



## Evaluation of Associated Anxiety and Depression in Patients with Acne Vulgaris: A Hospital Based Clinico-Epidemiological Study

**Dr Ajaya Kumar Jena**

Department of Skin & V.D, I.M.S & SUM Hospital, Bhubaneswar, Odisha, India

**Dr Surjeet Sahoo**

Department of Psychiatry, I.M.S & SUM Hospital, Bhubaneswar, Odisha, India

### ABSTRACT

**Aim:** To evaluate the association of anxiety and depression in patients of acne vulgaris and to study its clinico-epidemiological profile.

**Materials & Methods:** Patients of acne vulgaris visiting the out patients department of Skin & V.D of Institute of Medical Sciences & SUM Hospital from June 2015 to May 2016 were included in the study after following the requisite inclusion criteria. Then the patients were evaluated both by the dermatologist and psychiatrist for grading of acne and associated anxiety & depression respectively.

**Result:** Total of 248 acne patients was included in the study. Females outnumbered the males with a male to female ratio of 1.5:1(149:99). Majority of patients were in the age group of 10 to 20 years. Anxiety was associated with 80.24% of patients and depression was seen in 71.77% of cases.

**Conclusion:** Acne patients are found to have high association with anxiety & depression. But there is no relation between severity of acne with severity of anxiety & depression.

### KEYWORDS

Acne, Anxiety, Depression, Hamilton Rating Scale

### Introduction:

Acne is a common disorder of the pilosebaceous unit seen in adolescents & young adults in the age group of 15 to 25 years. As it involves the face, which has a great impact on visual appearance, acne can affect emotional, social, and psychological function. Psychological problems associated with acne are decrease in self-esteem, impaired overall perception of well-being and self image, embarrassment, fear of rejection, social withdrawal, anger, restrictions in lifestyle, problematic family relations, and excessive mental engagement in acne, depression, and anxiety (Deveci *et al.*, 2013). As many as 30-50% of the patients aged 12-30 years suffer from psychosomatic problems. According to Koblenzer (1986) it is an obsessive quality concern about skin integrity or impairment of the somatic perception, leading even to delusions. Longitudinal evaluation of psychometric outcomes has demonstrated that effective treatment of acne was accompanied by improvement in self-esteem, affect, obsessive-compulsiveness, shame, embarrassment, body image, social assertiveness, and self-confidence (Tan, 2004).

### Materials & Methods:

All the clinically diagnosed patients of acne vulgaris visiting the out patients department of dermatology at Institute of Medical Sciences & SUM Hospital, Bhubaneswar, Odisha from 21<sup>st</sup> June 2015 to 20<sup>th</sup> May 2016 were enrolled for the study. After obtaining the requisite written consent all the cases were evaluated as per the inclusion & exclusion criteria. Patients having concomitant dermatological, systemic & psychiatric disorders were excluded from the study. Also patients on systemic oral retinoid therapy either during or 4 weeks prior to the study were excluded from the study. After that the severity of acne was done as per the Global Acne Grading System and were categorized as mild, moderate and severe (Doshi A, Zaheer A, Stiller MJ, 1997). Then the patients were evaluated by the psychiatrist and the level of associated anxiety and depression were assessed using Hamilton Rating Scale (1959). Hamilton Anxiety Rating Scale (HAM-A) employs a 14 point parameter questionnaire where each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <17 indicates mild severity, 18-24 mild to mod-

erate severity and 25-30 moderate to severe. The Hamilton Depression Rating Scale (HAM-D) form lists 21 items; the scoring is based on the first 17 items. Eight items are scored on a 5-point scale, ranging from 0 = not present to 4 = severe. Nine are scored from 0-2. Sum of the scores from the first 17 items are considered for evaluation where a score below 7 is considered normal, a score of 8 to 13 is mild depression, 14 to 18 is moderate depression and score above 19 is considered severe depression. All the cases recruited were segregated into male and female groups. Each gender group was again divided into three groups as per their age (Group A; 10 – 19 years, Group B; 20 – 29 years and Group C; 30 – 39 years). All the data were analyzed and evaluated.

### Results:

A total of 248 patients were evaluated in this study out of which 149 (60.08%) were females and 99 (39.9%) were males with a male to female ratio of 1:1.50. Majority of the patients were between the age 10 – 19 years with 129 cases (52.01%). The next group were between 20 – 29 years with 96 cases (38.70%) followed by 30-40 years with 23 cases (9.27%).

**Table-1 (Gender and age group distribution of patients)**

Age group	Males	Females	Total
10-19 years	51	78	129 (52.01%)
20-29 years	39	57	96 (38.70%)
30-39 years	09	14	23 (9.27%)
Total	99 (39.9%)	149 (60.08%)	248 (100%)

Patients having anxiety was 199 (80.24%) out of which majority 178 (74.37%) patients were having mild grade of acne. Severe grade of acne were less in this study with only 12(6.03%) cases had anxiety. Among moderate grade of acne 39(19.6%) patients had anxiety. The severity of anxiety was moderate in majority of patients 96(48.24%) followed by mild degree of anxiety in 84(42.21%) patients and severe degree of anxiety in 19(9.54%) patients.

**Table-2 (severity of anxiety and acne in patients)**

Severity of Anxiety	Severity of Acne			Total
	Mild	Moderate	Severe	
Mild	67(33.6%)	70(35.1%)	11(5.5%)	148(74.3%)
Moderate	15(7.52%)	17(8.54%)	07(3.5%)	39(19.6%)
Severe	02(1.0%)	09(4.5%)	01(0.5%)	12(6.03%)
Total	84(42.21%)	96(48.24%)	19(9.54%)	199 (100%)

Total number of patients having depression was 178(59.67%) out of which 145(81.4%) had mild degree of depression followed by moderate depression in 27(15.1%) and severe depression in 06(3.4%) patients. Among the grades of acne, patients having mild acne 93(52.24%), followed by moderate 79(44.38%) and severe 06(3.37%) had varying degrees of depression.

**Table-3 (severity of depression and severity of acne in patients)**

Severity of Depression	Severity of Acne			Total
	Mild	Moderate	Severe	
Mild	79(44.3%)	64(35.9%)	02(1.12%)	145(81.4%)
Moderate	12(6.7%)	12(6.7%)	03(1.68%)	27(15.1%)
Severe	02(1.12%)	03(1.68%)	01(0.56%)	06(3.4%)
Total	93(52.24%)	79(44.38%)	06(3.37%)	178

**Discussion:**

Facial skin has a tremendous impact on the psyche of individuals especially in adolescence & young adults. The relationship between skin lesions and the mind has been established since long when Brocq and Jacquet first described neurodermatitis (Rubinow DR, Peck GL, Squillace KM, Gantt GG, 1987). The present study reveals that females are more affected than males in acne as well as anxiety and depression, which is in line with the findings of several other studies including a study by Behnam *et al* (2013). The higher incidence in females could be due to the fact that there is higher consciousness about face in females than to males. A study by Tadinac *et al* (2006) in patients with acne vulgaris there was no difference in the level of anxiety and depression by gender. This study shows no relationship between acne severity and HAM-A or HAM-D scores, which is consistent with many other studies (Yazici K *et al*, 2004). In our study, acne severity was defined only by physicians as per the global acne severity score and the score was higher in patients who either reported having diet as an aggravating factor or had diminished appetite. However, no significant relationship was noticed between a history of previous treatment and lower global acne grading system score or between a higher body mass index and higher global acne grading system score. However, there are other observations that point to a link between mental health problems and acne. First of all, according to Koo J (1995) acne is a visual condition and may therefore cause a variety of psychosocial effects such as decreased self-confidence, social impairment, depression and anger. Second, it is possible that mental health problems cause or increase acne. This is probably not as obvious, but there are several points that may support this view. Stressful events can exacerbate acne, as shown in several other studies (Chiu A, Chon SY, Kimball AB, 2003). In a study performed on 73 patients with mild to moderate acne and 48 healthy control subjects, where the study participants were evaluated with the LSAS (Liebowitz Social Anxiety Scale), significantly higher anxiety and avoidance scores were detected in acne patients (Öztürkcan S, Aydemir Ö, nanır I, 2002). A similar result was revealed in our study, and also a higher anxiety scores in patients with mild acne relative to cases of severe acne. Even though social concerns of patients with severe acne are more dramatically affected by the severity and persistence of lesions and by external appearance, their avoidance scores are identical to

those with mild cases of acne. This may be explained by social obligations and societal expectations. In addition, generally social anxiety and avoidance behaviors seen in acne patients can be explained especially by exaggeration of adverse effects of the disease on external appearance in adolescent acne patients when compared with the healthy group. According to Tadinac *et al*, 2006) nearly 80% of adolescents with acne vulgaris develop anxiety. Also Yazici, *et al* (2004) reported that patients with acne showed a higher degree of anxiety and depression compared to other dermatological diseases, even in comparison to patients with cancer.

**Conclusion:**

Although dermatologic disorders are not life threatening they can alter the appearance of the patient and may therefore affect one's psychosocial status, relationships, daily activities, and quality of life as much as severe systemic diseases, regardless of the clinical severity of the dermatologic disorders. In particular, in young patients with acne vulgaris, the risk of anxiety and depression, and therefore suicidal tendencies, is said to be increased. Therefore identifying the symptoms of early anxiety and depression is extremely important in order to address the issue and also to institute appropriate treatment modalities so as to treat the patients on a more holistic way. Many a time we treat only the physical lesion of acne what we visualize unaware of the invisible lesion which is present in the mind of the patients. So ideally treatment for acne as well as anxiety & depression should be administered where there is definite association of both the conditions.

**Conflict of interest: Nil****References:**

- Behnam B, Taheri R, Ghorbani R, Allameh P (2013). Psychological impairments in the patients with acne. *Indian J Dermatol*, **58**, 26-9.
- Chiu A, Chon SY, Kimball AB (2003). The response of skin disease to stress: changes in the severity of acne vulgaris as affected by examination stress. *Arch Dermatol*, **139**,897-900.
- Deveci E, Öztürk A, Kirpınar , Engin R , Meliko lu M, Sakat SC (2013). Improvement in Attention and Executive Functions During Isotretinoin Treatment in Patients With Acne. *Turkderm*, **47**, 109-113.
- Doshi A, Zaheer A, Stiller MJ (1997). A comparison of current acne grading systems and proposal of a novel system. *Int J Dermatol*, **36**,416-8.
- Hamilton M. The assessment of anxiety states by rating (1959). *Br J Med Psychol*,
- Koblenzer CS. Successful treatment of a chronic and disabling dermatosis by psychotherapy (1986). *J Am Acad Dermatol*, **15**,390-3.
- Koo J (1995). The psychosocial impact of acne: patients' perceptions. *J Am Acad Dermatol*, **32**, S26-S30.
- Öztürkcan S, Aydemir Ö, nanır I (2002). Akne vulgarisli hastalarda ya am kalitesi. *Türkiye Klinikleri Dermatoloji Dergisi*, **12**, 131-4 (in Turkish).
- Rubinow DR, Peck GL, Squillace KM, Gantt GG (1987). Reduced anxiety and depression in cystic acne patients after successful treatment with oral isotretinoin. *J Am Acad Dermatol*, **17**, 25-32.
- Tadinac M, Joki Begi N, Hromatko I, Kotrulja L, Lauri-Korajlija A(2006). *Kroni na bolest, depresivnost I anksioznost. Socijalna psihijatrija*, **34**,169-74.
- Tan JK. Psychosocial impact of acne vulgaris (2004). *Skin Therapy*, **9**, 1-39.
- Yazici K, Baz K, Yazici AE, et al (2004). Disease-specific quality of life is associated with anxiety and depression in patients with acne. *J Eur Acad Dermatol Venereol*, **18**, 435e9.