4.71 years ( $SD = 2.90$ ). Most participants visited the dermatologist at least once a month (67%).

## **Instruments**

### ***Global Acne Grading System***

Global Acne Grading System (GAGS) was developed by Doshi et al. (1997). It employs both clinical and photographic methods to assess the severity of acne vulgaris. The scale measures the presence of five types of lesions in the six regions (five areas of the face and one on the chest). The five lesion types include no lesions, comedones, papules, pustules, and nodules, graded 0 (no lesion), 1 (comedone), 2 (papule), 3 (pustule), and 4 (nodule). A factor score is assigned to each skin area: 2 for the forehead, right cheek, and left cheek; 1 for the nose and chin; and 3 for the upper back and chest. The local score is computed by multiplying the lesion grade with the skin region factor. The cumulative GAGS score is the sum of all six local scores, ranging from 0 to 44, with a higher score indicating severe acne vulgaris.

### ***Body Image Scale***

The Body Image Scale is a self-reported 10-item scale designed to measure how individuals perceive their thoughts, beliefs, emotions, and respected feelings with their physical self (Hopwood et al., 2001). It is a 4-point Likert-type scale, where respondents indicate the extent of their body image concerns (0 = "not at all" to 3 = "very much"). The scores for each item are summed to calculate the total score, which ranges from 0 to 30, with a higher score indicating severe body image issues. The scale demonstrated excellent reliability in the current sample for all 10 items ( $\alpha = 0.93$ ).

## Procedure

The current study adhered to the ethical guidelines and protocols outlined by the American Psychological Association and received approval from the Preliminary Ethics Research Committee of the relevant department. Patients were approached in the dermatology outpatient departments (OPDs) of various private and government hospitals, following permission from the hospital management. The study objectives were explained to the adult participants younger than 18 years and their parents. They provided informed consent and assent to participate in the study and publish findings from the data. Participants were also provided with the option to discontinue the survey at any point. Dermatologists completed the GAGS questionnaire, while patients filled the Body Image Scale using paper-based administration. Data analysis was carried out using SPSS 26, employing regression analysis to examine the relationship between acne vulgaris and body image. Additionally, moderation analysis was conducted to explore the moderating effect of gender on this relationship. The *t*-tests were utilized to investigate the potential gender differences in acne vulgaris and body image.

## Results

In the current study, the GAGS score ranged between 3 and 44, with a mean score of 22.90 ( $SD = 9.41$ ). A GAGS score of 0 indicated no severity, while scores ranging from 1 to 18 were categorized as mildly severe. Scores between 19 and 30 were classified as moderately severe, while those falling within the range of 31 to 38 were considered as severe. Scores exceeding 39 are categorized as very severe (Doshi et al., 1997). In the study sample, approximately 37% of the participants exhibited mild acne severity, around 35% showed moderate severity, and about 28% presented severe or very severe acne vulgaris. The body image disturbance score ranged between 0 and 30, with a mean score of 21.05 ( $SD = 8.18$ ). Table 1 shows the detailed insight of the variables.

**Table 1**

*Mean and SD of Body Images and Acne Severity (N = 122)*

Variables	Mean	Std. dev	Min	Max
Body image	21.05	8.18	0	30
Acne severity	22.90	9.41	3	44

A linear regression analysis was conducted to predict the effect of acne severity on body image. A significant regression equation was found for body image  $F(1, 120) = 21.85, p < .001$ . The results of regression indicated that acne severity explained 15.4% of the variance in body image issues ( $R^2 = .15$ ). It was found that an increase in acne severity level was associated with an increase in the body image issues ( $\beta = .39, p < .001$ ), as shown in Table 2.

**Table 2**  
*Acne Severity Predicting Body Image Issues*

Variables	<i>B</i>	<i>SE</i>	95% CI		$\beta$	<i>p</i>
			<i>LL</i>	<i>UL</i>		
Acne Severity	0.341	0.07	0.20	0.49	0.39	<.001

A moderation analysis was conducted to determine the potential gender difference in the relationship between body image and acne severity level. The analysis indicated no significant gender difference in the relationship between body image and acne severity level ( $p > 0.05$ ), as shown in Table 3.

**Table 3**  
*Moderating Effect of Gender on the Association Between Acne Severity and Body Image Issues*

Variables	<i>B</i>	<i>SE</i>	95% CI		$\beta$	<i>p</i>
			<i>LL</i>	<i>UL</i>		
Acne Severity	0.33	0.07	0.19	0.47	0.38	<.001
Sex	-4.45	1.32	-7.06	-1.83	-.27	<.01
Moderator (Sex)	.041	.66	-1.27	1.35	.005	>.05

An independent-sample *t*-test was conducted to determine if there is a gender difference in the levels of acne severity and body image. The results indicated a significant gender difference in the body image issues of men and women  $t(120) = 3.26, p < .05$ . The mean difference in the body image issues of men and women suggests that women reported significantly higher levels of body image issues ( $M = 23.53, SD = 7.27$ ) as compared to men ( $M = 18.88, SD = 8.36$ ). No significant gender difference was found in acne severity ( $p > .05$ ), as shown in Table 4.



**Table 4**

*Body Image and Acne Vulgaris Difference Between Male and Female Patients*

Variable	Male (n = 57)		Female (n = 65)		t (120)	p	Cohen's d
	M	SD	M	SD			
Body Image	18.88	8.36	23.53	7.27	3.26	.001	.59
Acne Vulgaris	23.23	9.81	22.62	9.12	0.358	.721	.06

## Discussion

Acne vulgaris, a widely prevalent skin condition, has a significant impact on adolescents and young adults worldwide and in Pakistan, which affects their psychological well-being (Babar & Mobeen, 2019). Therefore, this study aimed to examine the influence of acne vulgaris on body image and explored potential gender differences in these aspects. The study included a participant pool of 122 individuals seeking dermatological care and advice for their acne concerns.

The findings provided insights into the psychological impact of acne severity. The body image disturbance scores revealed significant dissatisfaction among acne patients, with approximately 87% of participants expressing dissatisfaction. This underscores the pervasive nature of body image issues within the acne patients. Additionally, the mean score of 21 indicates that, on average, acne patients experienced moderate levels of body image disturbances.

Upon examining gender differences, the results demonstrated a significant disparity in body image issues between male and female patients. Specifically, female patients reported significantly higher levels of body image concerns as compared to their male counterparts. This aligns with the existing literature consistently indicating that women are more prone to experiencing body image issues (Neagu, 2015; Yasmin et al., 2015). Notably, no significant gender differences were observed in terms of acne severity.

The current study hypothesized a positive association between acne vulgaris and body image and the results supported this hypothesis. Acne vulgaris was found to be correlated with increased levels of body image issues among acne patients. This aligns with previous research that

established a positive relationship between body image issues and the severity of acne (see, e.g., Sereflican et al., [2019](#); Stamu-O'Brien et al., [2021](#)). The present findings suggest that acne vulgaris plays a detrimental role in determining the well-being of adolescents and young adults in Pakistan.

According to the present findings, female patients were more concerned about their appearances and reported greater dissatisfaction with their body image as compared to male patients. This aligns with the existing research indicating that women tend to experience body image issues at a higher rate than men (Neagu, [2015](#); Yasmin et al., [2015](#)). Such discrepancy may be attributed to the media's stereotypical representations of physical beauty in terms of clear and fair skin, particularly in Pakistan while promoting beauty products for women (Gallagher et al., [2015](#); Khan et al., [2017](#); Yasmin et al., [2015](#)). Women, as a result, are more likely to conform to feminine beauty standards as compared to men (Tiggemann, [1994](#); Tiggemann & Slater, [2014](#); Ullah & Khan, [2014](#)). Additionally, societal expectations of beauty from women contribute to their heightened concerns and discomfort with their body image as observed presently (Brennan et al., [2010](#)).

Irrespective of gender, societal expectations and the emphasis on beauty by both men and women in Pakistan significantly contribute to the manifestation of psychological problems in the younger generation, where clear skin is highly desired. Promoting social awareness and challenging beauty standards could alter the perceptions of beauty and contribute towards improved psychological well-being.

## **Conclusion**

Puberty brings various hormonal changes in human body that may result in acne. Adolescents commonly experience diverse body image challenges including those linked to acne vulgaris. Individuals with severe acne tend to report elevated levels of body image issues. This indicates the negative impact of acne on their perceptions of physical appearance. This underscores the significance of addressing body image concerns in individuals with acne, as it directly influences their overall well-being and self-perception.

## **Future Research Implications**

Women in the current study reported higher levels of body image issues as compared to their male counterparts. Recognizing the specific challenges

faced by women regarding their body image issues associated with acne, there is a need for gender-specific interventions and support networks. Implementing psychological support and promoting body acceptance within healthcare practices and through media representation may help individuals with acne manage emotional challenges and improve their overall well-being.

### **Limitations**

The study's sample size of 122 participants, while suitable for a convenience sampling approach, is relatively small to draw definitive conclusions. Enhancing the statistical power through a larger sample size would increase the applicability of the results. Using convenience sampling from clinical settings introduces the possibility of selection bias, limiting the sample's representativeness and the generalizability of findings. A more diverse and representative sampling technique, such as random sampling, would address this limitation.

The study's focus on a specific region (i.e., Islamabad) in Pakistan may constrain the generalizability of findings to other regions or populations within the country. Including participants from various regions or using a nationally representative sample would offer a more comprehensive understanding of how acne vulgaris influences body image issues in Pakistan. Additionally, the study utilized a cross-sectional design, collecting data at a specific point in time. This design limits the ability to establish causal relationships and track changes in body image over time. A longitudinal design, incorporating multiple measurements over an extended period, would enable a more in-depth analysis of the dynamic nature of body image disturbances influenced by acne vulgaris.

### **Conflict of Interest**

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

### **Data Availability Statement**

The data associated with this study will be provided by the corresponding author upon request.

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