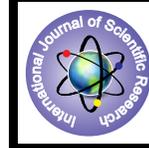


Study to Assess Role of Stress & Incidence of Depression in Patients of Acne



Medical Science

KEYWORDS : Acne, Stress, Depression

Dr Swati Joshi

Associate Professor of psychiatry, MIMER Medical college, Talegaon Dabhade, Pune, Maharashtra

Dr Rohini P. Gaikwad

Professor of Dermatology, MIMER Medical college, Talegaon Dabhade, Pune, Maharashtra

Dr Ashish Ubhale

Assistant Professor of psychiatry, MIMER Medical college, Talegaon Dabhade, Pune, Maharashtra

ABSTRACT

Acne vulgaris is a chronic inflammatory disease of the pilosebaceous gland that commonly presents during adolescence. Emotional stress causes exacerbation of acne. Psychological disorder like depression is common in patients of Acne. Aim: To know the role of stress and to find out incidence of depression in patients suffering from acne.

Method: This was a cross sectional, single assessment study of Acne & control.

Results: Significant difference was found in incidence of depression between Acne patients (36.36%) & control group (6.66%). In the age group of 15-21years 35.5% of acne patients had depression compared to the controls in the same age group in whom it was 6.25%(z=2.62). Similarly a significant difference was noted in the age group of 29-35years where 100% of acne had depression compared to 33.3% in the control group. (z=7.74) Female acne patients suffer from depression more than control group. Depression was more prominent in female acne patients compared to male acne patients. Life event score was more than 150 in 77.77% of depressed Acne patients as compared to none patient in depressed control group. The difference was statistically significant.

Conclusions: Present study confirms the previous findings of depression in Acne patients. Female acne patients suffer from depression more than male. Stress definitely plays role in exacerbation of Acne.

Acne vulgaris is an inflammatory disorder of the pilosebaceous unit (1), characterized by faulty keratinization of the follicular epithelium, hyperandrogenism and infection by Propionibacterium acne. It affects at least 85% of adolescents and young adults. The role of emotional stress in exacerbation of acne has been well known, the latent period of which is as early as two days. Acne can lead to psychological and emotional distress, the underlying mechanism being increased release of glucocorticosteroids and androgens (2). The presence of acne can negatively affect quality of life, self-esteem, and mood in adolescents. Studies have shown that acne patients show more emotional disability than patients with asthma, epilepsy, back pain, arthritis. Acne is associated with an increased incidence of anxiety, depression, and suicidal ideation (5,6,7,8,9,10). The presence of these and other co-morbid psychological disorders should be considered in the treatment of acne patients when appropriate. Aims and objectives: The aim of current cross sectional study was to know the role of stress and to find out incidence of depression in patients suffering from acne.

Material and Method

The study was designed to assess the role of stress and incidence of depression in patients suffering from acne. This was a cross sectional, single assessment study. It was conducted at tertiary hospital in Maharashtra.

All patients of Acne more than 15years of age attending dermatology OPD and willing to give informed consent were enrolled in this study. After collection of socio demographic data, detailed dermatological assessment was done with grading of acne using a simple grading system as follows (3).

- Grade 1 - comedones, occasional papules
- Grade 2 - papules, comedones, few pustules
- Grade 3 - predominant pustules, nodules, abscesses
- Grade 4 - mainly cysts, abscesses, widespread scarring.

Similar number of age and sex matched controls devoid of acne and willing to participate in the study were enrolled. The patients of acne and the controls were asked to see a psychiatrist for detailed psychiatric evaluation. ICD 10 criteria (4) were used for assessment of Depression. To know the severity of depression Hamilton Depression Rating Scale (HDRS) (5) was used. Holms & Rahe social readjustment rat-

ing scale (6) was used to assess role of stress, in which life events were noted. Life events score less than 150 indicate slight risk of illness, 151 – 299 indicate moderate risk of illness & >300 high risk of illness.

Patients having known case of psychiatric illness & those not willing to consent for the study were excluded from the study.

Results:

A total of 30 patients of Acne and similar number of age and sex matched controls were chosen for the study from the patients attending the dermatology outpatient department in a tertiary care hospital.

Out of 30 Acne patients 11(36.66%) patients had HDRS score more than 7 suggesting Depression while 2(6.66%) patients in the control group had HDRS score more than 7 suggesting Depression. The difference was statistically significant (z value=2.57).

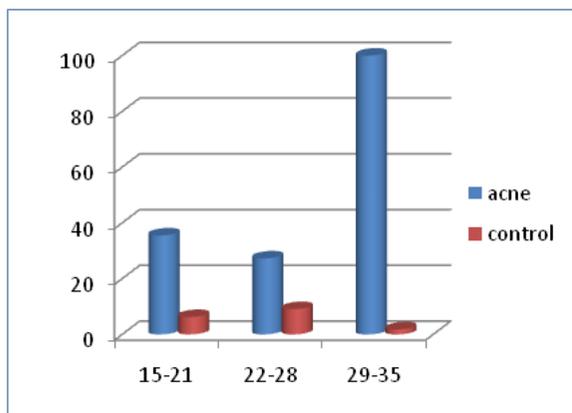
Table 1: Acne and Control showing HDRS score

	Acne	Control
HDRS < 7	19	25
HDRS > 7	11	05
Total	30	30

The mean age of patients with acne was 21.967 with SD 5.242 and that of control was 21.9(SD = 4.809).

On comparing the HDRS of acne patients with the control of same age group the difference was found to be statistically significant as shown in figure 1.

Figure 1: Comparison of depression in acne and control in various age groups



It was noted that 35.5% of acne patients in the age group of 15-21years had depression as compared to the controls in the same age group in whom it was 6.25%(z=2.62). The difference was statistically significant. Similarly a significant difference was noted in the age group of 29-35years where all 3 patients (100%) of acne had depression as compared to 1 case among three (z=7.74) in the control group.

Amongst the 13 male acne patients 2(15.38%) were suffering from depression & 1 out of 13 control group male patients (7.69%) were suffering from depression. The difference was not statistically significant (z=0.939336).

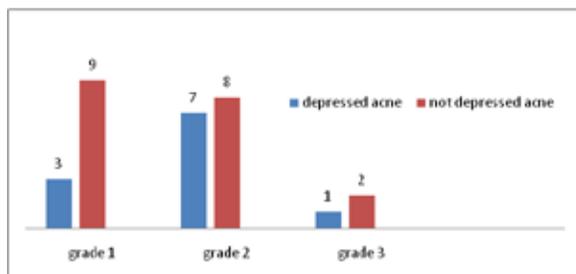
Out of 30 Acne patients 17 were females. Depression was found in 9(52.94%) of them. Among the 17 females in the control group 2 females had depression (z = 3.796283).

Life event score was more than 150 in 77.77% of depressed Acne patients as compared to none in depressed control group. The difference was statistically significant (Z=10.24695). It was noted that in19.05% of depressed acne patients life events score was less than 150 as compared to the depressed controls in whom it was 12%(z=0.757334).

Table 2: Comparison of depression in acne and controls

	Depressed Acne	Not Depressed Acne	Depressed Control	Not Depressed Control	Z value
Age 15-21yrs	5	11	1	15	2.618615 significant
Age 22-28yrs	3	8	1	10	1.878673 Not significant
Age 29-35yrs	3	0	1	2	7.745967 significant
Sex - male	2	11	1	12	0.939336 Not significant
Sex - female	9	8	2	15	3.796283 significant
LE Score <150	4	17	3	22	0.757334 Not significant
LE Score >150	7	2	0	5	10.24695 significant

Figure2: Incidence of Depression according to grade of Acne



Out of 30 Acne patients 10 were depressed amongst which 3 had grade 1acne, 7 had grade 2 acne and 1patient had grade 3 acne. The difference was not statistically significant for prevalence of depression in various grades of Acne (Chi square 0.955).

Discussion:

Many studies prove that dermatology patients experience more psychological symptoms compared to healthy people without dermatological problems. In our study the incidence of depression in Acne was 36.66% which is comparable to other studies. In a study by Gupta et al (7) 33.3% of acne were having clinical depression. Hughes et al (8) showed the incidence of depression was 30% in outpatient Acne cases. A study by Yazici et al (9) found the incidence of depression in Acne patients to be 29.5% but Niemerer et al (10) and other studies (11,12,13) disagree with the results of increase incidence of depression in Acne as compare to healthy controls. In our study incidence of depression was significant in 15-21 yrs & 29 - 35yrs age group. Significant difference of occurrence of depression was found between female acne cases and control group. Our study results indicate that female acne patients (52.94%) suffer more from depression as compared to males acne patients (15.38%) which may be due to females being more concerned & conscious about their cosmetic appearance. Some studies reported that anxiety and depression are not correlated with age and sex (9) but other studies reported that anxiety & depression were more prevalent in female acne patients (13,14,15,16,20).

Our study does not show any difference in depression in relation to grade of Acne. However large sample size is required for to confirm this finding. This may be due to patient’s perception about the disease & personality traits. Further studies are required to assess the role of personality, attitude & perception of illness. Similar results were found in Yazici, Aktam & Niemerer study (9,10). Our study indicates that those patients exposed to stressful life events are prone for developing illness (2).

The current study has limitation due to small sample size, cross sectional study. We have not evaluated personality traits and perception of patients about illness which might have exacerbated the depression.

Conclusion

Present study confirms the previous findings of depression in Acne patients. Female acne patients suffer from depression more than male. Stress definitely plays role in exacerbation of Acne.

Acknowledgement: We sincerely thanks statistician Mrs. Swati Rajee for helping us in statistical analysis.

REFERENCE

- 1) Layton AM. Disorders of sebaceous glands. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. *Rook's Textbook of Dermatology*. 8 th ed., Vol. 42. Oxford: Wiley-Blackwell publication; 2010. p. 1-89 | 2) Schulpis K, Georgala S, Papakonstantinou ED, Michas T, psychological and sympathoadrenal status in patients with cystic acne. *J Eur Acad Dermatol Venereol*, 1999, Jul;13(1):24-7 | 3) Adityan B, Kumari R, Thappa DM. Scoring systems in acne vulgaris. *Indian J Dermatol Venerol Leprol* 2009;75:323-6. | 4) The ICD 10 classification of Mental and Behavioral Disorder | 5) Hamilton depression rating scale (HDRS) Hamilton M – A rating scale for depression, *J Neurology Neurosurgery Psychiatry* 1960; 23:56-62 | 6) The Social Readjustment Rating Scale Holms TH, Rahe RH (1967) *J Psychosom Res* 11(2): 213-8 | 7) Gupta M A, Gupta A K, Schork NJ et al, Psychiatric aspects of treatment of mild to moderate facial acne. *Int. J Dermatol*, 1990, 29: 719-721. | 8) Hughes JE, Barraclough BM, Hamblin LG, et al. Psychiatric symptoms in dermatology patients. *Br. J psychiat.* 1983; 143:51-54 | 9) Yazici K, Baz K, Yazici AE, Köktürk A, Tot S, Demirseren D, et al. Disease-specific quality of life is associated with anxiety and depression in patients with acne. *J Eur Acad Dermatol Venereol* 2004;18:435- 9 | 10) Niemeier V, Kupfer J, Demmelbauer – Ebner M et al. Coping with acne vulgaris: evaluation of the chronic skin disorder questionnaire in patients with acne. *Dermatology*. 1998;196:108-115 | 11) Rehn LM, Meririnne E, Höök-Nikanne J, Isometsä E, Henriksson M. Depressive symptoms, suicidal ideation and acne: A study of male Finnish conscripts. *J Eur Acad Dermatol Venereol* 2008;22:561- 7 | 12) Behnaz Behnam, Ramin Taheri, Raheb Ghorbani, Peyvand Allameh, Psychological impairments in the patients with acne. *Indian J of dermatology*, 2013, vol 58, Issue 1, page:26-29 | 13) Aktan S, Özmen E, Sanli B. Anxiety, depression, and nature of acne vulgaris in adolescents. *Int J Dermatol* 2000;39:354-7. | 14) Kellett SC, Gawkrödger DJ. The psychological and emotional impact of acne and the effect of treatment with isotretinoin. *Br J Dermatol* 1999;140:273-82. | 15) Lasek RJ, Chre MM. Acne vulgaris and the quality of life of adult dermatology patients. *Arch Dermatol* 1998;134:454-8. | 16) Tasoula E, Gregoriou S, Chalikias J, Lazarou D, Danopoulou I, Katsambas A, et al. The impact of acne vulgaris on quality of life and psychic health in young adolescents in Greece. Results of a population survey. *An Bras Dermatol* 2012;87:862-9. | 17) Pearl A, Arroll B, Lello J, Birchall NM. The impact of acne: A study of adolescent's Attitudes, Perception and Knowledge. *N Z Med J* 1998;111:269-71. | 18) Polenghi MM, Zizak S, Molinari E. Emotions and acne. *Dermatol. Psychosomatics* 2002;3:20-5 | 19) Grahame V, Dick DC, Morton CM. The psychological correlates of treatment efficacy in acne. *Dermatol Psychosomat* 2002;3:119-25 | 20) Kellett SC, Gawkrödger DJ. The psychological and emotional impact of acne and the effect of treatment with isotretinoin. *Br J Dermatol* 1999;140:273-82. |