THE PSYCHOLOGICAL IMPACT OF ACNE IN YOUNG ADULTS: A CROSS-SECTIONAL OBSERVATIONAL STUDY

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ABSTRACT:
Background: The dermatoses considered to be the most common among young adults is acne, which is proven to have a significant impact on self-esteem and Quality of Life (QoL). However, the impact of acne on psychosocial aspects is not fully assessed and often goes unrecognized in the form of invisible scars. **Aim**: The present study aims at estimating the severity of acne and its impact on concerns regarding appearance, self-esteem, and quality of life in young adults. **Material and Method**: A hospital based cross-sectional observational study was conducted from 1st January 2023 to 31st March 2023 on a total of 110 samples of young adults aged between 18-25 years selected using convenient sampling from outpatient departments of Dermatology, General Medicine, and Psychiatry in PMCH, Udaipur. The severity of acne, concerns regarding appearance, self-esteem, and QoL were assessed using standardized tools such as the Global Acne Grading System (GAGS), Derriford Appearance Scale (DAS), Rosenberg Self-Esteem Scale (RSES), and Cardiff Acne Disability Index (CADI) respectively. The collected data were then analyzed using SPSS version 29. **Results**: A significantly positive association was observed between scores obtained on the GAGS scale with scores obtained on DAS (r=0.355**, p <0.001), and CADI (r=0.528**, p <0.001) and a significant negative association was obtained between scores of GAGS, and RSES (r=-0.931**, p<0.001). **Conclusion**: The results revealed increased concerns regarding appearance, low self-esteem, and poor quality of life in young adults with increasing severity of acne drawing attention of health care professionals towards unidentified psychological aspects of acne.

Keywords: Acne, Young adults, Body image disturbance, Disability, Self-esteem

INTRODUCTION:

One of the most common dermatological conditions dating back to the 6th century AD was Acne vulgaris (AV). Though AV is a very common skin problem presenting with inflammatory and non-inflammatory symptoms predominantly in the facial area, it may also affect the other upper areas of the body.[1,2] AV is a long-standing skin disease caused by the bacterium cuti-bacterium acnes characterized by inflammation of pilosebaceous glands leading to the formation of pustules, nodules, papules, cysts, and comedones.[3] It can range in severity from mild to severe on the basis of the number and type of lesions. Acne may also be caused by various other factors such as eating chocolates, having fried food, candies, and the lack or excess of sexual activity by many people.[4] AV is

generally regarded as an adolescent illness and hence considerable research has explored its prevalence rate in the adolescent population. However, several epidemiological studies have also been conducted on the adult population but they are relatively very few especially in the Indian subcontinent.[5] Furthermore, the majority of adult population acne cases were in the age group 26 to 30 years with a prominence of female ones and continual acne symptoms were more common in early onset cases.[5] Its prevalence also seems to vary across various socio-demographic variables and is rated as the 8th most common disease with a prevalence rate of 9.4% at the worldwide level according to the Global Burden of Disease.[6] There are considerable research findings indicating the greater psychosocial impact of acne on females.[7,8,9] Almost a decade back, according to a survey conducted in 2012,

around 2/3rd of patients above 18 years were found to suffer from acne.[10]

It is a complex interwoven illness which encompasses several causal factors varying from genetic predisposition to psychosocial factors.[11,12] Stress and other psychological variables have also been implicated as the maintaining factors of AV and vice versa.[1,11,13] Although acne mainly affects the adolescent population, the cases among the adult population are also increasing. Acne commonly affects the facial area which represents a crucial aspect of one's perception of bodily appearance and self-esteem which can result in significant psychosocial impairment. Furthermore, AV is often associated with distress, permanent scarring, severe discomfort, and psychiatric comorbidities like tendencies to harm self and depression resulting in a significant burden of disease.[6] A high rate of comorbidities such as depression, anxiety, and ideas of deliberate self-harm has been associated with AV in various studies.[14,15,16,17] It also negatively affects the quality of life and has found significant improvement following the treatment of the disease in previously conducted studies.[18]

Though AV is indeed not fatal, it remains one of the primary concerns of skin specialist consultations. Body image disturbance is defined as a person's discontentment, disturbance, and despair with their personal self-image. Acne patients have indeed been said to experience this form of disruption and experience low self-esteem.[19,20,21] Several studies have demonstrated low mood, low levels of self-esteem, social withdrawal, body-image disorder, personality disorders, and detrimental consequences on intimate relations, sports and games, and career prospects in young adults.[20,22,23,24] Furthermore, attractiveness, which encompasses untarnished skin throughout many cultural contexts, has indeed been connected to election results.[25] Aside from the psychological and vocational impairments noted, AV can also have a substantial influence on one's self-esteem and conscience. Self-esteem is generally described as the unified sense of one's worth or importance.[26]

The growth of self-esteem and individuality in emerging adults is extremely crucial. A perceptible and plausibly traumatizing skin disease can lead to interpersonal dismissal as well as difficulties with social, occupational, and intimate competence, which can have a detrimental effect on psycho-social and sexual competence.[27] Depression and anxiousness might well be connected to low self-esteem. A high degree of self-esteem, on the contrary, may serve as a safeguarding factor when confronting new and chronic illnesses and complexities.[28]

In accordance with the analysis of related literature, the intricate interrelations of body image concerns, and self-esteem among acne patients, together with contributing complications, have not yet been debated in the Indian context. The cumulative effect of the above-mentioned psychosocial variables should always be discovered for impactful acne management. Furthermore, appropriate acne intervention is linked to enhancements in self-esteem, body image, social autonomy, and self-confidence.[29]

The aim of this study is to better comprehend the underlying psychological concerns that may influence patients suffering from acne. It investigates the psychological variables such as body shape disruption and self-esteem issues in acne-affected young adults, which offers insight into the consequences of acne from a patient's point of view and also has the potential to quantify treatment efficacy. Furthermore, it stresses a crucial consideration for the psycho-dermatology area which focuses on the alliance of AV presentations and psychosocial or mental health issues.

MATERIAL AND METHODS:

This hospital-based cross-sectional observational study was conducted at The Pacific Medical College and Hospital, Udaipur (India). 110 out of 123 cases of young adults of both sex with acne, aged 18–25 years, able to read or write English, willing to participate, and meeting the inclusion and exclusion criteria of the study were enrolled for the study over a period of three months i.e. from 1st January to 31st March 2023. These patients had visited Dermatology and General Medicine OPDs with referrals to Psychiatry OPDs of the hospital. Exclusion criteria included the presence of a co-morbidity of any other major medical/psychiatric or neurological conditions and medical treatment or exposure to psychotherapeutic interventions that may interfere with psychological variables under study. Ethical approval for this study was obtained from the Ethics Review Committee of Pacific Medical College and Hospital, Udaipur, Rajasthan. Informed written consent was taken from the subjects undergoing the study. Socio-demographic profile (eg. age, sex, weight, height, and BMI) and clinical profile (eg. duration of acne, age of onset of acne, number of visits to doctor for acne, family history of acne, skin type, cleaning behavior, acne grade) of participants were obtained.

Measures:

Participants were administered the Global Acne Grading System (GAGS) scale for acne severity with scores ranging from 0-32. The severity was then graded according to the global score which is the summation of all local scores. A score of 1–6 was considered mild; 7–18, moderate; 19–26, severe; and 27–32, very severe. The maximum score was 32.[30] The body image disturbance (DAS-Modified) measure was administered to evaluate body image concerns in which scoring was done by calculating the total score ranging between 0 to 60 (0 to 10 - Mild, 11 to 30 -

Moderate, 31 to 50 - Severe and 51 to 60 - Extreme).[31] The Cardiff Acne Disability Index (CADI-2021 Updated Version) was used to assess the disability induced by acne in teenagers and young adults.[32] It consists of five questions with a Likert scale of four response categories (0–3) in which the total score was calculated by summing the score of each question resulting in a possible maximum of 15 and minimum of 0. CADI scores were graded as low (0–4), medium (5–9), and high (10–15). Finally, The Rosenberg Self-Esteem Scale (RSES) was used to assess the self-esteem of acne patients. It is a 5-point Likert scale in which the items range from strongly agree to strongly disagree to rate a series of 10 statements.[33]

Statistical Methods:

Collected data was analysed using Statistical Package for the Social Sciences (SPSS version 29.0). Descriptive statistics such as frequencies, percentages, and measures of central tendencies were used. Pearson's correlation coefficient (r) method was used to measure the strength of the relationship of GAGS with RSES, CADI, and DAS. At $p < 0.05$ and $p < 0.001$, it was considered statistically significant.

RESULTS:

In total, 110 out of 123 acne patients presenting to the outpatient Departments of Psychiatry, Dermatology, and General Medicine of Pacific Medical College and Hospital, Udaipur City of Rajasthan state who met the inclusion and exclusion criteria were selected for the study. The age of the participants ranges from 18 years to 25 years with a maximum number of participants of thirty-two (29.1%) belonging to the age group of 21

years. The majority of the participants were female (n=82, 74.5 %).

Table 1 shows the various clinical characteristics of the respondents indicating that the majority of the study participants (n=64; 58.18%) had a BMI in the normal range, followed by over-weight (n=21;19.09%), with fourteen participants (12.72%) falling under the category of being under-weight with eleven participants (10%) being obese. Depending upon the skin type, the majority of participants (n =35;31.8%) had oily skin, followed by twenty-eight (25.5%) with combination skin type, twenty-four (21.8%) with normal skin type, eleven (10%) with dry skin, nine (8.2%) having sensitive skin and three (2.7%) had very dry skin type among the study participants. With respect to the family history of acne, thirty-two participants (29.1%) were found to have a positive family history. Among females, twenty participants (24.3%) had irregular menstruation.

Table 2 reveals the correlation of the GAGS score with other DAS, RSES, and CADI measures. Results reveal that increased severity of acne was significantly positively associated with higher scores of body image or appearance disturbances (r=0.355**, $p < 0.001$) indicating higher the acne grades, the more the body image issues. Furthermore, an increase in the severity of acne was also found to be positively associated with impaired quality of life (r=0.528**, $p < 0.001$). The self-esteem was found to be correlated negatively with the severity of acne (r=-0.931**, p<0.001) indicating higher acne grades and poorer self-esteem. Hence, the correlation analysis reveals that acne negatively affected the concerns regarding appearance, self-esteem, and overall QoL in study participants.

Table1: Clinical characteristics of the studied participants (n = 110)

Characteristics	Group	Number	%
BMI (kg/m^2)	<18.5(Under-weight)	14	12.72%
	18.5-24.9 (Normal)	64	58.18%
	25-29.9 (Over-weight)	21	19.09%
	>30 (Obese)	11	10%
Skin Type	Normal	24	21.8%
	Sensitive	9	8.2%
	Dry	11	10.0%
	Very Dry	3	2.7%
	Oily	35	31.8%
	Combination	28	25.5%
Family History of Acne	Positive	32	29.1%
	Negative	78	70.9%
Menstruation/Menstrual Cycle	Regular	62	75.6%
	Irregular	20	24.3%

Table 2: Pearson correlations (DAS, RSES, and CADI with GAG Scores)

Clinical Variables	r
Appearance (DAS)	+0.355**
Self-Esteem (RSES)	−0.931**
Acne Quality of Life (CADI)	+0.528**

**. Correlation is significant at the 0.01 level (2-tailed)

DISCUSSION:

The present study examined the levels of acne disturbance and its association with body appearance, self-esteem, and QoL among young adults consulting the Departments of Psychiatry, Dermatology, and General Medicine of Pacific Medical College and Hospital, Udaipur. In our study, the severity of acne condition negatively affected the psychological concerns of body appearance, self-esteem, and QoL in the study participants indicating its negative impact on self-esteem and QoL in acne patients. Our findings are in line with previous similar studies on acne.[34,35] Furthermore, persistently having negative body image and self-esteem concerns are found to be more prominent among acne patients which may lead to depressive features and increased suicidal risk.[36] Acne is generally found to be associated with the development of comorbid psychiatric conditions leading to a poor QoL, hence making it difficult to manage.[37,38,39] With respect to body appearance, our results are in consonant with previous findings indicating its high prevalence in this condition.[37,40] Hence it is necessary to manage acne-related psychological problems among young adults which may help in improving their attitude regarding their body appearance, self-esteem, and overall quality of life. In our study, one-fourth of female participants (24.3%) had irregular menstruation with premenstrual aggravation of acne problems, which has also been observed to be more common among female patients with acne.[5] Apart from internal factors, several external factors such as excessive use of cosmetics including some sunscreens tend to exacerbate acne symptoms.[5,41]

However, few of the limitations have been observed in our study such as the use of non-randomized convenient sampling, data being confined to one hospital-setting, and the use of cross-sectional design which limits the generalisability of our study findings and warrants further research in the form of conducting large-scale longitudinal studies to substantiate findings of present study and to reach to definitive conclusions. Furthermore, future studies should include follow up assessments, in order to study long-term variation in study variables and role of interventions and treatment adherence.

CONCLUSION:

Acne-related disturbances among young adults are increasingly being recognized as an important concern and hence, research efforts are being made to bridge the gap between dermatological and psychological treatment. Major findings of the present study revealed that acne condition is associated with an adverse psychological effect on body image perception, self-esteem, and QoL, insisting on the need for consultation-liaison psychiatry or psycho-dermatology by selecting the appropriate treatment strategies including psychological interventions. Furthermore, though considerable research evidence has shown its negative association with body image perception, self-esteem and QoL, these psychosocial and mental health issues often go unidentified in dermatological treatment. Hence, our finding supports the strong need for the assessment and management of the psychosocial aspects of dermatological conditions, especially Acne vulgaris.

CONFLICTS OF INTEREST: None

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