

Quality of Life in Psoriatic Patients: A Study Using the Short Form-36

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Date of Submission: Dec 23, 2013

Date of Acceptance: Jun 04, 2014

How to cite this article: Darjani A, Heidarzadeh A, Golchai J, Sadr-Eshkevari S, Alizadeh N, Arami M, Nichhah N. Quality of Life in Psoriatic Patients: A Study Using the Short Form-36. *Int J Prev Med* 2014;5:1147-53.

ABSTRACT

Background: Quality of life (QOL) is increasingly recognized as an important outcome measure in dermatology. Psoriasis has a great impact on QOL of patients, and has a strong effect on social relations, psychological status, and daily activities. This study describe and compare the impact of different grades of severity of psoriasis on QOL of patients in north of Iran.

Methods: This cross-sectional study was performed on 55 patients diagnosed with psoriasis and 55 healthy controls. The patients were selected by consecutive sampling from April to December 2006. The controls were recruited by simple random sampling among patient escorts. After obtaining written informed consent, all the members were included into the study. The Psoriasis Area and Severity Index (PASI) standard questionnaire was used to determine the severity of the disease. In addition, the short-form-36 questionnaire, which is validated for use in Iran, was employed. The gathered data were analyzed using the Stata (V 8.0, SE) (Copyright 1984-2003, Stata Corporation, 4905 Lakeway Drive Special Edition, College Station, Texas 77845 USA) and analyses of covariance (ANCOVA) test.

Results: Overall, The mean PASI scores was 5.4 ± 6.7 , total QOL scores had a significant difference between patients and controls (61.1 ± 17.0 vs. 71.9 ± 22.4) ($P < 0.05$), especially in three domains: Role-physical (58.5 ± 23.3 vs. 70.8 ± 26.2), general health (43.8 ± 21.6 vs. 61.5 ± 27.3), and social functioning (62.7 ± 26.7 vs. 79.5 ± 27.5) ($P < 0.01$). Physical activities were affected in $>50\%$ of the cases. This figure significantly increased with the increasing severity of psoriasis. In addition, social relationships were disrupted in more than half of the patients, but with no significant difference between different grades of severity ($P > 0.05$). There is no significant difference between adjusted score of multiple domains of QOL in psoriatic patients according to PASI levels (ANCOVA, $P > 0.05$).

Conclusions: The physicians' awareness of the importance of patients' QOL in both physical and emotional aspects could improve and enhance the psychological evaluation of the psoriatic patient, which will promote his/her positive outcome. And, PASI

score can't to predict the QOL really.

Keywords: Psoriasis, psoriasis area and severity index, quality of life, short-form-36

INTRODUCTION

Psoriasis is a chronic skin disease affecting 1-2% of the population. It is characterized by hyperproliferation of the epidermis and thick, red and scaly lesions that may appear anywhere on the body.^[1,2] Psoriasis is a complex, multifaceted skin condition that may have a broad impact on patients' daily life.^[3] The impact of psoriasis on patients is profound and can cause considerable morbidity.^[4-9] Several patients experience problems with body image, self-esteem and self-concept, poor psychological adaptation and feeling of stigmatization, shame and embarrassment concerning their appearance.^[10,11]

The nature of the disease suggests the definition of severity that includes physical, psychological and social components. Until recently, the severity of psoriasis was generally measured on the basis of the extent of the area involved and the clinical characteristics of skin involvement. Recent studies have emphasized the association of psoriasis severity with impaired physical and social functioning (SF) as well as with the emotional state.^[12-16] The concept of quality of life (QOL) was developed from an array of information about physical, social and psychological wellbeing, and was adopted by the World Health Organization's broad view of health as not merely the absence of disease, but the ability of a person to lead a productive and enjoyable life.^[2] It is now well-recognized that the personal impact of psoriasis cannot be comprehensively portrayed by measuring the level of the disease,^[17,18] and should be evaluated based on different kinds of burden from the disease, their change with treatment and their effect on personal life.^[19-21]

A review of the literature clearly indicated that there is very limited data on the accurate assessment of QOL of patients with dermatologic diseases in Iran.^[3,22] Only two studies are available on the relationships between QOL measures and disease severity.^[3] The lack of comprehensive and country-wide information necessitates the need to document the impact of psoriasis on patients' lives. The aim of the present study was to investigate the QOL of patients with psoriasis in the Guilan

province (south Caspian Sea littoral, Iran) with distinctive and different culture and lifestyle, describe their QOL using the short-form-36 (SF-36) questionnaire and compare the scores obtained with the impact of some demographic factors on the patients' physical activities, social relationships, psychological feelings and disease severity.

METHODS

Study design and participants: In this cross-sectional study Patients with psoriasis who visited the Ambulatory Clinic, PUVA Clinic and the inpatient ward of Razi Hospital, Rasht, Iran from April to December 2006 were invited to participate. The study participation was voluntary. After the study had been fully described to the subjects, written informed consent was obtained. The study was approved by the research committee of the Tonkabon Azad University. The patients had a definite diagnosis of psoriasis confirmed by clinical assessment. All the participants were 18 years of age or older, were diagnosed with psoriasis at least 6 months earlier and had no significant medical condition except psoriasis. The control group was recruited by simple sampling of the healthy people in the waiting room of the hospital and matched with the patient group by gender and one dermatologist approved they dermatologic health by clinical exam.

According to prior studies^[8,9] sample size estimated 55 per each group for 80% power and 5% confidence level by sampsi formula and Stata (V 8.0, SE) (Copyright 1984-2003, Stata Corporation, 4905 Lakeway Drive Special Edition, College Station, Texas 77845 USA) software.

Study instruments and variable assessment: We used the Psoriasis Area and Severity Index (PASI) score to determine the clinical severity of the disease. In the PASI,^[23] the area of the skin affected by psoriasis and the clinical severity of its manifestations (erythema, infiltration, and desquamation) were assessed (by a dermatologist) and scored from 0 (no psoriasis) to 72 (very severe psoriasis). For the purposes of this study, the patients were classified as having mild (PASI \leq 3), moderate ($4 \leq$ PASI \leq 15) or severe (PASI $>$ 15) psoriasis.

Our core instrument for the assessment of the QOL was the SF-36 questionnaire, which was

designed as a generic indicator of health status for use in population surveys and evaluative studies of health policy.^[24,25] In addition, the SF-36 questionnaire can also be employed in conjunction with disease-specific measures as an outcome measure in clinical practice and research. As a generic instrument, the SF-36 questionnaire was designed to be applicable to a wide range of types and severity of conditions. It is a useful instrument for monitoring patients with multiple conditions and comparing the health status of patients with different conditions and the general population. The SF-36 questionnaire includes 36 items, in a Likert-type or forced-choice format, intended to measure the following eight dimensions: Physical functioning (PF, limitations in performing physical activities such as bathing or dressing), role-physical (RP, limitations in performing work and other daily activities as a result of physical health), bodily pain (BP, how severe and limiting the pain is), general health (GH, how general personal health is evaluated by the patient), vitality (VT, feeling tired and worn out vs. feeling full of energy), (SF, interference with normal social activities owing to physical or emotional problems), role-emotional (RE, limitations in performing work and other daily activities as a result of emotional problems) and mental health (MH, feeling nervous and depressed vs. peaceful, happy, and calm). In addition, question 2 covers change in the health status over the past year; although this is not counted in scoring the eight dimensions, it is used to estimate the change in health from a cross-sectional administration of the SF-36 questionnaire. The scores for each domain range from 0 to 100, with high scores indicating a better status. In this study, we used the Persian version of the SF-36 questionnaire.^[26]

Statistical analysis

We adjusted the QOL score in each domain to 100 points by the direct method and then used Kolmogorov–Smirnov test for examining the normality of the distribution of the QOL score of the patient and control group, respectively. The proportions and ordinal data were analyzed by employing χ^2 test and other nonparametric tests. Continuous data were examined by using *t*-test primarily, furthermore, we used analyses of covariance for adjusting the demographic

characteristics, especially, for education. All the significance levels reported are two-tailed. The data were analyzed by using Stata (V 8.0, SE) for Windows statistical computer package.

RESULTS

A total of 55 patients with psoriasis completed the interview and were included in the study as the patient group. In addition, 55 healthy people were interviewed and included as the control group. Each group comprised 28 (51%) men and 27 (49%) women. The respondents’ age ranged from 18 to 79 years with an average of approximately 41 ± 18.2 years. Most of the respondents were married (70.9% and 65.5% in the patient and control groups, respectively) and employed (62.7% and 59.1% in the patient and control groups, respectively) in both groups. Approximately, 82.7% of the participants had a total family income (per year) of less than \$1500 and there were significant differences in the income level between the patient and control group ($P < 0.05$). Furthermore, about 23% of the subjects had completed university education [Table 1]. The PASI scores of the patient group ranged from 2 to 56.7 (5.4 ± 6.7), indicating a full range of disease

Table 1: Demographic characteristic of patients and controls

Characteristic	Number (%)		P value ^a
	Patients	Controls	
Sex			
Male/female ratio	28/27 (49.1/50.9)	28/27 (49.1/50.9)	NS*
Marriage			
Single/married ratio	19/36 (43.5/65.5)	13/42 (23.6/76.4)	Ns*
Age (years)			
<35	27 (49.1)	29 (52.7)	NS*
36-55	18 (32.7)	12 (21.8)	
56-70	5 (9.1)	7 (12.7)	
>70	5 (9.1)	7 (12.7)	
Education			
Illiterate	3 (5.7)	17 (33.3)	0.017
Undergraduate	37 (69.9)	22 (43.2)	
Graduated	13 (24.5)	12 (23.5)	
Income (\$/year)			0.001
<1500	38 (70)	53 (96)	
>1500	17 (30)	2 (2)	

^aChi-square test, *NS=Not significant ($P>0.05$)

severity from partial remission to very severe (the pure mild disease was very rare in our sample, and we found only two patients with < 3 PASI score).

The impact of psoriasis on the QOL of the patients was studied in relation to the above-mentioned eight domains: PA, RP, BP, GH, VT, SF, RE and MH. Overall, there were significant differences in the total adjusted score of QOL between the patient (61.1 ± 17) and control (71.9 ± 22) groups ($P < 0.05$). The highest score in multiple domains of QOL in both groups was that for PA, which was 74.8 ± 31 and 80.0 ± 35 in the patient and control groups, respectively. While there were significant differences between PA, RP, RE and SF scores and age as well as education of the patients [Table 2], no significant relation was noted between the PASI scores and all the QOL scores [Table 3].

DISCUSSION

Considering the global high prevalence of psoriasis and its chronicity, examination of the changes occurring in the patients' QOL and comparison of the results with healthy individuals is necessary. It is important to recognize that the impact of psoriasis on the patients' QOL can also result in significant daily stress. The QOL of patients with psoriasis should be assessed within a developmental context. In general, patients in the 18-45 age group have been noted to experience more frequent problems related to both appearance/socialization and occupation/finances.^[27-29] However, the adverse effect of psoriasis on the QOL has been found

to decrease in patients in the over-45 age group, with a further decline in the over-65 age group.^[29] This most probably reflects the fact that in earlier adulthood, when the individual is first establishing social relationships, entering the workforce and starting their career, the social stigma associated with psoriasis has the greatest impact. Contrary to the studies conducted in the 1970s, which reported that women were more affected by cosmetic disfigurement caused by psoriasis, it is important to recognize that in more recent studies, both men and women were found to be equally affected by the impact of psoriasis on appearance and socialization, but with a significant difference in the sexual function between them.^[30]

A similar study performed in Tehran by Nabaei *et al.* showed no difference in marital status and education level between patients with psoriasis and healthy people. However, the patients had lower job levels and income and exhibited significant difference, when compared with the healthy group ($P < 0.05$).^[31] In this study, the patients had lower levels of education, jobs and income, when compared with the control group and the differences were significant ($P < 0.05$). However, they did not show any difference in the marital status, when compared with the control group. A survey conducted in Tehran revealed lower scores among patients in all the domains of QOL with a significant difference ($P < 0.01$), and maximum and minimum differences were observed in the domains of SF and VT.^[31] However, in the present study, the only significant differences were in three domains, namely, GH, SF, and RP, for which the patients exhibited lower scores. Furthermore, GH

Table 2: Comparison the adjusted score of multiple domains of QOL in psoriatic patients and control group

QOL domain	Patients		Controls		P value ^a
	Mean±SD***	CI 95%**	Mean±SD	CI 95%	
Physical functioning	74.8±31.5	66.3-83.3	80.1±35.8	70.4-89.7	NS*
Role-physical	58.5±23.3	52.2-64.8	70.8±26.2	63.7-77.8	0.011
General health	43.8±21.6	37.9-49.7	61.5±27.3	54.1-68.8	<0.001
Social functioning	62.7±26.7	55.4-69.9	79.5±27.5	72.1-86.9	0.002
Role-emotional	52.2±21.3	46.5-58.0	59.5±29.9	51.4-67.6	NS*
Mental health	66.45±19.2	61.2-71.6	73.1±26.0	66.0-80.1	NS*
Bodily pain	70.7±28.1	64.7-76.7	75.8±30.6	67.6-84.1	NS*
Vitality	66.2±17.4	61.5-70.9	72.5±26.7	65.2-79.7	NS*
Total	61.1±17.0	56.6-65.8	71.9±22.4	66.0-78.0	0.013

^aAnalysis of variance, *NS=Not significant ($P>0.05$), **CI 95%=95% confidence interval, ***SD=Standard deviation. QOL=Quality of life

Table 3: Adjusted score of multiple domains of QOL in psoriatic patients according to PASI level

QOL domain	PASI score level			P value ^a
	Mild (≤3)	Moderate (4≤, ≤15)	Severe (>15)	
Physical functioning	80±25.5	76.4±34.3	73.75±32.8	NS*
Role-physical	64±32	59.3±21.6	57.84±21.8	NS*
General health	54±7.3	45.3±20.7	42.5±21.6	NS*
Social functioning	68±17.3	64.3±30	61.68±29.2	NS*
Role-emotional	59.5±7.2	54.4±26.2	50.86±18.2	NS*
Mental health	71±18.1	69.2±12.6	64.89±19.9	NS*
Bodily pain	74.5±39	71.3±17.2	69.44±26.1	NS*
Vitality	76.5±9.2	68.3±21.1	64.71±14.9	NS*
Total	69.5±7.9	64.2±14	59.30±16.75	NS*

^aAnalysis of variance, *NS=Not significant ($P>0.05$). PASI=Psoriasis area and severity index, QOL=Quality of life

and RP exhibited the maximum and minimum significant difference, respectively.

With regard to gender, previous Iranian studies had revealed that only male patients had acquired lower scores than healthy men, whereas no difference was noted among women.^[3,31] However, this study showed no difference related to gender. Unlike the findings reported in Nabaei's *et al.* study, which showed no relationship between education levels and QOL scores among healthy people, the control group of the present study with low education acquired lower scores in the domain of PF. A study conducted in Tehran demonstrated lower scores among patients with low education only in the domain MH, whereas that performed in Rasht with a similar group exhibited lower scores in three domains, namely, PF, RP and BP. In this study, unmarried healthy individuals acquired lower scores only in BP, when compared with married ones, which may be the result of fewer responsibilities of unmarried individuals at least at home. However, married patients presented higher scores in GH and MH than the unmarried ones. Furthermore, similar to the study conducted in Tehran, in the present study, no relationship was observed between the QOL scores and career in the patient group. In the study conducted by Nabaei *et al.*, it was shown that healthy people with job acquired higher scores in the domains BP, VT and MH.^[31] However, in the research performed in Rasht, the control group having no job presented better scores in PF and RP, while GH and

VT scores were higher in healthy individuals who were self-employed and had other jobs.

A positive and significant ($P < 0.01$) correlation among all the domains of the SF-36 questionnaire was observed in this study, which is consistent with the finding reported in Nabaei's study. Furthermore, maximum and minimum correlations were found between MH and VT ($r = 0.851$) and GH and PF, respectively ($r = 0.293$). Similar to this study, a research carried out by Fortune *et al.*^[32] in the UK revealed no relationship between PASI scores and scores obtained in any domains of QOL. The lack of correlation between PASI and QOL is very important clinicians should be aware that even if patients have limited disease, the disease may still have a big impact on patients' QOL so they must pay attention to all graded of disease as they do for severe disease. In addition, both the present study and the one carried out by Fortune revealed that psoriasis treatment methods have no effect on any of the domains of QOL. Nevertheless, only a randomized controlled clinical study could clearly evaluate this effect. Studies carried out in the USA and Norway^[33] showed different scores in all the domains of QOL among patient and control groups. However, in this study, the patient group exhibited lower scores in just three domains, including GH, SF and RP, which may be owing to the different community context and diverse perception of QOL among the patients.

CONCLUSION

Psoriasis may impair the patients' QOL and it was found in the present study that most of patients with psoriasis could be classified into the low-income group. Therefore, paying more attention to patients and providing special facilities for them, including consulting centers and specific treatment clinics, may be essential to prevent further impairment in their living and work quality.

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Source of Support: Nil, **Conflict of Interest:** None declared.