Egyptian Dermatology Online Journal
Volume 10 Number 2

Hospital based comparative study of anxiety and depression in adolescents with or without acne vulgaris

Dinesh Hinge, Nidhi Yadav, Sumit Kar, Bhushan Madke, Neha Singh and Ajay Krishnan

Mahatma Gandhi Institute of Medical Sciences, Sewagram, Maharashtra, 442102

Egyptian Dermatology Online Journal 10 (2): 3, December 2014

Corresponding author: Dr. Dinesh Hinge
E-mail: dineshhingemgims@gmail.com

Abstract

Acne vulgaris is a very common problem of adolescents. It is well known, easily recognizable, physiological process but is better regarded as a disease due to its inflammatory component. It causes disfigurement on the face, which is socially and psychologically the most important body region. This disfigurement leads to a greater psychological burden than a variety of other chronic diseases. Patients with severe acne and scarring have demonstrated a wide range of psychological abnormalities including depression, suicidal ideation, anxiety, psychosomatic symptoms(pain and discomfort), embarrassment, body dysmorphic disorder and social inhibition. We conducted a cross sectional case control study which included 50 cases and 50 controls in our Department of Dermatology, Venereology & Leprosy of a rural based tertiary hospital. Patients were asked to answer the preformed questionnaires according to Hospital Anxiety and Depression scale (HADS). Statistical analysis was done using EPI 6 Info software. By doing such study in adolescents in rural based tertiary hospital we know the actual incidence of these symptoms in acne patients and accordingly manage the condition. We found acne vulgaris to be the most common physiological condition in adolescents. It can be concluded from this study that acne is likely to be associated with anxiety and depression.

Introduction

Acne vulgaris is commonly seen in teens1. It is a well-known, easily recognizable, physiological process but is better regarded as a disease due to its inflammatory component. It causes disfigurement on the face, which is socially and psychologically the most important body region. Thus, this disfigurement leads to a greater psychological burden than a variety of other chronic diseases. Patients with severe acne and scarring have demonstrated a wide range of psychological abnormalities including depression, suicidal tendency, anxiety,

psychosomatic symptoms (pain and discomfort), embarrassment, body dysmorphic disorder, and social inhibition.2

In some studies, increase in prevalence of anxiety in patients with acne and positive relationship between severity of anxiety and severity of acne are reported3. However, in some other studies, no relationship between acne and anxiety is seen or the severity of anxiety and depression was not related to the severity of acne clinically4. Some studies reported that anxiety and depression are not correlated with age and sex3,4 but other studies reported that these disorders are more prevalent in women5. Depression is a multifactorial disorder and both acne and psychiatric disorders6, often affect people in the 15-24 years age group. Eighty-five to 90% of adolescents and young adults have some degree of acne.

The main goal of acne treatment is to prevent physical scarring by limiting the number of lesions and the duration of the disease, thereby minimizing its psychological impact7. Acne has a demonstrable association with depression and anxiety; it affects personality, emotions, self-image and esteem, feelings of social isolation and the ability to form relationships8.

Acne is a chronic inflammatory disease of the pilosebaceous unit. It is characterized by seborrhoea, formation of comedones, erythematous papules and pustules, less frequently by nodules and deep pustules or pseudocysts and in some cases is accompanied by scarring9.

Subjects and Methods

This was a cross sectional study to determine the incidence of anxiety and depression in adolescents with or without acne vulgaris which included 50 cases and 50 controls, who were the patients attending the skin Outpatient department of our hospital. Clearance from institutional ethical committee (IEC) was taken for research on human subjects. Informed consent of study subjects was also taken. The study was conducted over a period of two months from June to July 2012.

Inclusion criteria

A) for cases :

1) Patients with active acne lesions

2) Those who were willing to give consent for study.

3) Patients belonging to adolescent age group both male and females (12 to 21 years)

B) for controls:

1) Adolescents without acne vulgaris

2) Those who were willing to give consent for the study.

Exclusion criteria

1) Subjects with history of a known mental disorder

2) Subjects with somatic diseases such as heart, pulmonary and joint diseases, diabetes and epilepsy that affect their mental condition

3) Subjects who used topical or systemic medicines disposing acne during one month before enrolling in the study.

Grading for acne was done according to Pillsbury classification as follows:

Grade-I (mild)-comedones and occasional papules.

Grade II (moderate)- comedones and many papules and few pustules.

Grade III (severe)-predominantly pustules , nodules and abscesses.

Grade IV (very severe)-mainly cyst or abscesses and widespread scarring.

Patients were asked to fill the demographic data on their own or it was to be filled by the investigator which included name, age, gender, education, religion, occupation, address and whether a resident of rural or urban area. In the cases we asked about site of acne like face, chest, back or the acne present over more than one site over the body and formulated the data for study in various grades like Grade I, Grade II, Grade III, Grade IV according to Pillsbury classification.

Anxiety and depression were measured by the preformed hospital anxiety and depression scale (HADS). In this scale, subjects (cases & controls) were asked to choose one response from the four choices given for each question. They were asked to give an immediate response and were dissuaded from thinking too long about their answers. The questions relating to anxiety were marked as "A" and to depression as "D". The score for each answer was given in the right column. Instructions were given to the subjects to answer according to their current feelings. The statistical analysis was done using EPI 6 INFO software.

Results

In this study, a total 100 subjects were taken, out of which 50 were labelled as 'cases' and 50 as 'controls'. Out of the 50 cases, 24 were males and 26 females; compared to controls which consisted of 16 males and 34 females.

As our tertiary hospital is situated in a rural area, most of the patients visiting our OPD belonged to rural population. On interpreting the data collected during our research, we found that 66% of cases were from rural background; while it measured 62% in terms of controls.

The cases and controls who participated in our study belonged to the age group of 13 to 21 years. In our study, patients were taken from the routine OPD conducted by department of Dermatology, Venereology and Leprosy. Out of the total patients most were educated up to 12thstd and above. The controls were taken from college itself and friends/relatives accompanying the patients.

In our study, subjects from different religions were included viz. Hindu, Muslim & Buddhist and most of them belonged to Hindu community. There was no statistically significant

relationship found between anxiety &depression in subjects with different religions. The majority of the patients were students which contributed to our study.

The active lesions of acne vulgaris most commonly present on the face, chest, back, upper arm and at a time they can occur at different sites. Our study came up with face being most common site as seen in 80% of the cases. Acne vulgaris is graded according to "Pillsbury classification of Acne Vulgaris" as grade I, grade II, grade III, & grade IV. Most of the cases belonged to grade I which accounted for 62% and grade II comprised of 30% patients. There is a clear indication of predominance of anxiety & depression in respective increasing grades of acne vulgaris. As is shown in **table 1**.

Grade of acne	Frequency in cases
Grade I	31
Grade II	15
Grade III	3
Grade IV	1
Total	50

Table 1

After filling up of pre modulated questionnaires by cases and controls, we calculated the anxiety and depression score . On categorizing anxiety in terms of cases: 70% cases were normal having 0-7 score, 20% were borderline abnormal (8-10 score) and 10% having abnormal anxiety level. In relation to controls, we found that 80% individuals had normal anxiety level; 18% were borderline abnormal and only 2% individuals were abnormal. As is shown in **table 2**.

Anxiety scoring	Study type and Frequencies	
(As)	Cases	Controls
Normal (0-7)	35	40
Borderline abnormal(8-10)	10	9
Abnormal (11-21)	5	1
Total	50	50

Table 2

After filling up of pre modulated questionnaires by cases and controls we calculated the anxiety and depression score. On categorizing anxiety in terms of cases: 60% cases were normal having 0-7 score, 32% were borderline abnormal (8-10 score) and 8% had abnormal depression level. In relation to controls, we found that 84% individuals had normal depression level; 14% were borderline abnormal and only 2% individuals were abnormal. As shown in the following **table 3**.

Depression scoring(Ds)	Study type and Frequencies	
	Cases	Controls
Normal (0-7)	30	42
Borderline abnormal (8-10)	16	7
Abnormal (11-21)	4	1
Total	50	50

Table 3

Discussion

Acne vulgaris is the most common condition in adolescent age group. The disfigurement caused by acne and its relapsing course leads to certain psychological symptoms leading to low self-confidence. In this study, done in rural based tertiary hospital we demonstrated that the actual incidence of these symptoms in acne patients was 20% (10 patients.) borderline abnormal and 10% (5pts.) had abnormal anxiety level. And depression was also more prevalent in acne patient with 32% being borderline abnormal and 8% had abnormal depression level. It can be concluded from this study that acne is likely to be associated with anxiety and depression.

Acknowledgement

With a deep sense of gratitude I would like to thank ICMR for their help and encouragement. This study was conducted under ICMR-STS-2012 project

References

1. Tutakne MA, Vaishampayan SS, in IADVL textbook of dermatology, 3rd ed.2008;839

2. Tan JK. Psychological impact of acne vulgaris.Skin Therapy. 2004;9:1-39

3. Wu SF, Kinder BN, Trunnell TN, Fulton JE. Role of anxiety and anger in acne patients: A relationship with the severity of the disorder. J Am AcadDermatol. 1988;18:325-32. [PubMed]

4. 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 EurAcadDermatol Venereol.2004;18:435-9. [PubMed]

5. Kellett SC, Gawkrodger DJ. The psychological and emotional impact of acne and the effect of treatment with isotretinoin.Br J Dermatol. 1999;140:273-82. [PubMed]

6. Reinherz HZ, Giaconia RM, Lefkowitz ES, et al. Prevalence of psychiatric disorders in a community population of older adolescents. J Am Acad Child Adolesc Psychiatry 1993; 32: 369-377.

7. Healy E, Simpson N. Acne vulgaris. BMJ 1994; 308: 831-833.

8. Kellett SC, Gawkrodger DJ. The psychological and emotional impact of acne and the effect of treatment with Isotretinoin.Br J Dermatol.1999; 140:273-82.

9. Bum T, Breathnach S, Cox N, Griffiths C. in Rook's Textbook of Dermatology, 17th ed. volume 3. page no.43.15,