QUALITY OF LIFE IN PSORIATIC ARTHRITIS PATIENTS-ASSOCIATION WITH DISEASE ACTIVITY AND DIAGNOSTIC DELAY TIME

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ABSTRACT

Objective: *The purpose of this study was to determine the socio-demographic and clinical characteristics of patients with psoriatic arthritis (PsA) and to examine their effects on quality of life.*

Material and Method: *37 patients with PsA and 30 healthy controls were included in the study. To determine disease activity, clinical [disease activity score (DAS-28), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)] and laboratory [Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP)] parameters were used. To evaluate quality of life, the Nottingham health profile (NHP) and Short form-36 (SF-36) were used.*

Results: *The mean age of the patients was 43.9±11.2 years. The diagnostic delay time had a median of 1 year (min-max=0-18). We examined NHP. NHP scores showed that NHP pain, physical activity, tiredness and social isolation of PsA patients were higher than for control subjects. We evaluated SF-36. SF-36 scores indicated that physical function, physical role limitation, body pain, overall health, vitality and emotional role limitation were significantly decreased in PsA patients compared to control subjects. Correlation analysis was performed; Statistically significant correlations were observed between NHP scores (positive correlation) and SF-36 scores (negative correlation) with disease activity parameters (DAS-28, BASDAI, ESR and CRP). Furthermore, statistically significant correlations were observed between NHP scores (positive correlation) and SF-36 scores (negative correlation) with diagnostic delay time.*

Conclusion: *We determined that quality of life was less in patients with PsA compared to control subjects. In addition, we have also found that disease activity and prolongation of diagnostic delay are associated with quality of life.*

Keywords: *Psoriatic arthritis, quality of life, disease activity* ***Nobel Med 2014; 10(3): 52-57***

PSÖRİATİK ARTRİT HASTALARINDA YAŞAM KALİTESİNİN, HASTALIK AKTİVİTESİ VE TANISAL GECİKME SÜRESİ İLE İLİŞKİSİNİN DEĞERLENDİRİLMESİ

ÖZET

Amaç: Psöriatik artritli (PsA) hastalarının sosyodemografik ve klinik özelliklerinin belirlenerek yaşam kalitesi üzerine etkisini tespit etmektir.

Materyal ve Metod: Çalışmamıza 37 PsA'lı hasta, 30 sağlıklı kontrol grubu alındı. Hastalık aktivitesini belirlemede klinik [Disease activity score 28 (DAS-28), Bath ankylosing spondylitis disease activity index (BASDAI)] ve laboratuvar parametrelerinden (Eritrosit sedimentasyon hızı (ESH), C-reaktif protein (CRP) yararlanıldı. Yaşam kalitesini değerlendirmede Nottingham sağlık profili (NHP) ve Kısa form (SF-36) kullanıldı.

Bulgular: Hastaların yaş ortalaması 43,9±11,2 yıl idi. PsA tanısı için bu hastalarda tanısal gecikme süresi median:1 (min-max: 0-18) yıl idi. NPH skorları incelendiğinde, PsA hastalarında NHP ağrı, fiziksel aktivite, yorgunluk ve sosyal izolasyon kontrol grubundan daha yüksekti. SF-36 skorları değerlendirildiğinde, PsA hastalarında SF-36 fiziksel fonksiyon, fiziksel rol kısıtlaması, vücut ağrısı, genel sağlık, vitalite ve emosyonel rol kısıtlaması kontrol grubundan daha düşüktü. Gerçekleştirilen korelasyon analizinde; hastalık aktivite parametreleri (DAS-28, BASDAI, ESH ve CRP) ile NHP skorları (pozitif korelayon) ve SF-36 (negatif korelasyon) skorları arasında istatistiksel olarak anlamlı bir korelasyon saptandı. Ayrıca, Tanısal gecikme süresi ile NHP skorları (pozitif korelasyon) ve SF-36 skorları (negatif korelasyon) arasında istatistiksel olarak anlamlı bir korelasyon saptandı.

Sonuç: PsA hastalarını kontrol grubu ile karşılaştırdığımızda yaşam kalitelerinin daha düşük olduğunu, ayrıca, hastalık aktivitesi arttıkça ve tanısal gecikme süresi uzadıkça yaşam kalitesinin daha fazla etkilendiğini tespit ettik.

Anahtar Kelimeler: Psöriatik artrit, yaşam kalitesi, hastalık ativitesi **Nobel Med 2014; 10(3): 52-57**

INTRODUCTION

Psoriatic arthritis (PsA) is a chronic inflammatory arthritis that develops in association with psoriasis (Ps).[1] While the overall prevalence of Ps is 0.6-4.8%, the prevalence of PsA is 0.02-0.1 % in Ps.[1,2] Even though there is a slight difference in PsA in terms of gender, it affects both genders with an equal ratio. This ratio varies in various sub-groups of the disease.[3,4] In 75% of the patients with PsA, skin findings begin before joint findings, 15% concomitantly, and 10% before the joint findings.[5]

PsA leads to clinical and radiological damage to joints and several other systems. The disease progresses generally slow and gradually results in deformities and limitations in daily activities. Therefore, PsA leads to a disrupted quality of life. However, only a few studies have investigated the quality of life in PsA patients. These studies showed that, as with other rheumatologic diseases, the criteria for quality of life are used for issues such as pre-determination of morbidity and mortality in PsA. Also in patients with PsA, it is known that their health-related quality of life is affected.[6,7]

In this study, we aimed to determine the sociodemographic and clinical characteristics of the patients with PsA whom we follow in our clinic and to evaluate the effect of the disease on the quality of life and its correlation with disease activity.

MATERIAL and METHOD

This study was a cross-sectional study performed between February 2011-July 2011. A total of 37 patients with PsA were included in the study. These patients were recruited in our rheumatology polyclinic, followed up regularly, met the criteria of PsA classification criteria for psoriatic arthritis (CASPAR) and voluntarily accepted to be included in the study. An informed consent was received from all patients. As a control group, 30 healthy people without any known disease were included in the study.

A detailed anamnesis of the patients was obtained and physical examinations were performed. Biochemical parameters [ESR, CRP and Rheumatoid Factor (RF)] and radiological examinations were performed. A questionnaire was completed that contained sociodemographic characteristics of the patients. Disease activity score (DAS-28) and Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) were used to evaluate the activity of the disease. NHP and short form (SF-36) were used to evaluate health-related quality of life. →

Table 1: Sociodemographic and clinical characteristics of patients with psoriatic arthritis and control group

	Psoriatic arthritis (n= 37)	Control (n= 30)	p-value
Age (years)	43.9 ± 11.2	41.3 ± 9.5	0.323
Female	20 (54%)	16 (53%)	0.953
Male	17 (46%)	14 (47%)	
Weight (kg)	76.9 ± 14.5	72.7 ± 11.4	0.203
Height (cm)	166.1 ± 7.3	167.3 ± 7.2	0.495
Clinical characteristics			
The age for diagnosis of Ps (year)	24.3±11.6		
Age of PsA onset (year)	36.9±10.4		
VAS (mm)	43 ± 22		
BASDAI	3.7 ± 2.3		
ESR (mm/hour)	24.5 ± 22.4		
CRP (mg/dl)	1.1 ± 1.8		
RF (IU/ml)	9.7 ± 2.3		

PsA: Psoriatic arthritis, **BASDAI:** bath ankylosing spondylitis disease activity index, **VAS:** visual analogue scale, **ESR:** erythrocyte sedimentation rate, **CRP:** C-reactive protein **RF:** Rheumatoid Factor

Tools Used for Evaluation

Disease Activity Score (DAS-28): This scale is used in RA patients to assess disease activity. Total score is calculated by this formula : DAS 28=(0.28 x number of swollen joints x 1/2) + (0.56 x number of tender joints x 1/2) + 0.014 x global assessment by patient [VAS-mm]) + (0.7 x ESH).[8]

Bath ankylosing spondylitis disease activity index (BASDAI): This scale is used in AS patients to assess disease activity. The index includes six questions concerning the levels of neck pain, fatigue, pain and swelling at peripheral joints, back, lower back and hip pain, tenderness with palpation in several areas of the body and morning stiffness, including its duration. A value ≥4 is accepted as an indication of active disease.[9]

Nottingham Health Profile: The NHP is a questionnaire designed to measure a patient's view of their own health status. It consists of two parts. The first section focuses on health and has 38 items that deal with pain, energy, sleep, mobility, emotional reaction and social isolation. The second part focuses on life areas affected and consists of 7 items that deal with problems related to social life, family life, occupation, housework, sexual function, hobbies and holidays. The second part of the NHP is optional. Scores range from 0 to 100. In total score, 0 indicates the best quality of life and 100 indicates the worst quality of life.[10] A Turkish validity and reliability study is available.[11]

Short Form 36: SF-36 is a scale assessing quality of life. The SF-36 consists of eight scaled scores, which are the weighted sums of the questions in each section. Each scale is directly converted into a 0-100 scale on the assumption that each question carries equal weight. The higher the score the less the disability. The lower the score the greater the disability.[12] A Turkish validity and reliability study is available.[13]

Statistical Evaluation

Suitability of the data obtained was evaluated using the Kolmogorow-Smirnov test. Student-t test was used for data with normal distribution, and Mann Whitney U test was used for those without normal distribution. For correlation analysis, Pearson correlation analysis was used for data with normal distribution, and Spearman correlation analysis was used for data not suitable for normal distribution. Chi-square test was performed to compare qualitative data. Data obtained is given as mean ± standard deviation, and data obtained by counting is indicated as number (%). The significance level was taken as $p<0.05$.

RESULTS

Upon review of socio-demographic characteristics of our patients, the mean age of PsA was 43.9 ± 11.2 years; the mean age of the control group was 41.3±9.5 years (p=0.323). Other demographic characteristics for PsA and the control group are provided in Table 1.

Upon examination of the clinical picture of the patients, it was found that in 78.4% of patients (n=29) skin findings developed first, in 13.5% of patients (n=5) arthritis findings developed first, and in 8.1% of patients (n=3) arthritis findings and skin findings developed concurrently. The time to occurrence of skin findings and arthritis findings was a mean of 5.3 years. Diagnostic delay time had a median of 1 year (min-max=0-18).

In terms of joint involvement, 24.3% (n=9) of the patients had small joint involvement, 54% (n=20) had large joint involvement and 21.7% (n=8) had spondylitic involvement. Upon review of the duration of morning stiffness, in 40.5% (n=15) of patients morning stiffness was shorter than one hour, in 16.2% of patients (n=6) it was longer than one hour and in 43.2% (n=16) of patients no morning stiffness was observed. Other clinical characteristics are provided in Table 1. 40.5% of patients (n=15) used anti-TNF-α, 59.5% of patients (n=22) used conventional DMARD. Patient mean VAS score was 43±22 mm and DAS-28 score was 3.0±1.1 (Table 1). →

We evaluated NHP and SF-36 scores in patients and control subjects. NHP scores indicated that NHP pain, physical activity, tiredness and social isolation in PsA patients were higher than control subjects (p=0.003, 0.008, 0.002, 0.021, respectively). However, NHP sleep and emotional reaction were not significantly different between the two groups (p=0.200, 0.053, respectively). Furthermore, SF-36 scores of physical function, physical role limitation, body pain, overall health, vitality and emotional role limitation were significantly decreased in PsA patients compared to control subjects (p= 0.020, 0.001, 0.010, 0.001, 0.001, 0.001, respectively). However, social functions and mental health were not significantly different between the two groups (p=0.090, 0.110, respectively). There was a statistical difference in all other parameters (Table 2).

We performed a correlation analysis of the relationship of disease activity with NHP and SF-36 scores. Statistically significant positive correlations were observed between NHP scores and DAS-28 and BASDAI scores (p<0.05) and statistically significant negative correlations were observed between SF-36 scores and DAS-28 and BASDAI scores (p<0.05). Also, positive correlations between NHP sleep and social isolation and ESR (r=389, 338, respectively) and negative correlations between SF-36 physical function, overall health, and physical role limitation and ESR (r=-0.425, -0.397, -0.361, respectively) were observed. Positive correlations between NHP sleep and CRP (r=374) and negative correlations between SF-36 physical function and mental health and CRP (r=356, 376, respectively) were observed. These analyses are provided in Table 3.

We performed a correlation analysis of the relationship between diagnostic delay time and NHP and SF-36 scores. Positive correlations between NHP sleep, tiredness, and physical activity with diagnostic delay time (r=0.386, 0.374, 0.495, respectively) and negative correlations between SF-36 physical function, body pain, and vitality with diagnostic delay time (r=-0.435, -0.443, -0.340, respectively) were observed.

Table 2: Nottingham health profile (NHP) and Short form-36 in patients with PsA and control group

	Psoriatic arthritis (n= 37)	Control (n= 30)	p-value
NHP			
Pain	42.5 ± 37.1	16.9 ± 26.4	0.003
Physical activity	25.9 ± 24.8	12.3 ± 19.2	0.008
Tiredness	49.9 ± 41.4	20.7 ± 32.6	0.002
Sleep	34.3 ± 29.7	25.2 ± 31.2	0.200
Social isolation	16.0 ± 25.2	5.65 ± 16.6	0.021
Emotional reaction	29.5 ± 33.2	16.3 ± 22.5	0.053
SF-36			
Physical function	60.8 ± 28.5	77 ± 27.8	0.020
Physical role limitation	31.7 ± 37.5	81.6 ± 30.7	0.001
Body pain	52.6 ± 24.2	68.0 ± 23.3	0.010
Overall health	43.1 ± 21.0	70.8 ± 18.1	0.001
Vitality	47.8 ± 15.4	67.5 ± 16.3	0.001
Social functions	67.5 ± 23.8	76.6 ± 18.1	0.090
Emotional role limitation	38.7 ± 44.7	78.9 ± 32.1	0.001
Mental health	63.0 ± 19.8	70.2 ± 16.2	0.110

PsA: Psoriatic arthritis, **SF-36:** Short form 36, ***:** p<0.05 is considered to be statistically significant.

Table 3: Correlation analysis between disease activity indexes of patients with PsA, Nottingham health profile (NHP) and Short form-36 (r value)

	DAS-28	BASDAI	ESR	CRP
NHP				
Pain	.536*	.696*	.228	.088
Physical activity	.404*	.486*	.232	.158
Tiredness	.576*	.677*	.244	.159
Sleep	.415*	.408*	.389*	.374*
Social isolation	.348*	.464*	.338*	.279
Emotional reaction	.470*	.481*	.377*	.307
SF-36				
Physical function	-.599*	-.583*	-.425*	-.356*
Physical role limitation	-.582*	-.557*	-.361*	-.235
Body pain	-.569*	-.738*	-.306	-.245
Overall health	-.540*	-.560*	-.397*	-.268
Vitality	-.493*	-.603*	-.421	-.415
Social functions	-.635*	-.701	-.357	-.190
Emotional role limitation	-.451*	-.519*	-.247	-.225
Mental health	-.396*	-.345*	-.306	-.376*

***:** p<0.05 is considered to be statistically significant.
DAS-28: Disease Activity Score, **BASDAI:** bath ankylosing spondylitis disease activity index, **ESR:** erythrocyte sedimentation rate, **CRP:** C-reactive Protein

DISCUSSION

In the present study, we found higher NHP scores (pain, physical activity, tiredness and social isolation) and lower SF-36 scores (physical function, physical role limitation, body pain, overall health, vitality and emotional role limitation) in patients with PsA. Another important finding was that statistically significant correlations were observed between NHP scores (positive correlation) and SF-36 scores (negative correlation) with disease activity parameters (DAS-28, BASDAI, ESR and CRP). Furthermore, statistically significant correlations were observed between NHP scores (positive correlation) and SF-36 scores (negative correlation) with diagnostic delay time. →

Health-related quality of life is highly important in terms of showing and measuring the multi-dimensional effects of chronic diseases on patients. In studies on rheumatologic diseases, quality of life criteria are commonly used specifically for issues such as pre-determination of morbidity and mortality, monitoring of signs of the disease, evaluation of side effects related to the drugs used, and selection of the most appropriate therapy method.[14] In patients with PsA, studies evaluating health-related quality of life are limited.[15-17]

In our study, patient quality of life was evaluated using NHP and SF-36. Upon review of literature studies of SF-36 sub-groups in patients with PsA, in the study by Jasvinder et al. comparing a control group and patients with PsA, AS and reactive arthritis, physical function, physical role limitation, body pain and general health values from the SF-36 sub-group in patients with PsA were found to be significantly lower than the control group. There was no significant difference from the control group in terms of SF-36 vitality, social function, emotional role limitation and mental health.[18] While reviewing NHP as another criterion to evaluate the health-related quality of life in patients with PsA, in the study by Borman et. al. that included 40 patients with RA, 40 patients with PsA and 40 controls, a statistically significant difference was detected in all NHP sub-groups and the group of patients with PsA compared to the control group.[17] We found that SF 36 physical function, physical role limitation, body pain, overall health, vitality and emotional role limitation scores of patients were significantly lower than those of the control group. Also, the NHP pain, physical activity, tiredness and social isolation scores of patients with PsA were found to be increased. When both SF-36 and NHP are evaluated in PsA patients, we see that the quality of life is prominently affected.

The sociodemographic characteristics of the patients with PsA, the scales used in disease activity measurement (DAS-28 and BASDAI) and laboratory parameters (ESR and CRP) are closely associated with quality of life indices. In a study by Salaffi et al., the physical component of the SF-36 was affected by high disease activity.[19] In our study, statistically significant correlations were observed between SF-36 (negative correlation) scores and NHP (positive correlation) scores with DAS-28, BASDAI, ESR and CRP. The results of this study indicate that quality of life is significantly affected by disease activity in patients with PsA.

Diagnostic delay time is a significant problem in rheumatic diseases. Slow and insidious onset of the disease and the disease-specific absence of signs and symptoms in the early stages can be listed among the causes of diagnostic delay. The highest amount of delay in studies on spondyloarthropathies is with Ankylosing Spondylitis (AS). Diagnosis delay in AS was 8.9 years in a study by Feldtkeller et al.[20] It was found to be 5 years in a study performed by Bodur et al. in Turkey.[21] Upon review of literature studies related to this duration in PsA, which is a sub-group of spondyloarthropathies, it was detected in a study by Congi et al. that the mean diagnostic delay time for 69 patients with PsA was 3.4±4.1 years.[22]

In our study, the median diagnostic delay time was 1 year (min-max=0-18). Early diagnosis is important in PsA that presents with deformity and erosions. Late diagnosis is associated with severe disease and morbidity. We showed a correlation of delayed diagnosis time and quality of life scores (SF-36 physical function, body pain, vitality and NHP sleep, tiredness, and physical activity). We think that later diagnosis of PsA is linked to worsening of the quality of life. Considering the significantly positive effects of diagnosis time on clinical course and prognosis in PsA, physicians should be aware of PsA development and symptoms.

The majority of the sociodemographic and clinical characteristics of our patients with PsA are similar to the studies in the literature. We found that the quality of life indices of our patients were significantly affected. This effect was more prominent specifically in the group with high levels of BASDAI, ESR, and CRP values, which are disease activity parameters. Another important result is that one of the factors affecting the quality of life is diagnostic delay time, which is well known in PsA patients. This effect is worse as disease activity increases and diagnosis is delayed. Therefore, we believe that early diagnosis and early control of disease activity may prevent deformities and increase the quality of life.

* The authors declare that there are no conflicts of interest.

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