

Quality of life of psoriasis patients and their partners in Mashhad, Iran

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Background: Psoriasis is a disease that influences the physical, psychological, and social dimensions of the lives of those affected. We aimed to evaluate the effect of psoriasis disease on the quality of life of patients and their partners.

Methods: Forty psoriasis patients were eligible for inclusion in this study. Each participant's clinical data were collected, including age, sex, PASI score, history of treatment, family history of the disease, educational level of the patients and their spouse, profession, and history of divorce. The patients and partners completed the Dermatology Life Quality Index (DLQI) and Family Dermatology Life Quality Index (FDLQI) questionnaires, respectively. The results were compared against 40 age and sex-matched healthy individuals and their partners.

Results: The mean DLQI score was 11.75 ± 7.25 among patients, and the mean FDLQI score of their partners was 12.20 ± 5.63 . There was a significant difference between the patients/partners and the respective control groups in DLQI and FDLQI scores ($P < 0.001$). There was a significant correlation between disease severity and DLQI/FDLQI scores ($P < 0.05$). Also, a meaningful relationship was noted between the quality of life of patients and their spouses ($r = 0.48$, $P = 0.001$). Besides, the PASI score shared a significant relationship with the DLQI ($P = 0.003$, $r = 0.46$) and FDLQI ($P = 0.001$, $r = 0.56$) scores.

Conclusion: We conclude that psoriasis harms the quality of life of both patients and their families, which deteriorates with an increase in disease severity and PASI scores.

Keywords: dermatology quality of life, psoriasis, partner, family dermatology quality of life

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INTRODUCTION

As a common chronic inflammatory skin disease, psoriasis significantly affects patients' health-related quality of life (HRQoL) ¹⁻³. Lack of understanding between patients and their family members could raise their level of concern and anxiety. Previous investigations have demonstrated the physical, social, and psychological damage of psoriasis on

patients' quality of life (QoL), while the family members are also affected ^{4,5}. However, until now, there has been a lack of evidence on family members' alertness about the concept and importance of psoriasis circumstances in light of patients' QoL ⁶. Moreover, most physicians barely consider these factors in clinical decision-making. Considering the social and cultural differences among societies, QoL surveys must be conducted among psoriasis

patients and their family members in various settings as such studies could provide valuable information about the patients' psychological status, dermatology QoL, and risk of disease⁷⁻⁹.

Psoriasis has been shown to impose levels of psychological distress on the healthy partners of patients^{10,11}. Therefore, we emphasize the undeniable role of partners, where changing the patient's daily living pattern and decreasing the psychological distress could significantly affect the HRQoL. This study aimed to determine the QoL among psoriasis patients and their partners based on disease severity and demographic characteristics, compared against healthy or non-psoriatic patients and their partners.

PARTICIPANTS AND METHODS

Study participants. This cross-sectional study was conducted on forty psoriasis patients and their partners (40 cases); the patients were selected among those referring to the Dermatology Department of Mashhad University of Medical Sciences, Mashhad, Iran. In this study, we included married patients with plaque psoriasis and PASI scores of more than 0.5. Patients under therapy for psoriasis during the past three months and those under 18 years of age were excluded. Patients with severe diseases like inflammatory or metabolic diseases and cancers were also excluded. The sample size of this study was calculated considering 85% power and a 5% two-sided type I error, in line with previous studies¹². The calculated sample size for each group was measured to be 40 cases. In total, 80 participants (40 patients and 40 healthy controls) were entered into two study groups. The healthy controls had no skin diseases and referred to our clinic for cosmetic procedures. This study was carried out following our local ethics committee's approval, and all documents were kept confidential.

Study design. The demographic profile of all participants (patients, controls, and their partners), including gender, age, patient history of the disease, and duration of disease, were collected. Besides, information about previous marriages or divorce, education, family income, and occupation were gathered. For psoriatic patients, factors including site of involvement and skin examination were evaluated. Moreover, the Psoriasis Area and Severity Index (PASI) was calculated according to

the standard protocol¹³. In this index, the affected skin area is scored, including the head (10%), upper extremities (20%), lower extremities (40%), and trunk (30%). Erythema, thickness and scaling of the lesions are also scored, with each criterion being graded from 0 to 4. Disease severity was classified as either mild (PASI < 10) or moderate to severe (PASI ≥ 10).

The Dermatology Life Quality Index. The Dermatology Life Quality Index (DLQI) questionnaire is a widely used dermatology-specific questionnaire for the evaluation of HRQoL¹⁴. This questionnaire includes ten questions with responses ranging from 0 (no damage) to 30 (maximum damage). This questionnaire was validated in Persian format by Aghaei *et al.*¹⁵. Besides, we asked the partners of both patients and controls to complete the Family Dermatology Life Quality Index (FDLQI), which has also been validated in Persian¹⁶.

Statistical analysis

We used SPSS version 16 (SPSS Inc., Chicago, IL, USA) for data analysis. Qualitative data were summarized using frequency and percentage. The Kolmogorov-Smirnov test was used to assess data normality. The t-test was recruited to evaluate differences in PASI scores, DLQI scores, and skin examination measures. Furthermore, an independent sample t-test was conducted to check differences in the two groups' demographic variables and PASI and DLQI scores. The correlation of clinical response (PASI) with DLQI in patients and their partners was evaluated using the Spearman correlation test. P-values < 0.05 were considered significant.

RESULTS

Participant's basic information. Table 1 presents the demographic data of the study subjects. The cases and controls were 45.97 ± 13.2 and 44.35 ± 13.5 years old, respectively. There was no significant difference between the age of the two study groups ($P = 0.85$). A positive history of psoriasis was shown in six (15%) of the patients. The difference between the family income of the case and control groups was significant ($P = 0.01$), though the difference between the number of children was

Table 1. Demographic characteristics of study participants

Variables	Patients Frequency (%)	Controls Frequency (%)
Gender		
Male	21 (52.5)	19 (47.5)
Female	19 (47.5)	21 (52.5)
Age category (years)		
20-30	5 (12.5)	4 (10)
31-40	13 (32.5)	15 (37.5)
41-50	8 (20)	10 (25)
51-60	7 (17.5)	6 (15)
61-70	7 (17.5)	5 (12.5)
Education		
Bachelor's degree or lower	29 (72.5)	21 (52.5)
Higher than bachelor's degree	11 (27.5)	19 (47.5)
Patients history		
Positive psoriasis history	6 (15)	6 (15)
Negative psoriasis history	34 (85)	34 (85)
Divorce history		
No	38 (95)	30 (75)
Yes	2 (5)	10 (25)
Occupation		
Housewife	15 (37.5)	10 (25)
Government-employed	9 (22.5)	15 (37.5)
Unemployed	1 (2.5)	1 (2.5)
Laborer	4 (10)	1 (2.5)
Other	11 (27.5)	13 (32.5)
Family Income (IRR)*	14,200,000 (13,000,000)	29,625,000 (20,000,000)

*Family income is considered as mean (median) and given in Iranian Rials (IRR)

not significant ($P > 0.05$).

Clinical assessment. The locations of the psoriatic lesions were categorized under seven classes: lower limb, scalp, upper limb, nail, scalp-upper limb, scalp-nail-lower limb, and generalized involvement. The predominant sites of involvement in psoriasis patients were the limbs and scalp-limbs categories, with 13 (32.5%) and 10 (25%) cases, respectively. Moreover, the PASI score of the studied patients was 7.99 ± 6.8 . Based on the PASI score, disease severity was mild in 33 (82.5%) and moderate to severe in 7 (17.5%).

Table 2. DLQI and FDLQI scores in study participants

Variable	Cases	Controls	P-value
DLQI (patients)	11.75 \pm 2.75	3.27 \pm 3.57	0.03
FDLQI (partners)	12.20 \pm 5.63	2.52 \pm 0.3	0.01
Variable	Patients (DLQI)	Partners (FDLQI)	P-value
Psoriasis severity	Mild	10.75 \pm 6.8	11.9 \pm 5.9
	Moderate to Severe	16.4 \pm 7.6	13.2 \pm 3.5
			0.03

Data are presented as mean \pm standard deviation. P-values were calculated using the Mann-Whitney test. Abbreviations: DLQI, Dermatology Life Quality Index; FDLQI, Family Dermatology Life Quality Index

Measuring DLQI and FDLQI. The comparison of the results obtained from the investigation of the DLQI score of study individuals is presented in Table 2. This table shows that the DLQI and FDLQI scores in the patients and partners, respectively, were significantly higher than the respective controls ($P < 0.001$). Besides, partners of patients had significantly higher DLQI scores ($P < 0.001$), while the partners of healthy controls had significantly lower DLQI scores ($P < 0.001$). There were also significant differences in QoL based on the severity of psoriasis among patients ($P = 0.02$) and partners of patients ($P = 0.004$). Moreover, this difference was meaningful between different severities of psoriasis ($P < 0.05$).

Relationship between DLQI and clinical and demographic findings. The correlation between PASI and DLQI scores in the patients and between PASI and FDLQI scores among the partners of patients was evaluated. This correlation (Figure 1) illustrated that there was a significant relationship between PASI and DLQI scores among patients ($P = 0.003$, $r = 0.46$), as well as between PASI and FDLQI scores among the partners of patients ($P = 0.001$, $r = 0.56$). Although, the difference in DLQI and FDLQI following the sites of skin involvement in the patients ($P = 0.84$) and partners of patients ($P = 0.69$) was not statistically significant. However, the difference between the two mentioned groups and the site of involvement was meaningful ($P = 0.05$).

Table 3 exhibits the relation of demographic characteristics of subjects with DLQI or FDLQI scores, where both men and women had similar DLQI and FDLQI scores. There was no meaningful difference between variations of age categories and DLQI and FDLQI scores of patients ($P > 0.05$). Differences between DLQI and FDLQI of patients and their partners with a positive history of psoriasis were not meaningful ($P > 0.05$). Besides, patients with different educational levels and their partners

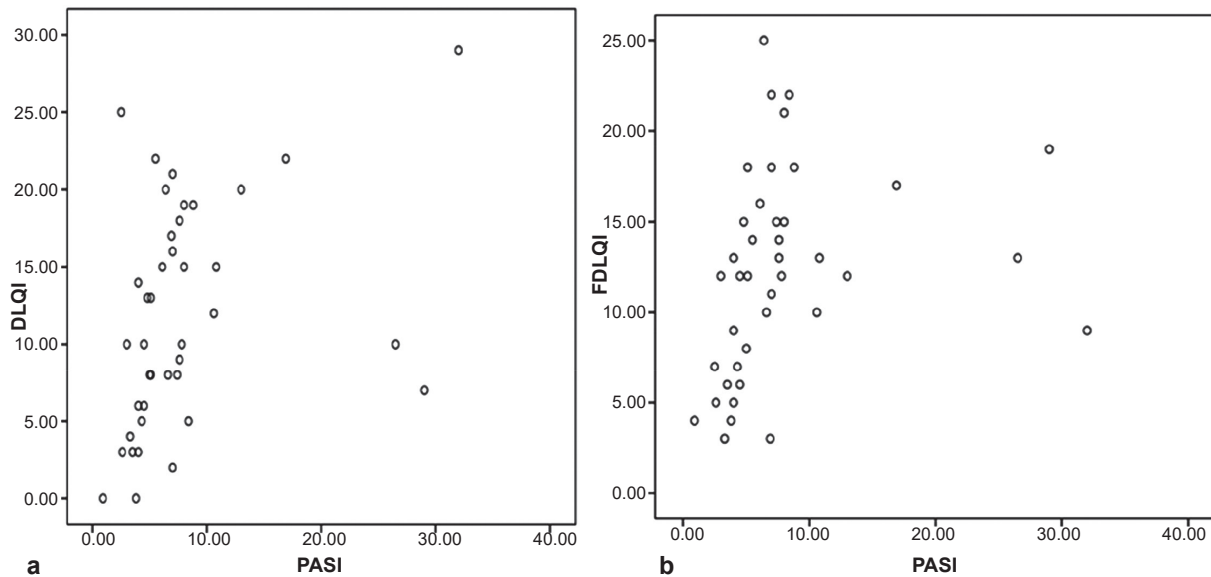


Figure 1. Correlation of PASI score with DLQI (A) and FDLQI (B) scores among patients and partners of patients, respectively.

Table 3. Relation of demographic characteristics of patients with DLQI/FDLQI scores

Variables	Patients (DLQI) Mean ± SD	Partners (FDLQI) Mean ± SD	P-value*
Gender			
Male	11.71 ± 4.7	13.2 ± 4.7	0.95
Female	11.78 ± 3.8	11 ± 3.6	0.10
Age category (years)			
20-30	7 ± 2.7	8 ± 4.1	0.26
31-40	15.5 ± 2.6	9.5 ± 2.2	
41-50	14.8 ± 5.9	10.5 ± 3.3	0.92
51-60	14 ± 4.3	9 ± 3.6	
61-70	7 ± 3.1	9 ± 2.8	
Education			
Bachelor's degree or lower	12.7 ± 7	11.7 ± 5.3	0.60
Higher than bachelor's degree	9 ± 7.4	13.3 ± 6.5	0.25
Patients history			
Positive psoriasis history	11.84 ± 6.5	12.3 ± 7.1	0.52
Negative psoriasis history	11.7 ± 7.4	12.1 ± 5.4	0.49
Divorce history			
No	11.5 ± 7	12.1 ± 5.6	0.53
Yes	16 ± 12.7	13 ± 8.4	0.18
Occupation			
Housewife	12.4 ± 5.2	11.2 ± 4.2	0.12
Government-employed	0.8 ± 2.3	13.2 ± 4.2	
Unemployed	2.2	14	0.73
Laborer	9 ± 2.1	13.7 ± 1.2	
Other	14.6 ± 5.2	12.7 ± 5.5	
Family income (Pearson correlation)	0.14 (-0.23)	0.45 (0.12)	>0.05
Number of children (Pearson correlation)	0.61 (-0.81)	0.23 (0.19)	>0.05
Duration of disease (years)			
0-5	10.2 ± 2.1	12.4 ± 3.7	0.31
6-10	11.8 ± 4.2	11.3 ± 2.6	
11-20	15.7 ± 2.3	12.7 ± 2.9	0.92
21-30	9 ± 3.5	11.6 ± 5.3	

*Mann-Whitney test unless otherwise specified.

Abbreviations: DLQI, Dermatology Life Quality Index; FDLQI, Family Dermatology Life Quality Index

possessed similar DLQI scores and FDLQI scores ($P > 0.05$), respectively. There was no considerable correlation between the DLQI/FDLQI with family income and the number of children ($P > 0.05$, Table 3). Furthermore, a history of divorce and different occupations did not significantly affect the participants' DLQI and FDLQI scores ($P > 0.05$).

DISCUSSION

In this study, we aimed to determine the DLQI of psoriasis patients and their partners in terms of disease severity and demographic characteristics, including age, gender, education, family history of the disease, family income, number of children, occupation, and history of divorce in comparison with the healthy or non-psoriatic patients and their partners. Psoriasis not only restricts the daily lives and social activities of psoriatic patients but also has a major effect on the QoL of patients, their partners, or even relatives.

Our findings confirmed a meaningful difference between patients and healthy individuals related to both dermatology QoL and family QoL scores ($P < 0.001$). Besides, the correlation between disease severity and the respective scores was meaningful. Also, the relationship between the DLQI of patients and their partners was positively significant. The obtained results revealed the considerable effect of the extent and severity of disease on psoriasis patients as well as their partner lives compared to healthy families. In this regard, it should be noted that some major matters remain undetermined. These matters might be important for recognizing the effects of the disease, which helps clinicians reduce the disease burden by developing suitable therapeutic strategies for all affected individuals.

A previous study suggested that the distress of a psoriasis patient is influenced by the level of distress in their partner¹¹. Similarly, we found that the impact on the life of the partner was more closely related to the QoL of the psoriatic patient rather than their disease severity. Psoriasis might result in immense problems in patients' partners, especially due to the extent of the disease or its related natural history of psoriasis and a potential effect on the sexual function¹⁷. One previous investigation has found that sexual relationships could be adversely affected, and interpersonal relationships also

deteriorated due to the conditions of patients¹⁰. Psoriatic patients experience disease stigmatization, associated with high rates of depression, anxiety, and suicidal ideation¹⁷. Moreover, impairments in psoriatic patients' social and sexual performance and restrictions on activities of patients have all been reported^{3,18,19}.

Although some previous studies reported the correlation of patients' DLQI with the site of disease involvement^{18,19}, this was not confirmed in our study. This difference might be due to the smaller sample size of the present study. The life impact of psoriasis is considerable and connected to the severity of the disease, but even people with mild disease severity of psoriasis experience substantial alterations in daily activities. Psoriasis patients are affected considerably in their health state utility, general health perception, and social functioning relative to non-psoriatic individuals²⁰. However, in this study, we did not investigate the daily activities of patients and their partners, but rather measured the exact score of psoriasis area and severity index, which were objectively measured in previous studies¹⁰. Regarding the QoL in single psoriasis patients, it is obvious that single patients experience less stress from family obligations, which may lead to a lower score on the DLQI scale than married patients.

Similar to previous study findings²¹, we found that in only 5% of participants, there was no influence of their disease on the DLQI score, while in the remaining 95%, psoriasis affected DLQI differently from mild to severe degrees. However, all partners in the present study declared that disease in their partners affects their QoL in mild to severe degrees. Hence, considering the results of the FDLQI in our study, 100% of the partner' who completed the questionnaires confirmed that the disease of their spouse affects their QoL. These findings confirm the undeniable impact of psoriasis on the health-related QoL of all family members.

In our study, the patients with a previous divorce history had a higher score in the FDLQI than patients without a history of divorce. This finding might be because our participants were couples, meaning that the previous divorce was no longer in the patients' minds and did not significantly influence the FDLQI score. Moreover, families with higher education levels had lower FDLQI scores than those with lower education levels. This

might be due to easier accessibility of people with higher educational degrees to information related to the disease. Although Tadros *et al.*²¹ found a significant relationship between education level and FDLQI score, we found that the relationship between education level and DLQI or FDLQI scores was insignificant. This discrepancy might be due to differences in disease-related information accessibility or health-related QoL across the different countries and study environments.

In our study, partners of patients with a positive family history of psoriasis had a lower FDLQI score in comparison with those who did not have a positive family history of psoriasis. The positive family history of the disease may lead the patient's partners and their relatives to become aware of the burden associated with psoriasis. As mentioned, our findings display a significant positive correlation of the DLQI score with the FDLQI score. This means that the health-related QoL of psoriatic patients has a severe impression on the QoL of the related families. Besides, as mentioned above, this significant positive correlation of both DLQI and FDLQI scores with the PASI score suggests that psoriasis severity has a direct effect on the QoL among patients and their family members.

Regarding age categorization among study participants, we found that patients aged 31-60 years represented the worse DLQI and FDLQI scores rather than overall status. Our results were similar to a previous study in Iran, which found that psoriasis patients aged 25-50 years had the highest DLQI scores²². This might be due to the problems caused by aging for patients. Our study results showed that there was not any significant relation between DLQI and FDLQI and social characteristics including gender, family income, and the number of children. However, a previous study found that gender differences attributed a better level of QoL to female patients than male patients¹². Hawro *et al.* reported that family income was raised as an intermediate factor that can disorder the patients' QoL²³. These differences might be attributed to different social, economic, and cultural levels of the studied societies.

CONCLUSION

We conclude that psoriasis disease affects patients and their families' QoL, which deteriorates with

the escalation in the severity of the disease and PASI score. Accordingly, we recommend that when a dermatologist faces a psoriatic patient, not only the patients but also their spouses should receive a psychiatric evaluation. The partner must be considered an efficient member of the treatment team. This approach might decrease skin lesions' severity and boost patients' psychosocial well-being, addressing both the physical and psychosocial disease burden. Novel tools that measure the aggregated impacts of psoriasis during the course of a patient's life would facilitate a deepened understanding of the disease.

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Conflict of Interest: None declared.

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