



Correlation of Levels of Anxiety and Depression with Dermatology Life Quality Index Scores in Dermatology Outpatients

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Abstract

Background: The physical or perceived disfigurement can become a source of significant distress, with a considerable impact on an individual's psychological, social, and physical well-being. Dermatological conditions are responsible for a significant source of social stigmatization in many human societies and cultures, contributing to the development of co-morbid diseases such as depression and anxiety.

Objectives: To determine the levels of anxiety and depression in dermatology outpatients and to evaluate their association with quality of life and sociodemographic and clinical characteristics.

Methods: A total of 150 patients attending our dermatology outpatient clinic in dermatology department, Benghazi Medical Center, and 100 healthy control subjects matched for age and sex were included in this study. All patients were asked to fill Dermatology Life Quality Index (DLQI) and Hospital Anxiety and Depression Scale (HAD), and healthy controls to fill only HAD.

Results: The differences between the mean HAD anxiety (HAD-A) and HAD depression (HAD-D) scores of the patients and the controls were not significant statistically. 44% of all patients were at risk for anxiety while 35% of control subjects were at risk for anxiety, 38.7% of all patients were at risk for depression whereas only 29% of the controls were at risk for depression. Forty of the male patients and eighty-four of the female patients were at risk for anxiety and depression.

Conclusion: Both marital status and severity of the disease have an influence on HAD-A and HAD-D scores. DLQI scores were not correlated with HAD-A and HAD-D scores.

Keywords: Anxiety; Depression; Dermatology Life Quality Index (DLQI); Hospital Anxiety and Depression Scale (HAD)

Abbreviations

HAD: Hospital Anxiety and Depression Scale; DLQI: Dermatology Life Quality Index; HAD-A: HAD Anxiety; HAD-D: HAD Depression; QOL: Quality of Life.

Introduction

Psychodermatologic disorder is a condition that involves an interaction between the mind and the skin. Psychophysiological disorders (e.g., psoriasis and eczema) are associated with skin problems that are not directly connected to the mind but that react to emotional states, such as stress. Most psychodermatologic disorders can be treated with anxiety-decreasing techniques or, in extreme cases, psychotropic medications [1].

Regardless of psychiatric morbidity, skin diseases can greatly affect patient's quality of life (QOL). Thus, patient oriented QOL measures are particularly beneficial in chronic diseases as they assess how the diseases affect a person socially, psychologically and physically [2].

Only by understanding actual morbidity it is possible to achieve the free flow of relevant information for diagnosis and prescription, as well as subsequent adherence to therapy [3].

Several studies document an association between skin disease and anxiety. The anxiety level is reduced with improvement in skin condition and psychological treatment, and skin condition has been shown to improve with psychological treatment [4].

Objectives of the Study

To determine the levels of anxiety and depression in dermatology outpatients and to evaluate their association with quality of life and sociodemographic and clinical characteristics.

Patients and Methods

A total of 150 patients aged 18 years or older attending our dermatology outpatient clinic in dermatology department, Benghazi Medical Center, and 100 healthy control subjects matched for age and sex were included in this study, from March to September 2022. Information about age, sex, marital status, education was obtained in all subjects. Diagnosis and duration of the disease as well as the severity of the disease were noted in all patients according to proforma. The severity of the disease as minimal to severe was recorded by the scale of Dermatology Index of Disease Severity.

All patients were asked to fill Dermatology Life Quality Index (DLQI) [5] and Hospital Anxiety and Depression Scale (HAD) [6], and healthy controls to fill only HAD.

Results

A total of 150 dermatological outpatients (104 females and 46 males) and 100 healthy controls (61 females and 39 males) were enrolled in this study.

The mean ages of the patients and the controls were 35 ± 12 and 36 ± 10 years, respectively, the difference being not significant statistically.

Sex distribution was also not significant between the groups.

Sociodemographic and clinical characteristic of the patients are shown in Table 1.

	No.	%
Sex		
Female	104	69.3%
Male	46	30.7%
Education		
None	12	8%
Primary School	9	6%
Secondary School	25	16.6%
Institute	28	18.7%
University	76	50.7%
Marital Status		
Single	73	48.7%
Married	64	42.7%
Divorced	6	4%
Widow	7	4.7%
Stage of Disease		
Mild	58	39%
Moderate	64	43%
Severe	28	18%

Table 1: Sociodemographic of the patients.

In 67 patients (44.7%) the duration of the disease was less than 1 year whereas in 29 patients (19.3%) the duration was more than 5 years. In most of the patients the disease was moderate in severity (42.7%). The mean HAD anxiety (HAD-A) and HAD depression (HAD-D) scores of the patients and the controls are given in (Table 2), the differences were not significant statistically.

	Patients	Control	T-Test
Anxiety Subscale	6.9±3.5	6.7±3.8	P=0.816
Depression Subscale	6.5±3.8	6.3±3.2	P=0.813

Table 2: The mean hospital anxiety and depression scale scores of the patients and the control.

HAD-A Subscale	No. of patients (%)	No. of Controls (%)
Normal (0-7)	84 (56%)	65 (65%)
Mild (8-10)	38 (25%)	14 (14%)
Moderate (11-14)	25 (17%)	18 (18%)
Severe (15-21)	3 (2%)	3 (3%)

Table 3: Distribution of patients and controls according to the HAD-A score.

Sixty-six of all patients (44%) were at risk for anxiety while 35 of control subjects (35%) were at risk for anxiety according to cut-off score of HAD-A subscale (Table 3), 58 of

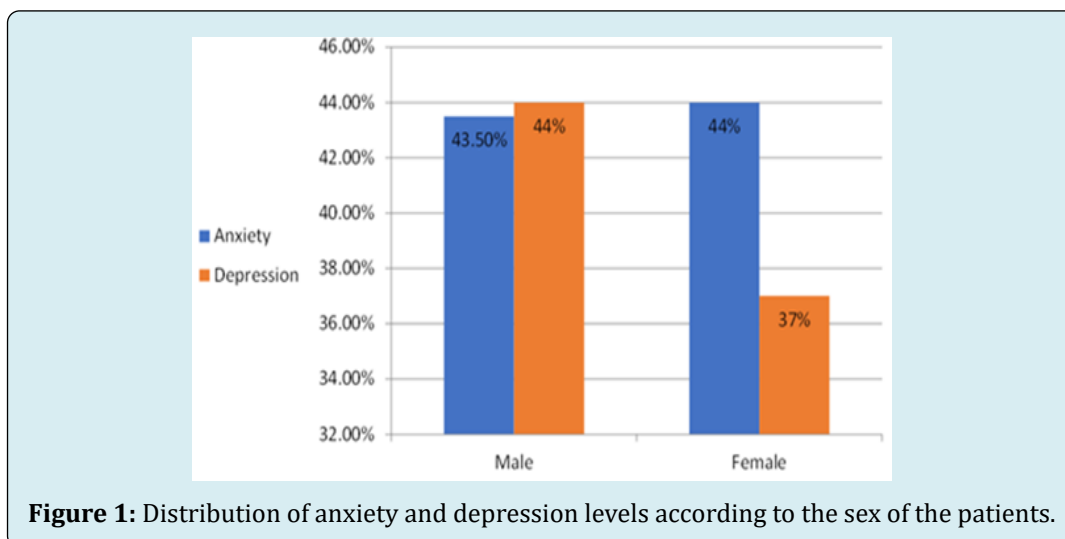
patients (38.7%) were at risk for depression whereas only 29 of the controls (29%) were at risk for depression according to cut-off score of HAD-D subscale (Table 4).

HAD-A Subscale	No. of patients (%)	No. of Controls (%)
Normal (0-7)	92 (61%)	70 (70%)
Mild (8-10)	37 (25%)	18 (18%)
Moderate (11-14)	17 (11%)	11 (11%)
Severe (15-21)	4 (3%)	1 (1%)

Table 4: Distribution of patients and controls according to the HAD-D score.

Forty of the male patients (87.5 %) and eighty-four of the female patients (81%) were at risk for psychiatric disorders

(anxiety and depression) (Figure 1).



Most of the patients who are at risk for anxiety and depression belong to the age group 18-28 years, (39% and 33% respectively). More than half of the patients who are at risk for anxiety and depression are single (60% and 55% respectively). The duration of the disease was less than one

year in most of the patients who are at risk for anxiety and depression (45% and 53% respectively). The mean HAD-A and HAD- D and DLQI scores of the patients according to diagnostic groups and the controls were shown in Tables 5 & 6.

Diagnosis	No.	Anxiety Subscale	Depression Subscale
Acne Vulgaris	15	7.1±4.1	6.4±4.5
Tinea	9	7.4 ±3.3	5.6±3.8
Contact Dermatitis	10	6.7±2.9	4.9±3.0
Other Type Dermatitis	9	6.5±4.4	6.1±4.1
Psoriasis	16	6.0±3.1	6.5±3.5
Urticaria	8	6.2±1.7	6.0±4.0
Androgenetic Alopecia	6	7.8±3.5	7.6±4.6
Alopecia Areata	9	6.1±3.8	5.6±3.5
Vitiligo and Other Pigmentary Disorder	20	6.8±3.1	7.8±4
Warts	6	6.0±2.0	6.1±2.7
Hirsutism	8	6.3±4.2	7.7±5.4
Bacterial Skin Diseases	9	10±3.7	6.6±3.3
Other Diagnosis	25	7±3.8	5.7±3.4
Controls	100	6.7±3.8	6.3±3.2

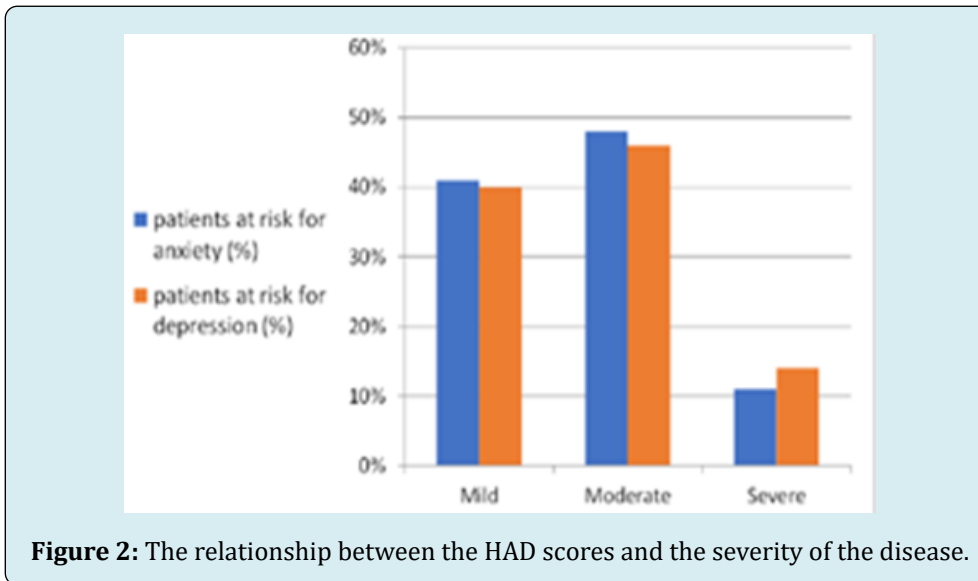
Table 5: The mean Hospital Anxiety and Depression Scale of the patients according to diagnostic groups and the controls.

Diagnosis	No.	DLQI
Acne Vulgaris	15	6.0±6.3
Tinea	9	4.4±5.3
Contact Dermatitis	10	1.3±5.9
Other type Dermatitis	9	8.7±5.2
Psoriasis	16	8.3±7.7
Urticaria	8	9.2±5.6
Androgenetic Alopecia	6	5.0±5.4
Alopecia Areata	9	8.7±6.8
Vitiligo and Other Pigmentary Disorder	20	6.3±5.2
Warts	6	3.1±2.4
Hirsutism	8	8.2±7.7
Bacterial Skin Diseases	9	7.3±5
Other Diagnosis	25	9.7±7.1

Table 6: The mean Dermatology Life Quality Index (DLQI) scores of the patients according to diagnostic groups.

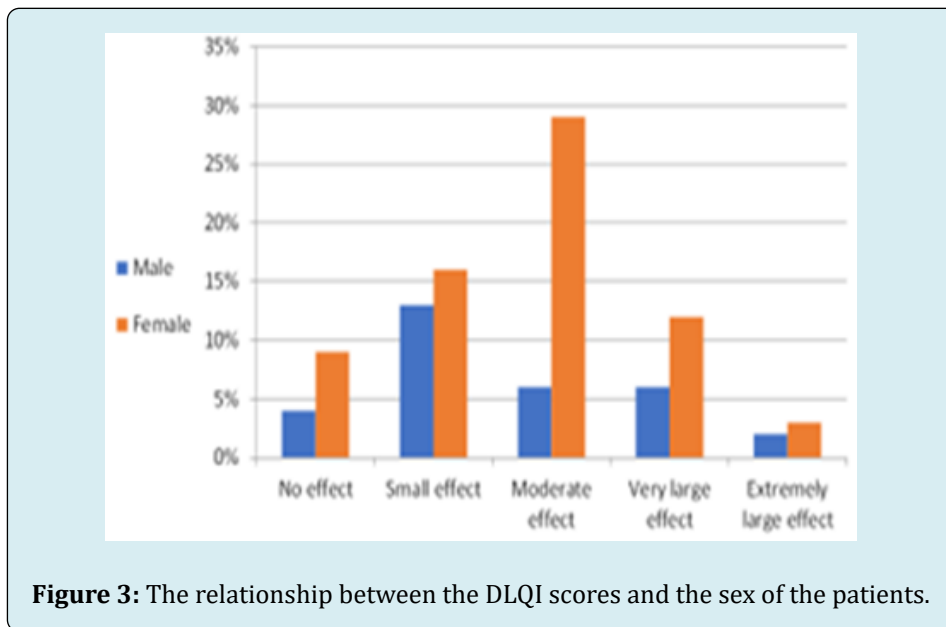
Multivariate analysis of variance showed that sex, age, educational level and duration of the disease did not have an influence on HAD-A and HAD-D scores, while both marital

status and severity of the disease have an influence on HAD-A and HAD-D scores ($p= 0.007$ and $p= 0.035$ respectively) (Figure 2).



There were no statistically significant differences between the female and the male patients with respect to HAD-A and HAD-D scores ($p= 0.642$). The DLQI scores of the 150 patients ranged from 0 to 29, with a mean score of 7.67 ± 6.33 . Nine patients (6%) did not score on the DLQI (total score was zero), 53% of our patients have moderate

to very large effect of the disease on their life, 5% have extremely large effect, while 29% have small effect and in 13% of patients no effect of the disease on their life. Majority of the male patients (13%) have small effect, but in female patients the majority (29%) have moderate effect of the disease on their life (Figure 3).



The disease has small effect on the life of 12% of patients in age group 18-28 years. The disease has moderate effect on the life of most of patients in age groups less than 50 years. In age group 29-39 years, no extremely large effect of the disease on the patient's life. Most of the patients who have extremely large effect of the disease on their life were married (3%) while the disease has small effect on the life of 15% of single patients.

The disease has no effect on the life of 7% of patients with disease duration less than one year, whereas the effect of the disease was moderate in 10.6% of patients with disease duration more than 5 year.

In our study DLQI scores were not correlated with HAD-A ($P= 0.509$) and HAD-D ($p=0.523$) scores (Table 7).

DLQI Score	HAD-A score (cut off point ≥ 8)	HAD-D score (cut off point ≥ 8)
	No. of Patients (%)	No. of Patients (%)
No Effect	10(15%)	7(13%)
Small Effect	18(27%)	18(31%)
Moderate Effect	19(29%)	17(29%)
Very Large Effect	14(21%)	10(17%)
Extremely Large Effect	5(8%)	6(10%)
Total	66(100%)	58(100%)

Table 7: The relationship between the DLQI score and the HAD scores.

Discussion

Dermatological diseases have a negative effect on the daily life, self-confidence, and self-respect. In fact, they may lead to questions on self-image, thus creating a problem of identity. Dermatologists have observed their patients to be relatively more concerned and worried about the diseases that are related to their physical appearance, as a result of which dermatology patients may be affected by disorders such as anxiety, depression, and other psychosocial problems. In the present study there were no statistically significant differences between the mean HAD-A and HAD-D scores of the patients and the controls. Kiyment BAZ, et al. [7] found that the mean HAD-A and HAD-D scores of the patients were significantly higher than the controls, they also found that the age and sex distributions were not significant between the groups. In this study 44% of all patients were at risk for anxiety while 35% of control subjects were at risk for anxiety according to cut-off score of HAD-A subscale and 38.7% of patients were at risk for depression whereas only 29% of the controls were at risk for depression according to cut-off score of HAD-D subscale, these findings were much higher than what were reported by Kiyment BAZ, et al. [7].

Most of the patients who are at risk for anxiety and depression in the present study belong to the age group 18-28 years, while Kumar A, et al. [8] found that the prevalence of depression was more in age group 26-45 years. The current study found that 87.5 % of the male patients and 81% of the female patients were at risk for psychiatric disorders (anxiety and depression), this was much higher than a previous study by Attah Johnson and Mostaghimi [9]. The results of the present study showed that sex, age, educational level and duration of the disease did not have an influence on HAD-A and HAD-D scores, while both marital status and severity of the disease have an influence on HAD-A and HAD-D scores. There were no statistically significant differences between the female and the male patients with respect to HAD-A and HAD-D scores.

Kiyment BAZ, et al. [7] found that sex, age, marital status, severity of the disease, educational level and duration of the disease did not have an influence on HAD-D scores, while HAD-A scores were influenced by the sex of the subject, with women having higher anxiety scores. Kumar A, et al. [8] found no significant difference in psychiatric morbidity between the gender groups. However, higher percentage was found among men. Earlier study, conducted by Johnson A, et al. [9] also found no significant difference among genders in total psychiatric morbidity. However, they found comorbid depressive disorder more in female as compared to male patients and comorbid anxiety disorder more in male as compared to female patients.

Jobanputra R, et al. [10] reported that women suffered significantly more in terms of self-esteem, clothing choice, as well as anxiety. Zachariae R, et al. [11] reported that a greater severity of disease, being female, having longer duration of disease, and younger age were associated with greater impairment of quality of life on DLQI. More than half of the patients in the present study who are at risk for anxiety and depression are single, while Picardi A, et al. [12] found a higher prevalence of psychiatric morbidity in women and in widows/ widowers. About half of the patients (53%) have moderate to very large effect of the diseases on their life. Majority of the male patients (13%) have small effect, but in female patients the majority (29%) have moderate effect of the disease on their life.

In the present study DLQI scores were not correlated with HAD-A and HAD-D scores, this was in contrast with a study of Kiyment BAZ, et al. [7] and Yanyu W, et al. [13] who found that DLQI scores were positively correlated with HAD-A and HAD-D scores. Sampogna F, et al. [14] also reported that in most skin conditions, psychiatric morbidity was strongly associated with poorer quality of life.

The DLQI measures a greater index of psychological disability than are measured by clinical severity of the skin

disease. It has been reported that treatment adherence was strongly associated with complete satisfaction and strong negative association was observed between psychiatric morbidity and compliance, in a study examining factors associated with compliance with dermatological treatment [15].

Conclusion

Most of the patients who are at risk for anxiety and depression belong to the age group 18-28 years. The sex of the subject, age, educational level and duration of the disease did not have an influence on HAD-A and HAD-D scores, while both marital status and severity of the disease have an influence on HAD-A and HAD-D scores. There were no statistically significant differences between the female and the male patients with respect to HAD-A and HAD-D scores. The mean score of the DLQI was 7.67 ± 6.33 . DLQI scores were not correlated with HAD-A and HAD-D scores.

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