



**ORIGINAL RESEARCH PAPER**

**Psychiatry**

**“PSYCHIATRIC MORBIDITY OF ANXIETY AND DEPRESSION AMONG PATIENTS WITH ACNE”**

**KEY WORDS:** Acne, Anxiety, Depression, Psychiatric Morbidity

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**ABSTRACT**

**Background:** Acne vulgaris is a chronic inflammatory skin disorder and has a high prevalence among adolescents and young adults, which is also a period of psychological instability.

**Aims & Objectives:** To assess the presence of anxiety and depression among acne vulgaris patients and study their correlations with the severity of acne. **Methods:** 80 patients with a diagnosis of acne vulgaris in ANMCH, Gaya were assessed using purposive sampling for data collection and compared with matched healthy controls for presence of anxiety and depression using HAM-A and HAM-D to assess anxiety and depression respectively. Severity of acne was assessed using Global Acne severity (GEA) scale and was correlated with anxiety and depression.

**Results:** Majority of patients with Acne were mild (34%) to moderate (32%) in severity with a mean Global Acne Severity (GEA) score  $2.58 \pm 1.05$ . Both anxiety and depression was significantly higher in the acne patient group as compared to healthy controls. There was significant correlation of severity of acne with severity of both anxiety and depression.

**Conclusion:** The high psychiatric morbidity in acne patients indicates a need for regular liaison between Dermatologists and Psychiatrists in order to introduce evidence based interventions to screen and treat anxiety, depression for good care of this vulnerable population.

**INTRODUCTION:**

Acne vulgaris is a chronic inflammatory disease of the Pilosebaceous units, which frequently involves face and upper part of the trunk and at times leaves scar. Bio-psychosocial models in dermatology emphasize the multifactorial nature of skin disease by examining environmental, interpersonal, psychological and biological factors in determining both disease severity and the impact of the condition on functioning and life quality. While neither life threatening nor physically debilitating these conditions can severely affect social and psychological functioning. Need for knowledge of relationship between skin diseases and mental health is increasing<sup>1</sup>.

It has been seen that about 30% of dermatology patients suffer from significant psychiatric comorbidity<sup>2</sup>. These conditions are often exacerbated by psychosocial stress and develop co-morbid major psychiatric syndromes. Psychological impacts of acne appearance and related negative emotional reactions in the patients in today's demanding society with the occurrence of acne, substantially augments the enormous stress that burdens patients<sup>3</sup>. With various studies done in past highlighting psychological disorders<sup>4,5</sup> in patients with acne, the current study was planned to evaluate the prevalence of anxiety, depression in comparison to healthy people and its correlation with acne severity was also studied.

**MATERIALS AND METHODS:**

It was a cross-sectional and hospital based study. The study consisted of 80 clinically diagnosed acne patients drug free for atleast last six months in the age range of 18 to 40 years of both sexes attending Psychiatry outpatient department of Anugrah Narayan Medical College & Hospital, Gaya, Bihar, after referral from skin department of the same institute for data collection, using purposive sampling technique and 80 healthy controls matched for age, sex and education who gave consent for the study during the study period May-October 2015.

The study was conducted after taking the approval from the ethical committee of the institute. The aim of the study was to assess the presence of anxiety and depression among acne vulgaris patients as compared to matched healthy controls and study the correlations of anxiety and depression in the patient population with the severity of acne.

**Tools used in the study:**

**1. A socio-demographic data sheet:** A specially designed semi-structured performa, including various socio-demographic variables (age, sex, education, religion, residence, marital status, employment, socioeconomic status) and clinical variables (clinical diagnosis, duration of illness, family history, past history, treatment history) was applied on both the acne and control group.

**2. Global Acne Severity Scale (GEA scale)<sup>6</sup>:** This scale is a global scale for acne, which is also validated for photographs of Acne patients. It can be used either in clinical research or by the dermatologist in their office. The US FDA recommends a static global rating scale with six grades 0-5 (clear, almost clear, mild, moderate, severe and very severe).

**3. Hamilton Rating Scale for Anxiety (HAM-A)<sup>7</sup>:** The HAM-A probe 14 parameters (items) and takes 15-20 minutes to complete the interview and score the results. Each parameter (item) is defined by a series of symptoms and measures both psychic anxiety and somatic anxiety. Each item is rated on 5-point scale 0-4. Total score: 0- Hamilton Rating 56, normal <17; mild anxiety: 18-24; moderate anxiety: 25-30; severe anxiety  $\geq 30$ .

**4. Hamilton Rating Scale for Depression (HAM-D)<sup>8</sup>:** The HAM-D form lists 21 items; the scoring is based on the first 17. 10 items are scored on a 5-point scale, ranging from 0 = not present to 4 = severe. 11 items are scored from 0-2. Total score ranges from 0-62; scores of less than 7 considered normal; 8 to 13 mild; 14 to 18 moderate; 19 to 22 severe and above 23 very severe. It generally takes 15-20 minutes to complete the interview and score the results. It is the most commonly used measure of depression.

**STATISTICAL ANALYSIS:**

In this study, the data was evaluated using the Statistical Package for the Social Sciences (SPSS Inc. version 17.0). The Statistical techniques used for analyzing data were frequencies, percentages, descriptive statistics and correlation. Group differences for the continuous and categorical variables were computed using independent t test and Chi square test respectively. The statistical significance value was set at  $p < 0.05$ .

**RESULTS:**

On Comparison of Socio-demographic profile across patients with

Acne and control group findings show that there was no significant difference between the two groups in terms of age, sex, education, religion, residence, marital status, employment and socio-economic status.

**TABLE 1: Comparison of Socio-demographic profile across patients with Acne and control group:**

Variables		Patients with Acne N=80 n(%) / Mean (±SD)	Control Group N=80 n(%) / Mean (±SD)	t/χ2/ fisher's exact test	df	P
Sex	Male	34 (42%)	45(56%)	1.96	1	.16
	Female	46 (58%)	35(44%)			
Education	1 <sup>st</sup> -12 <sup>th</sup>	45 (56%)	54 (68%)	1.52	1	.22
	Above 12 <sup>th</sup>	35 (44%)	26 (32%)			
Religion	Hindu	56 (70%)	67 (84%)	2.77	1	.10
	Non-Hindu	24 (30%)	13 (16%)			
Residence	Rural	24(30%)	30(38%)	.71	1	.40
	Urban	56 (70%)	50(62%)			
Marital status	Married	32 (40%)	46 (58%)	3.24	1	.23
	Single	48 (60%)	34 (42%)			
Employment	Employed	29 (36%)	34 (42%)	.38	1	.54
	Unemployed	51 (64%)	46 (58%)			
Socioeconomic status	Higher	5 (6%)	0 (0%)	2.90	1	.23
	Middle	27 (34%)	26 (32%)			
	Lower	48 (60%)	54 (68%)			
Age (years)		26.18±5.48	28.24±7.15	1.61	98	.11

Fischer's exact test was applied where cell count was less than 5.

Table 1: Shows the comparison of patients of Acne with healthy controls on the basis of socio-demographic variables. Chi square test was done to assess the group differences in terms of socio-demographic characteristics like sex, education, religion, residence, marital status, employment, socio-economic status between patients with Acne and healthy controls. Independent t test was done to assess the group differences in terms of age.

Majority of patients with acne had mild to moderate severity with a mean Global Acne Severity (GEA) scores 2.58 ± 1.05.

**TABLE 2: Severity of skin lesions of patients with Acne using GEA scores:**

Variables	Groups	N	Mean (±SD)	Grades	n (%)
Global Acne Severity score	Acne	80	2.68 ± 1.05	Clear, no lesion	1(2%)
				Almost clear, almost no lesion	10(12%)
				Mild	27(34%)
				Moderate	26(32%)
				Severe	14(18%)
				Very severe	2(2%)

Table 2: Shows severity of skin lesions in patients with Acne by using GEA (Global Acne Severity) scores.

Results on comparing Anxiety (HAM-A) and Depression (HAM-D) scores between patients with acne and the control group showed statistically significant differences in both the groups with higher scores for both anxiety and depression in acne patients group than the control group.

**TABLE 3: Comparison of Anxiety (HAM-A) and Depression (HAM-D) scores between patients with acne and the control group:**

Variables	Acne Patients (N=80) (Mean ± SD)	Control Group (N=80) (Mean ± SD)	t (df=78)	p
Anxiety	14.78 ± 4.55	5.08 ± 1.75	12.58	<.001***
Depression	13.73 ± 3.10	3.70 ± 1.62	18.14	<.001***

\* p<.05; \*\* p<.01; \*\*\* p<.001

Table 3 shows comparison of Anxiety and Depression in acne patient group and Control group using independent t test on Hamilton anxiety rating scale (HAM A) and Hamilton rating scale for depression (HAM-D) scores respectively.

Significant positive correlation between severity of skin lesion (GEA) and anxiety (HAM-A), depression (HAM-D) scores was found in the patient group.

**TABLE 4: Correlation between severity of acne (GEA) and anxiety (HAM-A) and depression (HAM-D) in the patient group:**

		Depression	Anxiety
GEA scores	r	.427	.542
	p	.006**	<.001***

\* p<.05; \*\* p<.01; \*\*\* p<.001

TABLE 4 shows Pearson's correlation analysis of severity of acne with depression and anxiety.

**DISCUSSION:**

There has been concern for existence of mental disorders such as anxiety, depression in patients with acne vulgaris<sup>9</sup>. Studies done in past have suggested a significant association between acne and mental distress<sup>10</sup>. Current literature suggests that skin changes in acne are associated with changed body image, psychological distress, anxiety, social phobia, suicidal ideation and depression. However, Yazici *et al.* in their study on 61 patients with acne, using hospital anxiety and depression score (HADS) found that amount of anxiety and depression in patients group were as less as 0 and 7.9% respectively<sup>11</sup>.

Hence, the current study was planned on a larger sample population with matched healthy controls for better assessment of the same. Presence of psychological distress has been related to severity of acne in some studies<sup>12</sup>. However, in some other studies, no relationship between acne and anxiety has been seen and the severity of anxiety and depression was found not related to the severity of acne clinically<sup>13</sup>. The current study investigated the same using a better tool for assessing acne severity and found significant correlations of acne severity with both anxiety and depression severity.

Stress is said to have a role in exacerbations of acne<sup>14,15,16</sup>. Also, acne drug treatment can be associated with psychiatric side effects. Isotretinoin has been shown to be associated with depression in some studies<sup>17</sup> while others refute such findings<sup>18</sup>. On the other hand, psychotropic medications (such as antidepressants, antipsychotics and mood stabilizers) can also induce acne. Hence our study was done on drug free patients.

**CONCLUSION:** The results of this study highlight the importance of vigilant psychiatric assessment for patients with acne for early diagnosis and treatment of the associated psychiatric comorbidity.

**Financial support and sponsorship:** Nil

**Conflict of Interest:** None declared

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