

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

DERMATOLOJİ POLİKLİNİK HASTALARINDA DERMATOLOJİ YAŞAM KALİTE İNDEKSİ SKORLARI İLE KORELE ARTMIŞ ANKSİYETE VE DEPRESYON DÜZEYLERİ

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Summary

Objective: The aim of the study was to evaluate the levels of anxiety and depression and their association with sociodemographic and clinical characteristics in dermatology outpatients.

Methods: A total of 265 patients attending to our dermatology outpatient clinic and 102 healthy control subjects were included in the study. Information about age, sex, marital status, education was obtained in all subjects, and diagnosis and duration of the disease as well as the severity of the disease were noted in all patients. 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 mean scores of HAD anxiety subscale (HAD-A) and HAD depression subscale (HAD-D) of the patients were significantly higher than the controls. The rates of subjects at risk for anxiety (26.0%) and for depression (35.5%) were significantly higher in the patient group compared to the control group (6.9% and 16.7% respectively). DLQI scores were positively correlated with HAD-A and HAD-D scores. Sex, age, marital status, severity of the disease, educational level and the duration of the disease did not affect DLQI and HAD-D scores. There were no statistically significant differences between the female and the male patients with respect to DLQI and HAD-D, however, HAD-A scores were significantly higher in female patients.

Conclusions: 1) Dermatology outpatients are at increased risk for anxiety and depression compared to normal population, which indicates the need for considering emotional factors for an effective management of cutaneous disorders. 2) Having a skin disease negatively affects quality of life, and the greater the impairment of dermatology life of quality due to skin disease, the greater the level of anxiety and depression.

Key Words: Anxiety, Depression,
Dermatology Life Quality Index,
Hospital Anxiety and Depression Scale

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Özet

Amaç: Bu çalışmada, dermatoloji poliklinik hastalarında anksiyete ve depresyon düzeyleri ile klinik ve sosyodemografik özellikler arası ilişkinin belirlenmesi amaçlandı.

Yöntemler: Çalışmaya, dermatoloji polikliniğine başvuran 265 hasta ve kontrol grubu olarak 102 sağlıklı birey dahil edildi. Tüm olguların yaş, cins, evlilik ve eğitim durumu bilgileri ile birlikte hastalarda tanı, hastalık süresi ve hastalık şiddeti kaydedildi. Hasta grubunda Dermatoloji Yaşam Kalite İndeksi (DYKİ) ve Hastane Anksiyete Depresyon (HAD) ölçeği, kontrol grubunda ise sadece HAD ölçeği uygulandı.

Bulgular: Hasta grubunda ortalama HAD-Anksiyete (HAD-A) ve HAD-Depresyon (HAD-D) alt ölçek skorları kontrol grubuna göre anlamlı olarak daha yüksekti. Hasta grubunda anksiyete(26.0%) ve depresyon (35.5%) açısından risk altında olanların oranı da kontrol grubuna göre (sırasıyla 6.9% ve 16.7%) daha yüksekti. DYKİ skorları ile HAD-A ve HAD-D alt ölçek skorları arasında pozitif korelasyon mevcuttu. Seks, yaş, evli olma durumu, hastalık şiddeti, eğitim durumu ve hastalık şiddetinin DYKİ ve HAD-D skorlarını etkilemediği tespit edildi. DYKİ ve HAD-D skorlarında kadın ve erkek hastalar arasında istatistiksel olarak anlamlı fark saptanmazken, HAD-A skorlarının kadın hastalarda daha yüksek olduğu saptandı.

Sonuçlar: 1) Dermatoloji poliklinik hastaları normal popülasyona göre artmış anksiyete ve depresyon riski altındadır ve bu durum deri hastalıklarının etkin tedavisi için emosyonel faktörlerin de gözönünde bulundurulması gerektiğine işaret etmektedir. 2) Deri hastalığı olması yaşam kalitesini olumsuz yönde etkilemektedir ve dermatoloji yaşam kalitesinde bozulma ne kadar fazla ise anksiyete ve depresyon riski o kadar fazladır.

Anahtar Kelimeler: Anksiyete, Depresyon,
Dermatoloji Yaşam Kalite İndeksi,
Hastane Anksiyete Depresyon ölçeği

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Although generally not life threatening, skin diseases are well known to have destructive effects on life quality of patients. These effects may include psychologic stress, embarrassment, physical discomfort as well as impairment of emotional wellbeing, social activities and functioning, productivity at work or school and self-care activities (1-3). The degree of disability in common skin diseases is not always related to clinical severity (4-9). Therefore, a judgement on the patient's quality of life cannot be based solely on the clinical severity of the disease. Patients with skin disease should be assessed by a more holistic approach, including both physical and psychological measurements when determining the overall severity of the disease. Psychological status appears to be a useful additional measure in dermatology to obtain a more comprehensive description of the overall impact of skin disease and also for optimal management of patients.

There are several studies investigating the quality of life in specific diseases, such as psoriasis (7,10-12), acne (4,12-15), alopecia areata (12,16), chronic urticaria and pruritus (17) and atopic dermatitis (18,19) as well as a few epidemiological studies that report a high prevalence of psychiatric disorders in dermatological patients (20-25). Moreover, although there are some studies reporting that the symptoms of anxiety and depression are among cardinal clinical features in patients with skin disease (20,23,24,26) there is no epidemiological study focused on the levels of anxiety and depression in dermatological outpatients.

Quality of life is most commonly assessed by means of self-reported questionnaires. Dermatology-specific, disease-specific, and generic questionnaires are available in patients with skin diseases. Generic questionnaires can be used for assessment of all kinds of diseases, enabling comparisons across various diseases. They give an overall description of quality of life, but they do not focus on all areas of interest of a specific disease. Dermatology-specific questionnaires, such as Dermatology Life Quality Index (DLQI) are specifically designed for assessment of skin disease, and may therefore assess specific effects of skin

disease on quality of life (2). Disease-specific questionnaires are developed to assess disease related quality of life (27,28). Although they may detect even more specific effects and meet with even greater acceptance, disease-specific questionnaires prohibit comparisons with any other disease (29). Therefore, the combination of a generic and a specific questionnaire is generally suggested (4,5,13).

The aim of this study was to determine the levels of anxiety and depression and to evaluate their association with quality of life and sociodemographic and clinical characteristics in dermatology outpatients.

Methods

This study was conducted in February and March 2003 at the outpatient clinic of the Dermatology Department of Mersin University School of Medicine. The study protocol was approved by institutional review board.

A total of 265 dermatological outpatients (female=170, male=95) and 102 healthy control subjects (female=70, male=32) were enrolled in this study. Information about age, sex, marital status, education was obtained in all subjects, and the time since diagnosis was noted in all patients. The patients and the controls were asked to fill Hospital Anxiety and Depression (HAD) scale (30,31) and the patients filled also DLQI form (2). All patients were instructed to complete the questionnaires before the visit, and to return it to the dermatologist during the visit. After the visit, the dermatologist attending the patient recorded the diagnosis as well as the severity of the disease as minimal to severe reflected by the scale of Dermatology Index of Disease Severity (32).

The DLQI consists of 10 questions covering the aspects of life most commonly mentioned when 120 dermatology patients were asked how their skin disease affected them. Total scores can range from 0 to 30, with higher scores indicating greater disability. It is an extensively validated instrument and has been used to measure and compare disability in different skin conditions (2,32,33).

HAD is a self-rating scale used to assess the risk and to measure the level of depression and anxiety. It contains 14 questions, 7 related to depression and 7 to anxiety (30). Aydemir et al established the validity and reliability of the Turkish version and determined cut-off points for depression subscale and anxiety subscale as 7/8 and 10/11 respectively (31). Patients above those points are considered to be at risk.

Descriptive statistics were given as the mean \pm standard deviation. Comparisons of continuous variables between the groups were performed with t test. Sex distribution was evaluated with chi-square test. The influence of sociodemographic and clinical characteristics on HAD and DLQI scores were determined by multivariate analysis of variance. Correlations were evaluated with Pearson's correlation analysis.

Results

The mean ages of the patients and the controls were 32 ± 13 and 34 ± 10 years, respectively, the difference being not significant statistically ($p=0.217$). Sex distribution was also not significant between the groups ($p=0.419$). Sociodemographic and clinical characteristic of the patients are shown in Table 1.

The average duration of the disease was 3.3 ± 4.8 years (range 1 month-30 years).

The mean scores of HAD are given in Table 2. The mean HAD anxiety (HAD-A) and HAD depression (HAD-D) scores of the patients were significantly higher than the controls.

Sixty-nine of all patients (26%) were at risk for anxiety while only 7 of control subjects (6.9%) were at risk for anxiety according to cut-off score of HAD-A subscale. 94 of patients (35.5%) were at risk for depression whereas 17 of the controls (16.7%) were at risk for depression according to cut-off score of HAD-D subscale. Differences were statistically significant for both the anxiety and the depression scores ($p=0.001$ and $p=0.01$, respectively).

Multivariate analysis of variance showed that sex, age, marital status, severity of the disease, educational level and the duration of the disease

Table 1. Sociodemographic of the patients.

	n	%
Sex		
Female	170	64.2
Male	95	35.8
Education		
None	12	4.5
5 year	20	7.5
8 year	21	7.9
High school	100	37.7
University	112	42.3
Marital Status		
Single	129	48.7
Married	129	48.7
Separated or divorced	3	1.1
Widower or widow	4	1.5
Stage of Disease		
No evidence of clinical disease	5	1.9
Minimal disease	195	73.6
Mild disease	45	17
Moderate disease	20	7.5
Severe disease	0	0

Table 2. The mean Hospital Anxiety and Depression Scale scores of the patients and the controls*

	Patients (n=265)	Controls (n=102)	t test
Anxiety Subscale	7.86 ± 7.21	6.05 ± 3.24	$p=0.0001$
Depression Subscale	6.3 ± 4.24	4.56 ± 2.8	$p=0.0001$

*Figures are given as the mean \pm standard deviation

did not have an influence on DLQI and HAD-D scores, while HAD-A scores were influenced by the sex of the subject, with women having higher anxiety scores ($p=0.11$). There were no statistically significant differences between the female and the male patients with respect to DLQI and HAD-D scores ($p=0.684$ and $p=0.54$, respectively). However, the mean HAD-A scores were significantly higher in the female patients than the male patients ($p=0.0001$) (Table 3).

DLQI scores were positively correlated with HAD-A ($p=0.0001$, $r=0.212$) and HAD-D ($p=0.013$, $r=0.153$) scores. The mean HAD-A and HAD-D and DLQI scores of the patients according to diagnostic groups and the controls were shown in Table 4.

Table 3. The mean scores of the patients

	Women (n=170)	Men (n=95)	t test
Dermatology Life Quality Index	5.88±5.47	5.6±4.98	p=0.684
Hospital Anxiety and Depression Scale-Anxiety Subscale	8.66±4.58	6.43±4.27	p=0.0001
Hospital Anxiety and Depression Scale-Depression Subscale	6.68±4.29	5.63±4.1	p=0.54

Table 4. The mean Hospital Anxiety and Depression Scale and Dermatology Life Quality Index(DLQI) scores of the patients according to diagnostic groups and the controls

Diagnosis	N	%	Anxiety Subscale	Depression Subscale	DLQI
Acne vulgaris	55		8.27±4.67	6.27±4.48	5.83±5.79
Tinea	21		7.05±4.46	6.66±4.22	5.05±5.67
Benign skin neoplasm	24		7.54±4.85	6.75±3.65	3.21±2.92
Contact dermatitis	23		8.87±4.86	6.91±4.64	8.04±5.50
Seborrheic dermatitis	10		7.5±2.83	6.10±2.72	5.70±4.11
Neurodermatitis	6		6.66±6.86	5.00±4.56	4.67±4.93
Other type dermatitis	11		6.00±3.00	5.18±3.68	3.45±1.57
Psoriasis	11		6.90±5.26	5.27±2.83	6.18±3.49
Pruritus	12		7.66±5.24	7.33±5.48	6.58±7.16
Urticaria	12		7.91±4.92	6.16±4.64	8.25±6.03
Diffuse alopecia	7		7.42±3.73	6.28±4.46	5.00±5.54
Alopecia areata	4		10.25±5.31	9.00±6.38	3.50±3.11
Vitiligo and other pigmentary disorder	10		6.60±4.83	5.80±6.14	2.70±3.37
Warts	9		6.00±3.70	4.22±3.60	5.11±4.78
Ptyriasis rosea	8		10.12±4.85	7.5±3.54	6.87±4.64
Bacterial skin disease	10		6.20±4.13	4.70±3.71	5.10±3.96
Other diagnosis	32		9.22±4.23	6.65±4.03	7.66±6.25
Controls	102		6.05±3.24	4.57±2.81	-

Discussion

Psychiatric co-morbidity in patients with skin diseases is well known. A primary psychiatric symptom or disorder such as trichotillomania, delusion of parasitosis and factitious disorder may present with dermatological manifestations, or more frequently, psychiatric disorders may result from a primary skin disease as a complication or consequence such as psoriasis, alopecia areata and urticaria. Moreover, some drugs used in dermatology, for example corticosteroids, may precipitate psychiatric symptoms as well as some drugs used in psychiatry such as lithium, may affect skin disease (34). The increased psychiatric morbidity in dermatological practice was identified by some previous studies. Hughes et al. studied 196 dermatological outpatients and 40 inpatients using General Health Questionnaire (GHQ)-30 and suggested

that dermatology outpatients had a higher prevalence of psychiatric disorders than the general population, and dermatology in-patients had a higher prevalence than general medical in-patients (21). Wessely and Lewis reported that the prevalence of psychiatric morbidity estimated both by a questionnaire and an interview, was found to be 42.7% defining cases by the GHQ-12 (cut-off ≥ 2) and, similarly, 40.2% defining cases by the Clinical Interview Schedule (CIS), in 160 dermatological outpatients (22). Picardi et al found that the overall prevalence of psychiatric morbidity was 25.2% with the GHQ-12 (cut-off ≥ 5), in 2579 dermatology outpatients (20).

Recent studies documented an association between anxiety or depression and skin diseases such as psoriasis (7,10,11,28), acne (4,9,12,15) chronic urticaria and generalized pruritus (17), alopecia

areata (16) and atopic dermatitis (18,19). In the present study, we found that the rate of the risk for anxiety and/or depression was significantly higher in dermatology outpatients than the controls. Attah Johnson and Mostaghimi screened 132 patients attending the dermatological clinic with the Harding Self Rating Questionnaire, and those scoring above a threshold were examined by a psychiatrist. They reported that 71.6% of the female patients and 69.2% of male patients were diagnosed as having a psychiatric disorder (mostly anxiety neurosis or neurotic depression cases) according to International Classification of Diseases version 9 criteria (23). Aktan et al found that the overall prevalence of psychiatric morbidity was 41% defining cases by the GHQ-12 (cut-off ≥ 4) and 33.4% defining cases by the Structured Clinical Interview for DSM-III-R axis I (SCID-I), in a sample of 256 dermatological outpatients in Turkey. Most identified cases were affected by a depressive disorder, an anxiety disorder or a somatoform disorder (24). It has also been reported that the most common psychiatric diagnoses among patients referred to a liaison psychiatrist within a dermatology clinic are depressive illness and anxiety disorders (35).

We did not find gender differences in DLQI and HAD-D scores of the patients. However, HAD-A scores were higher in the female patients. Jobanputra et al reported that women suffered significantly more in terms of self-esteem, clothing choice, treatment problems as well as anxiety (on the adapted DLQI including two questions about impact on anxiety and depression). They also reported that independent risk factors for having a high disability score were dermatologists' assessment of severity, younger age and unemployment (26). Aktan et al reported that HAD-D scores of boys and girls with acne were not significantly different, whereas HAD-A scores of girls with acne were significantly higher than those of boys with acne (36). Picardi et al found a higher prevalence of psychiatric morbidity with GHQ-12 in women (20,25) and in widows/widowers (20). Aktan et al found that the duration of the dermatologic complaints, sex of the subjects, localization of the lesions, and dermatologic diagnosis did not

affect psychiatric morbidity on GHQ (24). Additionally, it is also 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 (33). We found that sex, age, marital status, severity of the disease, educational level and the duration of the disease did not have an influence on DLQI and HAD-D scores, while HAD-A scores were influenced by the sex of the subject, with women having higher anxiety scores.

It has been reported that specific quality of life measures are more sensitive than generic instruments as former cover the problems commonly experienced by dermatology patients while the latter may provide information on disability or well-being without reference to cause (4,5,13). Improvement in skin disease is also associated with improvement in dermatological life quality (18,37-39) as well as psychiatric disturbances such as symptoms of anxiety and depression (11,13-15,18). Thus dermatological quality of life could be expected to correlate with anxiety and depression. Indeed, we found that the level of anxiety and depressive symptoms was increased in dermatology outpatients compared to controls as well as a positive correlation between DLQI scores and the HAD-A and HAD-D scores. Some other studies have also reported a correlation between the scores of dermatology specific measures and generic instruments (5,19,40,41). The depression and the anxiety subscale scores of HAD has been shown to be correlated with the Psoriasis Disability Index, a disease specific measure (7) and a correlation between Skindex-29 subscale, a dermatology specific measure, and GHQ-12 has also been reported (40,41). A significant positive correlation was found between DLQI and trait anxiety as determined with Spielberger State-Trait Anxiety Index in patients with atopic dermatitis (18). Mallon et al found that all quality of life instruments including DLQI, SF-36, and GHQ-28, showed substantial deficits in 111 acne patients that correlated with each other (5). Kiebert et al reported that SF-36 subscale and summary scores correlated significantly with DLQI scores (19).

Our results suggest that skin diseases can produce psychological problems such as anxiety and depression that may seriously affect lives of the patients, independent from the clinical severity of the disease. 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 a strong negative association was observed between psychiatric morbidity and compliance, in a study examining factors associated with compliance with dermatological treatment (42). So, there is a need for an adequate psychological assessment of these patients by clinicians, including referral for further treatment where appropriate. Patients with skin diseases having significant psychopathology may go untreated unless referred to a psychiatrist since patients frequently do not report their symptoms of anxiety and depression to their general practitioners (35). Identification of significant depression or anxiety will provide an opportunity to reduce morbidity in these patients. The use of self-assessment questionnaires is a useful and simple way of screening for significant psychological problems, particularly depression and anxiety.

Inclusion of only outpatients is limitation of this study. In addition, the majority of our study sample consisted of patients with minimal to moderate severity of skin disease. This might have obscured some correlations between the scores of disease severity and DLQI and HAD. Patients with more severe skin disease might show higher anxiety and depression levels and a lower DLQI score. On the other hand, finding some associations even in a group of patients with minimal to moderate skin disease may suggest that associations between DIDS, DLQI and HAD would yield stronger results.

In conclusion; 1) Dermatology outpatients are at increased risk for anxiety and depression compared to normal population, which indicates the need for considering emotional factors for an effective management of cutaneous disorders, 2) having a skin disease negatively affects quality of life, and the greater the impairment of quality of

life due to skin disease, the greater the level of anxiety and depression.

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