

Depression and quality of life in psoriasis and psoriatic arthritis patients

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Background: Psoriasis is a chronic hyperproliferative disease of the skin, scalp, nails, and joints that affects 2% of the general population. One of the extracutaneous manifestations of psoriasis is psoriatic arthritis which occurs in 25–34% of the psoriasis cases. This type of inflammatory arthritis is characterized by pain, swelling, and tenderness around the joints, and may adversely affect patient's functional abilities and the quality of life.

Objectives: To evaluate depression and quality of life in Iranian patients with psoriasis and psoriatic arthritis.

Materials and methods: From January 2009 to January 2010, 100 psoriasis patients who were randomly selected (through simple random selection) from the outpatient clinic of Razi Hospital and did not have any other skin or autoimmune diseases were asked to answer valid and reliable instruments such as the Beck Depression Inventory (BDI), SF-36, and DLQI (Dermatology Life Quality Index).

Results: Mean scores of the BDI, SF-36, and DLQI of all the patients were 17.1 ± 12.3 , 59.8 ± 19.5 , and 12.4 ± 6.1 , respectively. The most common type of the disease was the plaque type in eighty eight cases. Thirty-one women and 26 men were depressed ($P = 0.06$), and depressed individuals had higher DLQI scores (14.2 ± 5.5 vs. 9.9 ± 6.2 , $r = 0.3$ $P = 0.001$). Patients with arthritis had significantly higher BDI and lower SF-36 scores suggesting more severe depression and quality of life impairment than those without arthritis.

Conclusions: Extracutaneous manifestations of psoriasis and mood disorders should be considered in psoriatic patients to address the risk of markedly impaired quality of life.

keywords: depression, psoriasis, arthritis

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INTRODUCTION

Psoriasis is a chronic hyperproliferative disease of the skin, scalp, nails, and joints that affects 2% of the general population¹. T lymphocytes, natural killer cells, and pro-inflammatory cytokines are thought to play roles in the pathogenesis of this disorder²⁻⁴. The physical symptoms of psoriasis include itching, irritation, burning/stinging,

sensitivity, and pain. The disease is classified according to its morphological appearance into plaque, inverse, erythrodermic, pustular, guttate, and nail forms⁵.

Most patients suffer from psychological problems associated with these physical impairments^{6,7}. In individuals with visible patches, their appearance may cause stigmatization, being rejected, social withdrawal, impaired personal relationships,

embarrassment, and negative impacts on work and career and unemployment⁸⁻¹¹. In a study by Kanikowska et al, 50% of Polish psoriasis patients believed that the disease had a great impact on their lives, resulting in physical limitations, suffering, and a disturbed social life¹². Relatively high rates of depression have been reported in patients with psoriasis. In a previous study by Ermertcan *et al*, patients with psoriasis, especially women, had different sexual dysfunctions as compared to healthy controls as depression in these cases may have a negative impact on sexual function¹³.

Psoriatic arthritis is one of the extracutaneous manifestations of psoriasis which occurs in 25–34% of the cases of psoriasis¹⁴. This type of inflammatory arthritis is characterized by pain, swelling, and tenderness around the joints, and may affect patient's functional abilities and reduce their quality of life¹⁵.

In the real world, there is a gap between physicians and psychologists in treating all aspects of psoriasis patients. The present study was performed to evaluate the quality of life and depression in Iranian patients with psoriasis and psoriasis arthritis.

MATERIALS AND METHODS

From January 2009 to January 2010, a total of 100 psoriasis patients were randomly selected through a table of random numbers from the outpatient clinic of Razi Hospital.

Inclusion criteria were no history of other skin diseases and being at least 18 years old.

The participants were asked to answer valid and reliable instruments including the Beck Depression Inventory (BDI), Medical Outcome Study (MOS) Short-form Health Survey (SF-36), and Dermatology Life Quality Index (DLQI).

The DLQI, which was introduced by Finlay and Khan¹⁶, is a self-explanatory survey that can be simply answered by patients within 1 or 2 minutes. It consists of 10 questions with six headings: symptoms and feelings (questions 1 and 2), daily activities (questions 3 and 4), leisure (questions 5 and 6), work and school (question 7), personal relationships (questions 8 and 9), and treatment (question 10); scores range from 0 to 30. High scores indicate greater impairment in the quality of life. The Persian version was used to measure

the effect(s) of psoriasis on the quality of life¹⁷.

The SF-36 questionnaire, which consists of 36 questions addressing eight aspects of health status, is an instrument for measuring the quality of life in the normal population as well as in individuals with various diseases. All questions are scored on a scale of 0 to 100, with 100 representing the highest level of functioning possible. Aggregate scores are compiled as percentages of the total possible score. Higher scores indicate less impairment in quality of life. A valid and reliable Persian version of this questionnaire was applied in our survey¹⁸.

The BDI consists of 21 questions which are answered by the participants according to their feelings over the last week. Each item is scored from 0 to 3 to determine the participant's degree of depression. Individuals with total scores between 0 and 9 are not recognized as depressed, scores between 10 and 18 are indicative of mild to moderate depression, scores between 19 and 29 indicate moderate to severe depression, and scores between 30 and 63 are defined as severe depression¹⁹.

SPSS version 13.0 was used for data analysis, and the differences in continuous variables between groups were evaluated using independent sample *t* test and Kruskal-Wallis test. The Pearson χ^2 test and the Fisher's exact test were applied for categorical variables. The Pearson's correlation was used to examine the association between DLQI and BDI. In all analyses, $P < 0.05$ was considered to indicate statistical significance.

RESULTS

One hundred psoriasis patients participated in this cross-sectional study. The mean age of the participants was 36.2 ± 13.5 years, and the mean duration of the disease was 9.5 ± 9.6 years. Seventy-three patients were married, 26 were single, and 1 was divorced. Forty nine were employed, thirty nine were unemployed, and 12 were students. Forty patients were female, and 60 were male (F/M = 0.6). Mean scores of the BDI, SF-36, and DLQI for all patients were 17.1 ± 12.3 , 59.8 ± 19.5 , and 12.4 ± 6.1 , respectively. The most common type of the disease was the plaque form which was detected in 88 cases. Guttate psoriasis was seen in 9, and nail involvement was observed in three.

All patients with arthritis (nine men and nine women) had plaque-type disease, with a mean

Table 1. distribution of different depression severity levels in different kinds of the disease.

Type of disease	Not depressed	mild to moderate depression	Moderate to severe depression	Severe depressed	P Value
Plaque	5	0	3	1	0.4
Guttate	27	24	19	18	
Nail	1	1	0	1	

Table 2. Scores of questionnaires of different types of the disease and mean scores of different aspects of the DLQI questionnaire in different types of the disease.

	Plaque	Guttate	Nail
Number of cases	88	9	3
Mean DLQI score	13.01 ± 6.1	11.1 ± 5.4	13.3 ± 10.01
Mean BDI score	17.5 ± 12.3	13.2 ± 11.5	18.6 ± 19
Mean SF-36 score	58.2 ± 19.4	72.3 ± 15.4	68.4 ± 24.2
Mean score of symptoms and feelings part	3.1 ± 1.5	3.3 ± 1.5	3.6 ± 2.5
Mean score of Daily activities part	2.6 ± 1.5	2.6 ± 1.6	2.3 ± 2
Mean score of leisure part	1.4 ± 1.5	2.6 ± 1.8	1.3 ± 2.3
Mean score of Work and school part	0.4 ± 0.5	0.8 ± 0.8	2 ± 1.7
Mean score of personal relationships	1.8 ± 2.2	2 ± 1.6	2 ± 1.7
Mean score of treatment	4.8 ± 10.6	1.3 ± 0.9	2 ± 1

Only SF-36 score was significantly different between the three patient groups (p=0.04).

Table 3. distribution of different depression severity levels in male and female cases.

	Not depressed	mild to moderate depression	Moderate to severe depression	Severe depressed	P Value
Male	24	14	11	11	0.1
Female	9	11	11	9	

Table 4. Scores of questionnaires for male and female patients and mean scores of different aspects of DLQI questionnaire in male and female cases.

	Men	Women
DLQI	12.3 ± 6.03	13.6 ± 6.2
BDI	16.01 ± 12.6	18.9 ± 11.9
SF-36	61.4 ± 20.3	57.4 ± 18.3
Mean score of symptoms and feelings part	3.2 ± 1.5	3.5 ± 1.7
Mean score of Daily activities part	2.3 ± 1.5	3.1 ± 1.7
Mean score of leisure part	2.6 ± 1.8	2.4 ± 1.8
Mean score of Work and school part	0.8 ± 0.9	0.8 ± 0.8
Mean score of personal relationships	2 ± 1.6	2.1 ± 1.7
Mean score of treatment	1.8 ± 4.2	1.6 ± 1

Only the score of daily activities was significantly different between the two groups (p=0.03).

Table 5. Scores of questionnaires according to marital status and number of patients in different depression severity levels.

	Single	Married	Divorced	P-value
DLQI	12.8 ± 6.3	12.8 ± 6.1	10	0.8
BDI	15.8 ± 10.7	17.6 ± 13	22	0.7
SF-36	63.7 ± 13.9	58.4 ± 21.2	60.4	0.4
Not depressed	8	25	0	0.6
mild to moderate depression	7	18	0	
Moderate to severe depression	8	13	1	
Severely depressed	3	17	0	

Table 6. distribution of depression severity levels in cases with and without arthritis.

	Not depressed	mild to moderate depression	Moderate to severe depression	Severe depressed	P Value
With arthritis	1	7	4	6	0.02
Without arthritis	32	18	18	14	

Table 7. Questionnaires scores and mean scores of different aspects of DLQI questionnaire in cases with and without arthritis.

	With arthritis	Without arthritis	P-Value
Number of cases	18	82	
BDI	23.5 ± 12.5	15.8 ± 11.9	0.01
DLQI	14.2 ± 5.8	12.5 ± 6.1	0.2
SF-36	35.9 ± 16	65.1 ± 16.1	< 0.001
Mean score of symptoms and feelings part	3.1 ± 1.5	3.4 ± 1.6	0.2
Mean score of Daily activities part	2.7 ± 1.2	2.6 ± 1.7	0.1
Mean score of leisure part	3.4 ± 1.7	2.3 ± 1.7	0.02
Mean score of Work and school part	0.8 ± 0.7	0.8 ± 0.9	0.3
Mean score of personal relationships	2.3 ± 1.5	2 ± 1.5	0.1
Mean score of treatment	1.5 ± 0.9	1.7 ± 3.6	0.2

disease duration of 12.3 ± 10.4 years.

Depressed individuals tended to have higher DLQI scores (14.2 ± 5.5 vs. 9.9 ± 6.2 ; $r = 0.3$, $P = 0.001$). A significant negative association was found between DLQI and SF-36 ($r = -0.4$, $P < 0.001$).

There was no significant relationship between DLQI and the duration of the disease ($r = 0.01$, $P = 0.9$) or between DLQI and age ($r = -0.04$, $P = 0.6$)

DISCUSSION

To our knowledge, this is the first study to evaluate the quality of life and depression in Iranian psoriasis and psoriatic arthritis patients simultaneously. Previous studies have suggested that people with psoriasis suffer impaired quality of life when compared to the normal population; the difficulties include body disfigurement, feelings of stigmatization, distress, anxiety, and embarrassment^{20,21}.

This survey was performed to determine the effect of psoriasis on the quality of life of a sample of 100 Iranian patients with an overall mean DLQI score of 12.4 ± 6.1 .

Ongenaes *et al* reported a mean DLQI score of 6.5 in 162 patients with psoriasis in Belgium²², and Meyer *et al* reported a mean DLQI score of 8.5 in patients with severe psoriasis vs. 6.4 in mild psoriasis cases²³. These observations indicate that disease-related impairment in the quality of life was more profound in our cases as compared to previous studies, although our cases were selected

among outpatients rather than inpatients. These higher scores may be explained by the status of Razi Hospital as a tertiary hospital and a referral center for skin diseases. Another explanation for this finding is perhaps the severity of the disease status and lower adjustment with the disease as a chronic condition in our cases.

One of the most important observations in this study was the impact of different clinical types of psoriasis on mood and quality of life. Although no significant difference was detected in questionnaire scores, our instruments indicated higher levels of depression and disease-related quality of life impairment in patients with nail psoriasis. Augustin *et al.* reported mean DLQI scores of 8.6 in 1511 plaque-type psoriasis patients and 8.9 in 3531 nail-psoriasis patients^{24,25}, which were lower than our scores. Sampogna *et al.* reported poorer quality of life as determined by SF-36 in palmoplantar cases than in patients with plaque or guttate types of psoriasis²⁶.

It has been reported that 50% of the patients with psoriasis experience depression and anxiety as the consequences of the disease²⁷.

The mean BDI of all the patients in the present study was 17.1 ± 12.3 , which was higher than that reported by Lee *et al.* (11.47 ± 8.2)²⁸. In the present study, women were more depressed and had higher DLQI and lower SF-36 scores than did men, possibly due to the greater stress and shame related to their appearance. We also found a much higher rate of depression in psoriasis patients (57%) as compared to the general population or patients

with other chronic conditions²⁹.

Maladaptive coping responses, body image problems, and feelings of shame, stress, and worry have been suggested to cause depression in psoriasis patients. Although there is no evidence of brain involvement in psoriasis, it is suggested that the chronic nature of the disease may be the cause of depression, especially combined with impaired quality of life²⁶.

Depression may influence quality of life more than other factors. Our study showed a significant positive association between BDI and DLQI, similar to the findings of Schmitt and Ford who reported depression in 75% of the psoriasis cases with impaired quality of life and suggested that disease severity played a key role in depression and quality of life impairment³⁰.

Lack of emotional support in patients with psoriasis, as a result of difficulties in finding a partner, may be responsible for the diminished quality of life³¹. In the present survey, 26% of the patients were single and one was divorced; the divorced individuals had the highest DBI score whereas the lowest SF-36 scores were observed in married patients.

In a study by Lee *et al.*, 20.3% of the patients were single and 9.4% were divorced²⁸; in another population study on 265 psoriasis patients, 14% were single, and 20 of the 133 patients with more quality of life impairment were single³⁰.

Erosive joint injury occurs in 50% of the patients with early-onset psoriatic arthritis that limits mobility and activity. Effective treatment should reduce pain, swelling, and tenderness to improve the patients' functional abilities and quality of life³².

In the present study, patients with arthritis had significantly higher BDI and lower SF-36 scores, indicating greater depression and quality of life impairment as compared to cases without arthritis. These findings support the results of previous studies, indicating that psoriatic patients have functional disabilities and a reduced quality of life when compared to the general population³³.

These observations indicate that mobility limitations in such cases not only cause physical problems but also affect all aspects of life.

Conclusions

Quality of life impairment and mood disorders

should be considered in psoriasis and psoriatic arthritis patients. Therefore, effective treatment of psoriasis cases should include multi-facets of disease such as psychological aspects.

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