

Anxiety State and ITS Psychosocial Consequences among Acne Vulgaris and Chronic Urticaria Patients in Abuja

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Abstract

BACKGROUND/OBJECTIVE: the skin defines the essence of beauty and overall perceived attention within a social context. As such, there is a relationship between skin diseases and the extent of provoked emotional psychological disturbances and social concern that the sufferers do have. This study therefore seeks to ascertain levels of anxiety and their psychosocial consequences among sufferers of acne vulgaris and chronic urticaria in dermatological outpatient in Abuja-Nigeria.

MATERIALS/METHODS: this study was a prospective, cross sectional study carried out on consecutive consented dermatological outpatients who had acne vulgaris (N = 62) and chronic urticaria (N = 31) over a period of nine months (June 2013-February 2014) and 50 apparently healthy control matched for age and sex were recruited into the study. Diagnosis of acne vulgaris and chronic urticaria were clinically made. Questions on State Trait Anxiety Index STAI (Y-1) form were used to determine their present feelings and level of perceived anxiety within the society as a result of acne vulgaris and chronic urticaria. Total STAI score greater than 54 suggests severe level of anxiety and univariate analysis of variance was used to determine relationship between anxiety and its social consequences. Data was keyed into and analysed with SPSS 20.

RESULTS: ratio of male: female for subjects is 1:1.9 and 1:1.3 for controls while mean age in years \pm Standard Deviation (SD) for subjects and controls were $29.02 \pm (9.2)$ and $28.42 \pm (8.3)$ respectively. There was sex and age match between subjects and controls. Also, there was observable moderate to severe anxiety among those that had acne vulgaris and chronic urticaria as compared to apparently healthy controls. Low self-esteem, inferiority complex, lack of self-confidence, and social withdrawal, were among the common social reactions noticeable among the subject group. Mean STAI score \pm s.e (standard error) of subjects was significantly higher than that of the controls 49.7 ± 0.788 and 33.9 ± 1.255 respectively at t-test = 11.2 and p = 0.0001.

CONCLUSION: acne vulgaris and chronic urticaria was highly associated with moderate to severe anxiety with attending social reactions when compared to apparently healthy controls.

Keywords: anxiety, social reactions, acne vulgaris, chronic urticaria, STAI

1. Introduction

There is a growing awareness and understanding that skin diseases provoke a lot of emotional psychological and social concerns in the sufferers. This is because the skin compliments human characters and conduct to defining personality of the individual and perceived threats or irritation which opens them up to worries, anxiety, depression or suicidal ideation (Koo, 1995; Mallon, et al., 1999; Ukonu & Ezechukwu, 2012).

The psychological effects of acne vulgaris was first recognised when Sulzberg and Zaidens wrote and asserted that there is no single disease which causes more psychic trauma and maladjustment between parents and children, more insecurity and feelings of inferiority than that of acne vulgaris (Sulzberger & Zadiens, 1948). Acne vulgaris has a demonstrable association with depression and anxiety. It affects personality, emotions, self-image and esteem, feeling of social isolation and ability to form relationships (Lasek & Chren, 1998; Mallon et al., 1999). Acne vulgaris is characterized by non-inflammatory, open or closed comedones and by inflammatory papules, pustules, and nodules. Acne typically affects the areas of skin with dense populations of

sebaceous follicles for example, the face, upper chest, back and shoulder. Local symptoms of acne vulgaris may include pain tenderness or erythema. Severe acne with associated systemic signs and symptoms such as fever is referred to as acne fulminans. While severe acne with multiples comedones without systemic symptoms is known as acne conglobata. These severe forms of acne frequently heal with disfiguring scars like hypertrophic scars or atrophic scars (Ice pick scars, rolling scars or boxcar scars). Additionally, acne vulgaris may have a psychological impact on any patient regardless of the severity or the grade of the disease (Kellett & Gawkrödger, 1999; Dawson & Dellavalle, 2013; Barnes et al., 2012). Though, we often think that adolescents are more influenced by psychological effects of acne vulgaris, older patients are more bothered by appearance of acne vulgaris and consequently report more effects on their daily lives such as social anxiety, avoidance of activities that bring attention to their condition, embarrassment, poor interpersonal relationship and poor self-image (Layton, 1998; Van der Meeren, Van der Schaar, & Van der Hurk, 1985; Magin et al., 2006; Loney, Standage, & Lewis, 2008; Ogedegbe & Hensaw, 2014; Durai & Nair, 2015).

Rees (1957) reported an association between urticaria and emotional stress and further emotional tensions could lead to fatigue and social isolation in about 20% of sufferers of urticaria. Patients with urticaria may have symptoms of pruritus, wheals (edematous, erythematous central clearing papules or plaques) and swelling of mucous membrane when it co-exists with angioneurotic edema (Kaplan, 2002). Other psychological symptoms may include depression and anxiety and; severity of pruritus appears to increase as depression worsens (Juhlin, 1981; Finlay, 2000). Generally, patients with skin disorders tend to avoid social company in order to prevent public ridicule and rejection. Such social consequences by patients make it difficult to verbally reassure them or demonstrate physical overtures of love and affection (Shiro & Okumura, 1994; Wittkower, 1953; Gupta et al., 1994).

The World Health Organisation lists quality of life as individuals' perception of their position in life, in context of cultural and value system in which they live and in relation to their goals, expectations, standards and concerns (WHO, 1997; Mallon et al., 1999). Chronic and debilitating skin disorders can have negative consequences on one's quality of life, thereby affecting their physical, functional and emotional well-being. For example, what one considers a minor case of acne vulgaris can affect the patient's ability to sleep, or go to school, work or social integration (Sprangers et al., 2000; Yentzer et al., 2010). Indeed, various skin diseases do cause variable degrees of physical and psychological discomfort of which anxiety is very prominent among them. This study would be evaluating the anxiety state and social consequences among acne vulgaris and chronic urticaria sufferers. The authors through this research seek to evaluate the level of anxiety state and psychosocial reactions among acne vulgaris and chronic urticaria sufferers, then compare such with the healthy population. The findings would help to generate a local data which is not available in our locale and also buttress the need to adequately equip our psychodermatology department not only in our institution but other sister' health facilities.

2. Materials and Methods

This study was a prospective, cross sectional study carried out on consecutive consented dermatological outpatients who had acne vulgaris and chronic urticaria over a period of nine months spanning from (June 2013-February 2014). Participants were recruited based on their consent after due explanation of what the study was all about. Patients who had previously been diagnosed with acne vulgaris and chronic urticaria and were on medication were excluded from the study. This is because those patients would have benefitted from the researchers counselling sessions, hence, their response might be biased. In addition, those who had symptoms of urticaria (itching, erythematous central clearing, edematous wheals) for more than six weeks were recruited and those less than six weeks were excluded. Other exclusion criteria included patients that have other medical co-morbid conditions (retroviral disease, diabetes mellitus, asthma and, those on steroid therapy. Within this period, a clinical diagnosis of acne vulgaris and chronic urticaria were made in ninety three subjects. Acne vulgaris accounted for sixty two of the subjects and chronic urticaria thirty one respectively. A sex and age matched control group of fifty apparently healthy people were also recruited.

A socio-demographic data was obtained with a one page questionnaire having being administered to the respondents' to obtain their bio data. Furthermore, a self-evaluation questionnaire STAI Form Y-1 was administered to each member of the recruited subject and control group respectively. The State Trait Anxiety Index (STAI) is a psychological inventory assessment based on 4 point Likert scale and consists of 40 questions on a self-report basis. This inventory that is made up of 40 questions, distinguishes between a person's state anxiety and their trait anxiety.

The forms of anxiety were separated in the inventory, and both were given as 20 separate questions. When participants rated themselves on these questions, they were given a 4 point frequency scale. Form Y-1 contains

20 self-descriptive statements to which subjects responded by the intensity of their social reaction. The score ranged from 20-80 and the scale produced a measure of anxiety, more independent of depression.

Low scores indicated a mild form of anxiety while a higher score suggested greater anxiety. A cut off point of 39-40 had been suggested to detect clinical significant symptoms for the S-Anxiety scale. However, other studies had suggested a higher cut off score of 54-55 for older adults (Spielberger, Gorsuch, & Lushere, 1987; Knight, Waal-Manning, & Spears, 1983; Addolorato et al., 1999; Kvaal et al., 2005). Meanwhile, a cut off point of 35-44 was regarded as mild anxiety state; 45-54 was regarded as moderate anxiety state while scores 55 and above were considered as severe anxiety state. Those whose scores fell below 35 were considered as not having any form of anxiety. However, to the authors' knowledge, there is no known cut off point that has been validated for skin diseased populations.

The scores generated from the Y-1 Form (S-Anxiety) in both subjects and control groups were keyed into and analysed with IBM SPSS 20. Statistical measures used are frequencies, mean scores, independent t-test to test equality of means scores between the subject group and the control group, also, univariate analysis of variance to access anxiety and social activity consequences of acne vulgaris and chronic urticaria.

3. Results

Ninety three subjects with different forms of acne vulgaris and chronic urticaria and fifty control group free of dermatological conditions were recruited into the study. The mean age in years \pm SD (range) for subjects is 29.02 ± 9.2 (36) and 28.42 ± 8.3 (32) for controls; t-test value = 0.897; degree of freedom (df) = 141 and $p = 0.38$, depicts no statistical significant difference in the age distribution of subjects and controls. Ratio of male to female for subjects 1:1.9 and 1:1.3 for controls. Chi square $X^2 = 1.27$; df = 1 and $p = 0.28$ indicates that there was sex match between subjects and controls.

Total number of 93 subjects had overall mean STAI score of 49.7 ± 0.788 standard error (s.e) and a range of (36-70) 34 while total number of 50 controls had mean STAI score of 33.9 ± 1.225 s.e and a range of (20-55) 35. T test was conducted to determine if the mean scores were equal. From the result, t test = 11.2; df = 141; $p = 0.0001$ was gotten from the data. Therefore we infer that mean STAI score of the subject group was significantly higher than that of the controls. Therefore there is statistically significant difference in the mean STAI score of the control group and that of the subject group. The mean STAI score of 49.7 indicates that the subject group on the average had moderate to severe anxiety, whereas the control group with a mean STAI score of 33 depicts that averagely they had no anxiety.

Table 1. STAI Mean scores and standard deviation (SD) of both subjects and controls by demographic factors

Demographic factor	Subject Mean STAI score \pm (SD)	Control Mean STAI score \pm (SD)
<u>SEX:</u>		
Male	49.9 \pm (7.2)	35.9 \pm (8.5)
Female	49.5 \pm (7.9)	32.3 \pm (8.6)
<u>AGE GROUP:</u>		
≤ 24 years	49.6 \pm (8.5)	32.7 \pm (9.1)
25-34 years	49.9 \pm (7.4)	34.7 \pm (7.8)
35-44 years	49.5 \pm (8.0)	34.2 \pm (7.2)
45-54 years	49.4 \pm (4.1)	36.6 \pm (11.9)
<u>MARITAL STATUS:</u>		
Single	50.5 \pm (8.0)	33.9 \pm (8.4)
Married	48.2 \pm (6.9)	33.9 \pm (9.5)
<u>OCCUPATION:</u>		
Students	51.1 \pm (8.7)	33.0 \pm (8.8)
Applicants	51.5 \pm (7.0)	33.0 \pm (5.7)
Housewife	46.7 \pm (5.2)	30.0 \pm (11.1)
Businessman/woman	47.9 \pm (5.3)	34.0 \pm (6.2)
Civil/public servant	48.4 \pm (7.3)	38.2 \pm (10.1)

Table 1 above depicts differences in mean STAI score of subjects and controls. The result shows that male controls had higher mean STAI scores than the female; while the mean STAI scores increased with age.

Different occupations had different mean STAI scores, for instance students and applicants had higher mean STAI scores than others in the study among the subjects.

Table 2. Distributions of social reactions among subjects with Acne Vulgaris, Chronic Urticaria and Control

Social Reactions	Controls N = 50 n (%)	Acne Vulgaris N = 62 n (%)	Chronic Urticaria N = 31 n (%)	Total N =143 n (%)
Not bothered by skin disease	-	2 (3.2)	3 (3.2)	5 (2.1)
Shame, social discrimination/withdrawal	1 (2.0)	13 (21.0)	8 (22.6)	22 (15.4)
Shyness & Inferiority complex	-	7 (11.3)	2 (6.5)	9 (6.3)
Stigmatisation	-	2 (3.2)	0 (0)	2 (1.4)
Fear of the unknown	3 (6.0)	3 (4.8)	2 (6.5)	8 (5.6)
Low self esteem	12 (24.0)	23 (37.1)	12 (38.7)	47 (32.9)
Lack of self confidence	-	12 (19.4)	6 (19.4)	18 (12.6)
Self Confidence	24 (48.0)			24 (16.8)
Anger/aggression	10 (20.0)			10 (7.0)

Table 2 above shows there were obvious social reactions among those that had dermatological problems of acne vulgaris and chronic urticaria. However, it was observed that low self-esteem was prominent among control group as well as the subjects.

Table 3. Distribution of anxiety state among the controls and subjects with acne vulgaris and chronic urticaria

	Controls N = 50 n (%)	Acne Vulgaris N = 62 n (%)	Chronic Urticaria N = 31 n (%)	Total N = 143 n (%)	F;	P
Anxiety State						
Normal	29 (58.0)	0 (0)	0 (0)	29 (20.3)		
Mild	15 (30.0)	19 (30.6)	11 (35.5)	45 (31.5)	13.94;	0.00001
Moderate	4 (8.0)	23 (37.1)	16 (51.6)	43 (30.1)		
Severe	2 (4.0)	20 (32.3)	4 (12.9)	26 (18.2)		

From Table 3, subjects with acne vulgaris and chronic urticaria had one form of anxiety or the other ranging from mild to severe. Out of the 62 of the subjects that had acne vulgaris 20 (32.3%) of them had severe anxiety while 4 (12.9%) of 31 chronic urticaria patients had severe anxiety. From this table, it can be seen that the significance level $p = 0.00001$ ($p < 0.05$). That means there is a statistically significant association between anxiety state and skin diseases (acne vulgaris and chronic urticaria) and apparently healthy controls.

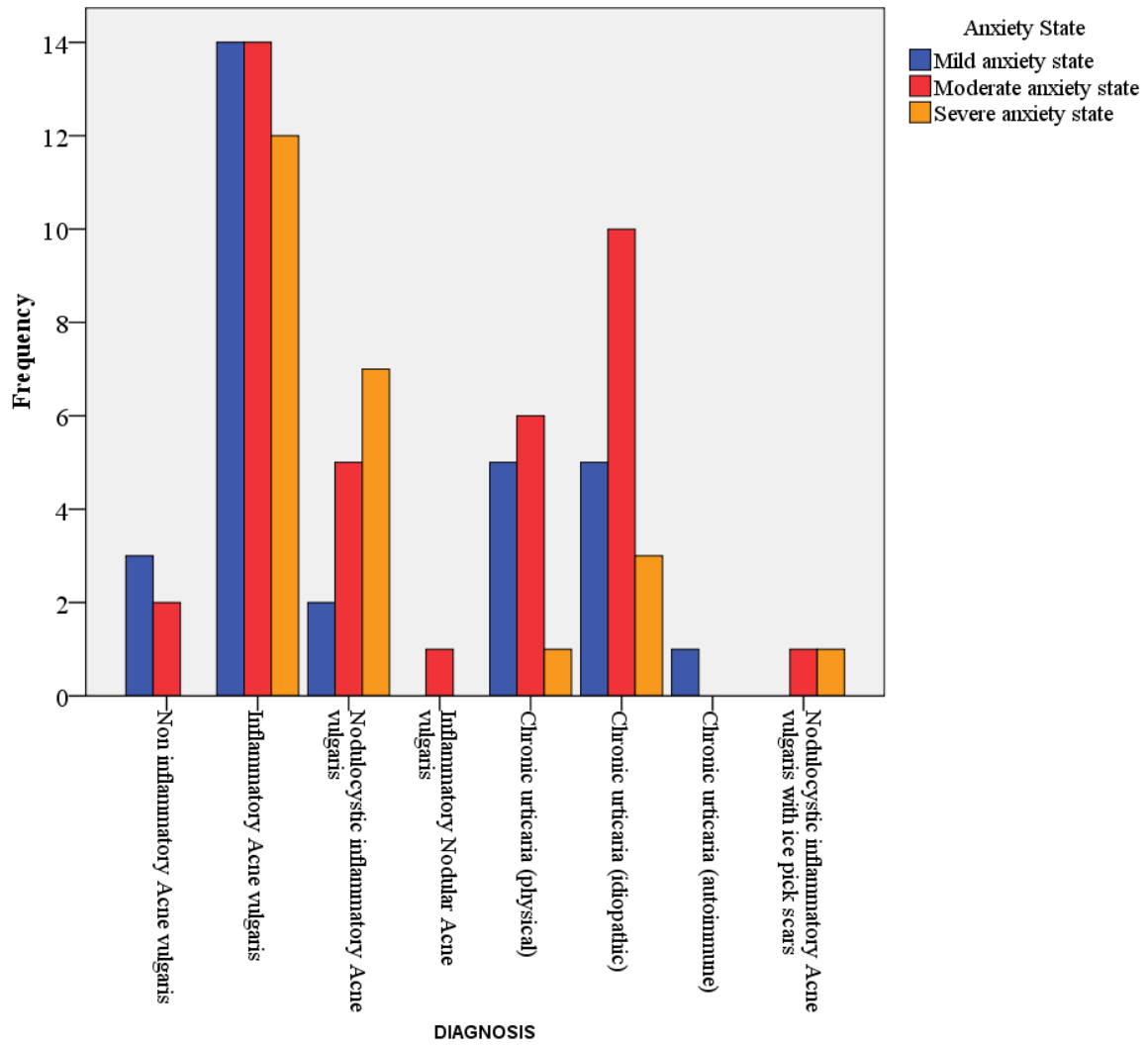


Figure1. Relationship between acne vulgaris, chronic urticaria and degree of anxiety

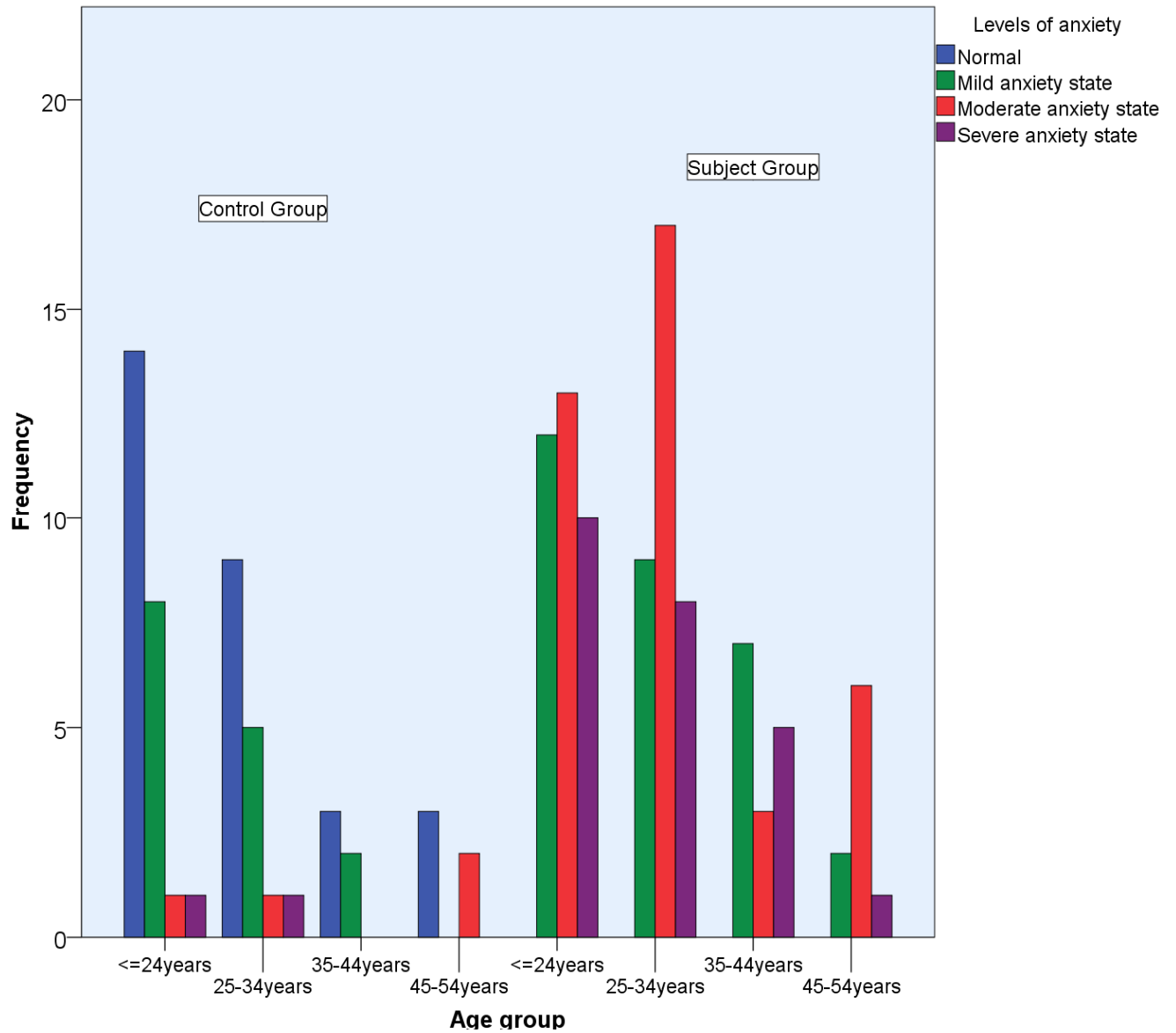


Figure 2. Levels of anxiety and age group among the subjects and control

This figure shows that subjects between the age group of 24-34 years had higher impact of severe anxiety.

Table 4. Mean STAI scores of Anxiety state acne vulgaris and chronic urticaria and control

<i>Diagnosis</i>	<i>Mean score</i>	<i>Frequency</i>	<i>Standard deviation</i>	<i>F value</i>	<i>P value</i>
<i>Acne vulgaris</i>	50.4	62	8.2		
<i>Chronic urticaria</i>	48.1	31	6.0	64.365	0.00001
<i>Control</i>	33.9	50	8.7		

Dependent variable: Score.

From Table 4, Acne vulgaris had Mean STAI score of 50.4 which falls within moderate anxiety state, Chronic urticaria though with a lesser mean STAI score also falls within the range for moderate anxiety state. However, the control group with a Mean STAI score of 33.9 shows that the control had no perceived anxiety on the average. The differences were statistically significant. To further explain the relationship a post hoc test was done.

Table 5. Multiple Comparisons of Mean scores of Anxiety state acne vulgaris and chronic urticaria and control

Dependent variable: Levels of Anxiety
Turkey's b & LSD

	(I) Diagnosis	(J) Diagnosis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Turkey's-b & LSD	Control group	Acne vulgaris	-16.523*	1.516	0.00001	-19.52	-13.53
		Chronic urticaria	-14.249*	1.823	0.00001	-17.85	-10.64
	Acne vulgaris	Nil	16.523*	1.516	0.00001	13.53	19.52
		Chronic urticaria	2.274	1.754	0.197	-1.19	5.74
	Chronic urticaria	Nil	14.249*	1.823	0.00001	10.64	17.85
		Acne vulgaris	-2.274	1.754	0.197	-5.74	1.19

*. The mean difference is significant at the 0.05 level.

From Table 5, there are significant differences between anxiety state among patients with skin diseases and control group as a whole. However, the Table 5 above is Multiple Comparisons, showing which groups differed from each other. We can see from the table above that there is a significant difference in the mean scores between Control group and Patients with acne vulgaris and chronic urticaria respectively ($p = 0.00001$). However, there were no significant difference between mean score of patients with acne vulgaris and those with chronic urticaria ($p = 0.197$).

4. Discussion

The field of psychodermatology has developed in recent times as a result of increased interest and understanding on the relationship between skin diseases and various psychological factors (Koo, 1995; Koo, Do, & Lee, 2000; Gupta et al., 2005; Walker & Papadopoulos, 2005). Previously, patients with skin diseases received little or no attention about their psychological wellbeing (Julian, 1999; Shenefelt, 2010). For instance, skin conditions such as acne which was considered to be insignificant when compared with diseases of other organ systems do not only account for about 3% of dermatological visitations to primary health care but has the same impact of anxiety and social reactions comparable to that of arthritis, back pain, diabetes, epilepsy and asthma (Morgan, 1992; Julian, 1999; Mallon, Newton, & Klassan, 1999; Dreno & Poli, 2013). Our study revealed a higher significant level of anxiety state with its accompanying social reactions like lack of self-confidence (19.4%), inferiority complex (9.7%), and social withdrawal (16.1%) when compared with the healthy population. These aspects of patients' symptoms were previously being ignored while managing them, thereby compromising their psychological wellbeing. Our findings collaborate previous studies which asserted that acne vulgaris has a demonstrable personality changes like emotional disturbances, low self-image and esteem, inability to form and sustain relationship (Mallon, Newton, & Klassan, 1999; Yahaya, 2009; Shenefelt, 2010). The level of anxiety state of sufferers of acne vulgaris is often heighten when the site of occurrence is the face, chest and it is complicated by nodulocystic changes and scars (Van der Meeren, Van der Schaar, & Van der Hurk, 1985; Shuster et al., 1978). This is consistent with our findings which showed that about 50% of those who had inflammatory nodulocystic acne with ice pick scars had severe anxiety state. Acne vulgaris in adolescence affect their self-image and assertiveness which is important in forming and building relationships (Dreno & Poli, 2003; Fried, 2013; Ogedegbe & Henshaw, 2014). On the other hand, their older counterparts have reported a

substantial state of anxiety and worry being experienced while carrying out their daily activities (Lasek & Chren, 1998; Van der Meeren, Van der Schaar, & Van der Hurk, 1985; Koo, 1995; Keyon, 1966). Majority of our acne vulgaris subjects (75%) were in their 20's and 30's and they had significant level of anxiety, social reactions such as social isolation, lack of self-confidence, low self-esteem when compared with the control group who had self-confidence.

Concerning chronic urticaria, a study in Turkey documented a higher rate of symptoms of anxiety and depression than the healthy controls (Ozkan et al., 2007). Another study also in Turkey posited a finding of 60% psychiatric disorders of which 66% were of depressive disorders (Yang et al., 2005), whereas, our study shows that 35.5%, 51.6% and 12.9% of those that had chronic urticaria had mild, moderate and severe state of anxiety respectively. Some of the observable social reactions among them include lack of self-confidence, low self-esteem and low self-image. Eckhardt-Henn et al. (2006), in their study opined that quality of life is significantly more impaired in chronic urticaria patients with psychiatric co-morbidity but it was not significantly affected by age, sex or cause of the urticaria. This is comparable with our findings which showed a significant relationship between chronic urticaria and different levels of anxiety ranging from mild to severe anxiety state while age, sex and marital status were not statistically significant. In addition, there was no statistically significant difference in the levels of anxiety between those that had chronic urticaria and acne vulgaris $p = 0.197$. Furthermore, having noted that subjects with inflammatory nodulocystic acne vulgaris were more prone to severe anxiety state and social reactions; with the view of its independent risk of suicidal ideation (Ukonu & Ezechukwu, 2012; Fried, 2013), it portends that a reasonable attention should be paid to them in the clinic by counselling, administration of psychotropic drugs and antibiotics where necessary.

In conclusion, acne vulgaris and chronic urticaria are associated with reasonable level of anxiety and accompanying social reaction which do compromise the productivity of the individual sufferers thereby making life unbearable without achieving the set out goals. We therefore suggest that a proper evaluation of symptoms, physical, psychological and, social reactions be done in our clinic in view of incorporating counselling, psychotropic drugs, anti-pruritic, antibiotics, retinoid, and biopsychosocial model in their management where necessary. This indeed would improve their psychological wellbeing and by extension their productivity level in the society.

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