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SOCIAL ANXIETY AND DEPRESSION IN PATIENTS WITH ACNE VULGARIS, A CROSS SECTIONAL COMPARATIVE STUDY

Psychiatry

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ABSTRACT

Background: Acne Vulgaris is a common skin condition. Since acne is most commonly seen in the face, it is associated with a wide range of emotional and psychological challenges like issues of body image, socialization, sexuality, embarrassment, self-consciousness, lack of self-confidence, and social dysfunction such as reduced or avoidance of social interactions with peers and persons of opposite gender. The aim of this study is to determine the magnitude of social anxiety and depression in patients suffering from Acne Vulgaris, and to compare the same with general population. **Material & Methods:** Present cross sectional comparative study was conducted among the patients attending Departments of Dermatology and Psychiatry OPD, Aarupadai Veedu Medical College and Hospital, Puducherry, with diagnosis of Acne Vulgaris. Sociodemographic details and clinical information was collected with a proforma and scales such as Liebowitz Social Anxiety Scale, Hamilton Depression Rating Scale were applied to assess the social anxiety and depression in patients with acne vulgaris and comparison group. A P-value of <0.05 was considered statistically significant and all the analysis was performed using SPSS v21 operating on windows 10. **Results:** In present study, total of 127 patients fulfilling inclusion criteria are included with mean age of 23.99±4.04yrs. Among them 29.9% were male and 70% of female patients with female preponderance in the study. On assessment of the LSAS and HAMD scores between the cases and comparison group, there is significant higher mean score of social fear score, performance fear score, social avoidance, performance avoidance, and also the total scores in Acne group with relation to the comparison group ($p<0.05$). **Conclusion:** The present study concluded that there is significant higher incidence of social anxiety and depression among the patients with acne vulgaris.

KEYWORDS

Social Anxiety, Depression, Acne Vulgaris, Liebowitz Social Anxiety Scale

INTRODUCTION

A relationship between psychological factors and skin diseases has long been hypothesized. Psychodermatology addresses the interaction between the mind and the skin[1].

Skin, the largest part of our body, plays an important role in fitness, physical, mental and social well-being. Any disorder affecting the skin leads to major psychosocial stress and emotional distress, especially now due to the rising importance of social media and unreasonable beauty constructs[2].

Acne Vulgaris is a common skin condition. It affects 9.4% of the world's population, making it the eighth most prevalent disease worldwide [3]. Since it causes visible disfigurement of the face, it produces a great deal of embarrassment, frustration, anger, anxiety and depression in patients [4]. Because of acne's negative effect in physical appearance, this condition may act as a potential barrier to social relationships and cause social anxiety [5]. Depression and Suicide are also more prevalent in patients with acne.

Acne has a negative impact on psychological wellbeing, causing depression, suicidal ideation, anxiety, psychosomatic symptoms, guilt, humiliation, and social inhibition among the adolescent individuals. They may also show physiological signs which include insomnia, hypersomnia, anorexia and hyperphagia. Deterioration in academic performance, social withdrawal, truancy, and delinquent behaviour may also be evident [6].

Social anxiety disorder (SAD)/ Social Phobia, is a disorder under the spectrum of anxiety disorders, with lifetime prevalence rates up to 12.1 % [7]. The characteristic feature of this disorder is the intense, irrational and persistence fear of social interaction and performance and the consequent avoidance of the same. Individuals are anxious and fearful in performance situations such as speaking in front of a group, eating in a public place or in situations of interaction such as speaking to new persons, superiors and salespersons, or going to a party. The affected individuals fear negative evaluation by others or being humiliated in public and isolate themselves from society by avoiding social situations [8]. They experience significant impairment in functioning such as difficulties in workplace, family and social life.

Previous literature has identified social appearance anxiety in patients with cosmetically disfiguring skin disorders, especially those who were teased or ridiculed about their skin disorder at some time earlier in their lives. Some patients with chronic acne whose acne had interfered with their socialisation during their adolescence continued to experience social anxiety in later life when they no longer had acne, because of the long-term impact of having to live with acne during developmentally critical periods of life such as adolescence [6].

Although several studies have been undertaken about anxiety, depression, and personality patterns in patients with acne, only a few studies have tried to identify the magnitude of Social Anxiety in acne in India. As early diagnosis will yield a better outcome, knowledge of prevalence and diagnosis of social anxiety and depression is important for the treatment of the patient.

The current study aims to identify the magnitude of social anxiety and depression among patients of acne, and compare the same with general population.

MATERIALS AND METHODS

This cross sectional comparative study was undertaken in a tertiary care centre in Pondicherry, following approval from the Institutional Review Board. The study took place between December 2020 to September 2022, in the Departments of Dermatology and Psychiatry. Groups studied were 2 with inclusion criteria as mentioned. Acne Group – Patients with acne vulgaris between the ages of 16 and 35; Non Acne Group - Consisting of controls, age and sex matched.

Patients were recruited from the Dermatology Outpatient department. Patients receiving steroids for treatment of Acne Vulgaris and patients with pre-existing psychiatric illnesses such as schizophrenia, depression, bipolar affective disorder, generalized anxiety disorder, intellectual disability, autism spectrum disorder, dementia, were excluded from the study.

With reference to the study done by Betul Sereflican, et al [2], Considering the LSAS Score mean difference between acne and non-acne group, with 95% confidence interval and power of study 80%, the sample size comes to 116. Convenience sampling technique was used to recruit patients.

Patients and controls were enrolled in the study after obtaining written informed consent in their local language. Sociodemographic and clinical details were collected by a semi structured proforma. Global Acne Grading System was used to diagnose and grade Acne Vulgaris. Scales such as Liebowitz Social Anxiety Scale – to assess presence and severity of social anxiety and Hamilton depression rating scale – to assess depression were applied to both the groups. The scales were translated to the regional language and was applied by a psychiatrist. Individuals with syndromal diagnosis of Social Anxiety Disorder or Depression were treated with pharmacological/ Nonpharmacological methods and followed up.

Tools

The Global Acne Grading System, Liebowitz Social Anxiety Scale, Hamilton Depression Rating Scale were applied to the persons participating in the study.

1. Global Acne Grading System -

GAGS was developed by Doshi et al. for determining severity of acne. The intensity, and the distribution of pilosebaceous units are evaluated on total 6 localities (face/forehead, left and right cheeks, nose, and chin, chest, and upper back), and patients are given global acne scores between 0 and 44. A patient's acne is evaluated as follows: No acne (0 points), mild severity (1-18 points), moderate severity (19-30 points), severe (31-38 points), and very severe (> 39 points)[9].

2. Liebowitz Social Anxiety Scale -

The Liebowitz Social Anxiety Scale is a Clinician Rating scale created to assess social phobia. The LSAS assesses the range of social interaction and performance situations that patients with social phobia fear and/or avoid. The scale includes 24 items divided into two sub scales that evaluate social interaction and performance situations. Higher scores indicate greater severity of social anxiety and avoidance/withdrawal. The recommended cut-off point for each subscale is a score of 25 and for total test a score of 50 points [10].

3. Hamilton Depression Rating Scale -

The HDRS (also known as the Ham-D) is the most widely used clinician-administered depression assessment scale. The original version contains 17 items (HDRS17) pertaining to symptoms of depression experienced over the past week. For the HDRS17, a score of 0–7 is generally accepted to be within the normal range, while a score of 20 or higher indicates at least moderate severity [11].

Statistical Analysis

All the data were collected and entered in excel sheet. The demographic data of patients are summarized as mean, standard deviation, frequency and percentage. Chi Square Test is used to analyse the association between the magnitude of social anxiety and depression in acne vulgaris and general population. The comparison between the continuous variables were analysed using Independent Student T Test - to assess the scores of depression and social anxiety among the acne and general population groups. A p-value of <0.05 was considered statistically significant and all the analysis was performed using SPSS v21 operating on windows 10.

RESULTS

In the present study a total of 127 persons were recruited who satisfied inclusion criteria – 65 in patient group and 62 in comparative group, with mean age of 23.99±4.04yrs. Among them 29.9% were male and 70% of female patients with a female preponderance in the study. Age and gender were matched between the groups was found to be comparable. With respect to education, majority of the patients were higher secondary, 37%, followed by 18.9% with grade X and 17.3% with graduation, with no significant difference between acne and non acne groups. Socioeconomic status was found to be 47.2% of lower middle class, 22.8% of upper lower class, 19.7% of upper middle class and 7.9% of upper class, again comparable between both groups.

The global acne grading system showed presence of 40% with mild and moderate grade, 18.5% with severe and 1.5% with very severe.

On assessment of the various scores of LSAS between the acne and non acne group, there is significant higher mean score of social fear score, performance fear score, social avoidance, performance avoidance, and also the total scores of LSAS and HAMD in patients compared to non acne group (p<0.05). Prevalence of Social Anxiety in acne group was found to be 7.8%, whereas in the comparison group prevalence was 0.6%. With respect to depression, prevalence was found to be 8% in acne group and 2.4% in comparison group.

On assessment of the scores with the acne severity, there was no significant mean difference between the groups, however the mean scores were higher among the severe cases compared to mild and moderate severity of disease among the patients.

Table 1: Prevalence of Social Anxiety and Depression in Patient and Comparison group

	Patient Group (n=65)	Comparison Group (n=62)
Social Anxiety	12 (7.8%)	1 (0.6%)
Depression	13 (8%)	4 (2.4%)

Prevalence of Social Anxiety and Depression in patient group found to be 7.8% and 13% respectively.

Table 2: Comparison of the scores of LSAS and HAMD between the Acne group and Comparison group

	Comparison Group		Patient Group		p-value
	Mean	SD	Mean	SD	
LSAS Total Fear Subscale	9.3	±5.3	16.0	±10.4	0.01*
LSAS Total Avoidance Subscale	5.8	±4.9	14.7	±12.2	0.01*
LSAS Total Score	15.0	±8.9	30.6	±21.4	0.01*
HAMD Score	6.4	±5.1	10.1	±7.4	0.01*
*p-value <0.05 was considered statistically significant. *p-value <0.01 was considered highly significant.					

The table shows the difference in LSAS scores between patient and comparison group. Statistically significant difference seen in scores between 2 groups.

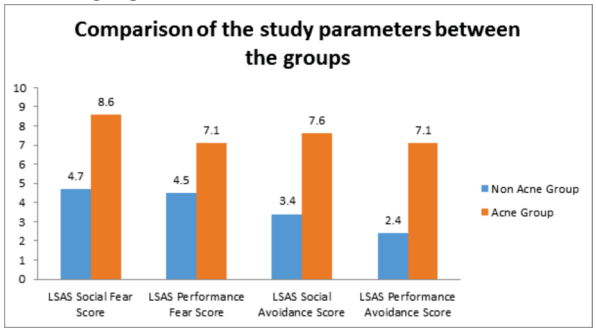

Figure1: Comparison of the LSAS Subscales between Acne group and Comparison group

DISCUSSION

Acne Vulgaris is a multifactorial inflammatory disease with a chronic course. Since it is most commonly seen in the face, and related to scarring, it is associated with a wide range of psychological comorbidity such as depression, anxiety disorders, low self-esteem, social anxiety and challenges with socialization, sexuality, self-consciousness and lower quality of life. But as we commonly observe the psychological sequelae of acne is overlooked and undervalued.

Social Anxiety is a frequent accompanying disorder in patients with acne which can impair the individual's daily functioning, family life and work place duties.

In the present study, total of 127 persons were inducted with 65 in acne group and 62 in the non acne group, after obtaining written informed consent. Among them 29.9% were male and 70% of female patients with female preponderance in the study. Female preponderance was also documented with average age of the research participants 23.55± 3.83 in the study by Priyamkari A et al, about perceived stress and appearance anxiety among people with acne vulgaris. This study showed a positive correlation between increased stress levels and acne vulgaris. [12]

Prevalence of Social Anxiety in patient group was found to be 7.8%, which is comparable to the study done by P.Das, who found the prevalence of social anxiety among undergraduate students with acne to be 8%[13]. Öztürk P, in their study of social phobia and quality of life in turkish patients with acne found the prevalence of social anxiety to be 11% and depression to be 8%, which is comparable to this study.[14]

In this study, with respect to depression, prevalence was found to be 8% in patient group and 2.4% in comparison group.

In Khan et al, study of psychopathologic and clinical psychiatric evaluation of acne patients, 38% satisfied the criteria for depression according to ICD-10, and a higher percentage of social anxiety was found in acne group as compared to normal population.[15] The variations in prevalence findings were attributed to the methodological findings between studies, such as sampling, cultural and social differences.

On assessment of the various LSAS scores between the acne and non acne groups, there is significant higher mean score of social fear score, performance fear score, social avoidance, performance avoidance, and also the total scores of LSAS in acne group compared to the comparative group ($p<0.05$). Similar to present study, Kurhan F found that the patient's and control group's average SAAS scores were 55.20 and 19.70 points, respectively. As a result, the patient group's average SAAS score was found to be substantially greater than that of the control group ($p<0.01$)[16]. Geetanjali S et al., documented more than half of acne patients with high degree of perceived stress. Almost three-quarters of the patients' struggled with poor self-esteem. Suicidal ideation was present in 5.55 percent of patients. [17] According to Sereflican B et al., study, acne sufferers had higher levels of depression, anxiety, social anxiety, self-reported stress, anxiety sensitivity, and disability, as well as a higher prevalence of type D personality than healthy controls.[2] Jain P et al., observed subjective stress and social appearance anxiety were highest in patients with AA, followed by acne patients, and lowest in patients with melanosis.[18]

The global acne grading system showed with presence of 40% with mild and moderate grade, followed with 18.5% with severe and 1.5% with very severe. Though there were higher scores of LSAS and HAMD seen in severe acne, they were not statistically significant. The severity of acne does not always correlate with the severity of emotional impact; even mild cases of acne have been reported to have significant emotional impact on the patients. But this is contrary to the study done by Ozturk et al[14], where patients with severe acne were found to have a higher prevalence of depression, relational problems, social phobia and a poorer quality of life. This highlights the importance of the dermatologist to modify and adjust medical therapy to meet the patient's individual needs.

There were a few limitations to the study. Smaller sample size was one. Duration of acne was not taken into account as longer duration may worsen social anxiety or depression, nor was scarring which is again an important factor. The tools used to assess social anxiety and depression are screening tools – a diagnosis of Social Anxiety Disorder or Depressive Disorder was not made. Since this is a comparative study, a causal relationship between social anxiety and acne was not able to be established. A prospective study with a bigger sample size will prove better.

CONCLUSION

The present study concluded that there is a significant higher incidence of social anxiety and depression among the patients with acne vulgaris. Early screening and diagnosis, will improve the prognosis of the disease. Hence, psychiatric evaluation in dermatological disorders will play a valuable role for long term betterment of individuals.

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