Original Investigation / Özgün Araştırma

Patient's and Physsician's Perceptions of Rheumatoid Arthritis and Related Factors

Hastalar ve Doktorların Romatoid Artrit Algıları ve İlişkili Faktörler

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ABSTRACT

Objective: The aim of this study was to evaluate patient's and physician's global assessment and their relations with clinical variables in patients with rheumatoid arthritis (RA).

Methods: A total of 54 patients who fulfilled the diagnostic criteria of the American College of Rheumatology for RA (10) were included in this cross-sectional study. All patients received a comprehensive rheumatologic assessment including disease activity, functional status, pain visual analog scale (VAS), patient's and physician's global assessment of disease, swollen and tender joints counts, and laboratory evaluation. Health assessment questionnaire scale was used to evaluate functional satatus and disease activity score 28 (DAS28) was used for measuring disease activity.

Results: The mean patient's and physician's global assessment scores were found to be 35.85 and 45.80 respectively. There was a significantly positive correlation between patient's global assessment scores and pain VAS, disease activity, functional status, duration of morning stiffness, tender and swollen joint counts. On the other hand there was a positive correlation between physician's global assessment scores and pain VAS, disease activity, functional status, tender and swollen joint counts, duration of morning stiffness and laboratory markers of inflammation. Moreover when the correlation coefficients were analyzed, physician's global assessment showed the strongest positive correlation with DAS-28 and patient's global assessment with pain VAS.

Conclusion: Patient's and physician's global assessment are important outcomes strongly related with severity of pain and disease activity respectively, in patients with RA. We can suggest that severity of pain has major influence on patient's global assessment.

Keywords: Rheumatoid arthritis, patient's global assessment, outcome measures, rehabilitation

ÖZET

Amaç: Bu çalışmanın amacı romatoid artritli (RA) hastalarda, hastanın ve doktorun global değerlendirmelerini ve bunların klinik değişkenlerle arasındaki ilişkiyi incelemekti.

Yöntemler: Bu kesitsel çalışmaya RA için Amerikan Romatoloji Topluluğu tanısal kriterlerini karşılayan toplam 54 hasta dahil edildi. Tüm hastalar hastalık aktivitesi, fonksiyonel durum, ağrı visuel ağrı skalası (VAS), hastanın ve doktorun hastalığa yönelik global değerlendirmesi, şiş ve hassas eklem sayısı ve laboratuvar incelemeleri içeren kapsamlı romatolojik değerlendirmeden geçtiler. Fonksiyonel durum değerlendirmesi için health assessment questionnaire skalası, hastalık aktivitesini ölçmek için hastalık aktivite skoru 28 (DAS28) kullanıldı.

Bulgular: Hasta ve doktorun genel değerlendirme skorları, sırasıyla, ortalama 35.85 ve 45.80 bulundu. Hasta genel değerlendirme skorları ile ağrı VAS, hastalık aktivitesi, fonksiyonel durum, sabah tutukluğu süresi, hassas ve şiş eklem sayısı arasında anlamlı pozitif korelasyon bulundu. Diğer yandan doktorun değerlendirme skorları ile ağrı VAS, hastalık aktivitesi, fonksiyonel durum, sabah tutukluğu süresi, hassas ve şiş eklem sayısı ve de inflamasyonun laboratuvar göstergeleri arasında pozitif korelasyon bulundu. Ayrıca korelasyon katsayıları analiz edildiğinde hekimin global değerlendirmesi DAS-28 ile, hastanın global değerlendirmesi ise ağrı VAS ile en güçlü ilişkiyi gösterdi.

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Sonuçlar: RA hastalarında hastanın ve doktorun global değerlendirmesi sırasıyla ağrı şiddeti ve hastalık aktivitesi ile güçlü olarak ilişkili önemli göstergelerdir. Hastanın global değerlendirmesinde ağrı şiddetinin önemli etkiye sahip olduğunu söyleyebiliriz.

Anahtar sözcükler: Romatoid artrit, hastanın global değerlendirmesi, sonuç ölçekleri, rehabilitasyon

Introduction

Rheumatoid arthritis (RA) is one of the most important rheumatic disease where patient's and physian's measurements are the best predictors of treatment response and future health outcomes (1). Traditionally, evaluations of RA has been based on physician generated assessments, physical examination including tender and swollen joint counts, and laboratory measurements. In recent years, there has been growing interest in the assessment of patients with RA from the patient's perspective (2). The importance of patient reported outcomes which provides additional information in patients with RA, have been widely used as outcome measures in clinical trials as well as in clinical practice (3).

The Outcome Measure in Rheumatology Clinical Trials group has worked to develop a consensus on core sets for outcome measure in rheumatologic disease. This group incorporated the patient perspective into outcome assessment and emphasized the importance of patient-reported outcomes (4). Despite the growing interest in the development and use of patient reported outcomes in rheumatology practice, their interpretation is not always easy. The patient's opinions do not always match those of their physician's to determine disease status. Moreover some discrepancies between patient-reported outcomes and physician assessments of disease activity in RA had been shown (5). Considering that patient's and physician's global assessment are being used to guide treatment decisions, there is an important concern what does these instruments measures and which factors contribute to the patient's and the physician's global assessments (6). However there are only a few studies (7-9) that have focused on factors are associated with patient's and physician's global assessment of disease which reported conflicting results in patients with RA.

The aim of this study was to evaluate patient's and physician's global assessment and their relations with clinical variables in patients with RA. To recognize which factors influence on these assessment scores may help to facilitate the sharing of decision-making in the management of RA.

Materials and Methods

Patients

Patients who fulfilled the diagnostic criteria of the American College of Rheumatology for RA (10) and aged over 18 years old, were included in this cross-sectional study. All the patients were informed about the study procedure and gave their written informed consents to participate in the study according to Helsinki Decleration.

The patients with RA were assessed by a protocol including the following parameters on admission to our clinic: Socio-demographics, clinical, and patient reported outcome variables were obtained. The severity of pain was assessed according to the 10 cm visual analogue scale (VAS) from 0 (no pain) to 10 (maximum pain). Patient's and physician's global assessment of disease were evaluated using a 100-mm VAS with higher value denoting poorer disease status. The number of swollen and tender joints according to 28 joints and existence of extraarticular involvement were assessed by the same physician with a detailed physical examination. Laboratory markers of inflammation including erythrocyte sedimentation rate (ESR), and C-reactive protein (CRP) levels were measured and presence of rheumatoid factor (RF) and anti–citrullinated protein antibodies (anti-CCP) were determined. The Disease Activity Score-28 (DAS-28), a pooled index that includes a tender joint count, a swollen joint count, ESR, and the patient's global assessment of general health was used to determine disease activity of RA patients (11). According to DAS-28 scores, the disease activity was categorized as remission (<2.6), low (2.6-3.2), moderate (3.2–5.1), and severe (>5.1) disease activity. The Turkish versions of the Health Assessment Questionnaire (HAQ) disability index was used to evaluate the functional status of RA patients (12). The HAQ disability index is an easily self-administered questionnaire measuring physical disabilities over the past week in eight categories of daily living: dressing and grooming, rising, eating, walking, hygiene, reach, grip, and activities. Scores ranged from 0 to 3, with a higher score indicating higher impairment (13).

Statistics

All statistical analyses were performed using SPSS version 17.0 for Windows (Statistical Package for the Social Sciences Inc, Chicago, IL, USA). Descriptive statistics were used to describe demographic characteristics. The Kolmogorov Simirnov test was used to analyze normal distribution assumption of the data. As the distributions were not normal, nonparametric tests were used in statistical evaluation. Spearman correlation analysis was used to assess correlation between patient's and physician's global assessment of disease with clinical variables. A value >0.6 was defined as indicative of a good correlation, with moderate correlation between 0.4-0.6, and poor correlation <0.4. In all analyses, p values <0.05 were considered as statistically significant.

Results

A total of 54 patients with RA of whom 12 were male and 42 were female, with a mean age of 51.46 years were included in this study. The mean disease duration of the patients was 7.91 years ranging between 0.5 to 36 years. Demographic characteristics of patients included in this study are given in Table 1. The mean patient's and physician's global assessment scores were found to be 35.85 and 45.80 respectively. In the present study, the majority of patients had moderate to high disease activity in their initial assessment. The prevalence of anti-CCP positivity was 60% and RF positivity was 68.5% in patients with RA. Clinical characteristics of the study population are summarized in Table 2.

There was a positive good correlation between patient's global assessment and pain VAS, disease activity. Furthermore a positive moderate correlation between patient's global assessment and HAQ, duration of morning stiffness, tender and swollen joint counts was demonstrated. Whereas there was no correlation between patient's global assessment and age, duration of disease, BMI, ESR and CRP. Correlations between patient's global assessment and clinical parameters are given in Table 3.

Table 1. Demographic characteristics of patients with rheumatoid arthritis.

	Rheumatoid arthritis (n=54)
Gender, n (%)	
Men	12 (22.2%)
Women	42 (77.8%)
Age (years) (mean ± SD)	51.46±14.26
Disease duration (years) (mean ± SD)	7.91±8.73
Body mass index (kg/m^2) (mean ± SD)	26.26±4.24
Marital status, n (%)	
Married	47 (87%)
Single	2 (3.7%)
Widow(er)	5 (9.3%)
Educational level, n (%)	
Primary	31 (57,4%)
High	13 (24.1%)
University	10 (18.5%)
Occupation, n (%)	
Government official	5 (9.3%)
Employee	8 (14.8%)
Housewife	32 (59.2%)
Retired	9 (16.7%)
Family history, n (%)	
No	39 (72.2%)
Yes	15 (27.8%)
Extraarticular findings, n (%)	
Absent	42 (77.8%)
Present	12 (22.2%)

Table 2. Clinical features of patients with rheumatoid arthritis.

	Rheumatoid arthritis (n=54)
Patient's Global Assessment (mean ± SD)	35.85±22.15
Physician's Global Assessment (mean ± SD)	45.80±29.91
DAS 28 score (mean ± SD)	3.91±1.28
Pain VAS (mean ± SD)	3.87±2.58
HAQ score (mean ± SD)	1.00±0.79
Joint counts, (mean ± SD) (28 assessed)	
Swollen joints	2.26±3.85
Tender joints	4.87±5.55
Morning stiffness, (minutes) (mean ± SD)	46.85±49.37
ESR (mm/h) (mean ± SD)	29.59±20.72
CRP (mean ± SD)	0.86±1.34
RF, n (%)	
Negative	17 (31.5%)
Positive	37 (68.5%)
Anti CCP, n (%)	
Negative	22 (40.7%)
Positive	32 (59.3%)
Disease activity, n (%)	
Remission	7 (13%)
Low	12 (22.2%)
Moderate	23 (42.6%)
High	12 (22.2%)

DAS 28: *Disease activity score-28,* ***VAS:*** *Visual analog scale,* ***HAQ:*** *Health assessment questionnaire,* ***ESR:*** *erythrocyte sedimentation rate,* ***CRP:*** *C-reactive protein,* ***RF:*** *rheumatoid factor,* ***Anti-CCP:*** *Anti–citrullinated protein antibodies.*

Table 3. Relationship between patient's global assessment and clinical features in patients with rheumatoid arthritis.

	Patient's Global Assessment Spearman correlation coefficients (rho)	p value
Age	0.016	0. 909
Duration of disease	0. 200	0.146
Body mass index	0.153	0.270
DAS 28	0.656	<0.001
Pain VAS	0.676	<0.001
HAQ Score	0.557	<0.001
Morning stiffness	0.455	0.001
Swollen joints	0.515	<0.001
Tender joints	0.576	<0.001
ESR	0.148	0.285
CRP	0.217	0.115

DAS 28: *Disease activity score-28,* ***VAS:*** *Visual analog scale,* ***HAQ:*** *Health assessment questionnaire,* ***ESR:*** *Erythrocyte sedimentation rate,* ***CRP:*** *C-reactive protein.*

Table 4. Relationship between physician's global assessment and clinical features in patients with rheumatoid arthritis.

	Physician's Global Assessment Spearman correlation coefficients (rho)	p value
Age	0.184	0.183
Duration of disease	0. 293	0.062
Body mass index	0.228	0.097
DAS 28	0.831	<0.001
Pain VAS	0.649	<0.001
HAQ Score	0.635	<0.001
Morning stiffness	0.595	<0.001
Swollen joints	0.537	<0.001
Tender joints	0.754	<0.001
ESR	0.351	0.009
CRP	0.395	0.003

DAS 28: *Disease activity score-28,* ***VAS:*** *Visual analog scale,* ***HAQ:*** *Health assessment questionnaire,* ***ESR:*** *Erythrocyte Sedimentation rate,* ***CRP:*** *C-reactive protein.*

On the other hand there was a positive good correlation between physician's global assessment scores and pain VAS, disease activity, HAQ, tender joint counts. Moreover a positive moderate correlation between physician's global assessment scores and duration of morning stiffness, swollen joint counts was shown as well as a poor correlation between physician's global assessment scores and laboratory markers of inflammation. However there was no correlation between physician's global assessment and age, duration of disease and BMI as shown in Table 4. When the correlation coefficients were analyzed, physician's global assessment showed the strongest positive correlation with DAS-28 (rho:0.831, p<0.001) and patient's global assessment with pain VAS (rho:0.676, p<0.001).

Discussion

In this cross sectional study, we evaluated patient's and physician's global assessment and related factors in RA patients. Results of the present study revealed that patient's global assessment scores showed the strongest positive correlation with severity of pain whereas physician's global assessment exhibited the strongest correlation with disease activity.

Patient reported outcomes such as physical function and patient's global assessment were found to be better predictors of mortality than radiographics, laboratory findings, and clinical examination in RA (1). In a recent study, it was concluded that patient's global assessment may be more sensitive for indicating progressive joint destruction and functional impairment when compared with physician's global assessment in newly diagnosed RA (14). Because patient reported outcomes has been shown to be such a strong predictor of mortality among individuals with RA, it is of interest and valuable to understand which factors are associated with it. In a longitudinal study, Studenic et al. (7) identify several factors that contribute to the patient's global assessment and physician's global assessment, as well as the reasons for the discordance. The most important contributor to the patient's global assessment was pain, with a very small contribution by the physical function score and the number of swollen joints. In contrast, the swollen joint count was the most important contributor to the physician's global assessment. Although both tools aim to measure the same thing, but they do not. In another study, it was also reported that pain was the most important determinant of the patient's global assessment, followed by fatigue (9). This was in contrast to the physician's global assessment, which was influenced most by the swollen joint count, followed by the ESR and the tender joint count. In accordance with these studies, we can also suggest that severity of pain has major negative influence on patient's global assessment. On the other hand physician's global assessment showed the strongest positive correlation with disease activity and tender joint counts. In clinic practice, it is useful to know that the patient's assessment of disease is driven by the level of pain.

What worries us is that the patient and the physician rarely agree on the activity of the disease. In a study addressing the discrepancy between patient and physician, 223 patients and their rheumatologist completed VAS for global disease severity, of whom one-third of patient's assessments differed from that of their physician to a clinically meaningful degree (5). In a clinical cohort of 370 patients with RA, which investigated the reason for the discrepancy between the patient's and physician's global assessment, the patient's global assessment was found to be highly correlated with the VAS pain and HAQ scores (8). Conversely, inflammatory variables, including swollen joint count, tender joint count, and CRP levels were significantly associated with the physician's global assessment. As a result it was concluded that increased pain and functional disability led to a discrepancy towards a worse patient's global assessment than physician's global assessment, whereas increased swollen joint count led to an accordance towards a worse physician's global assessment. Similarly, we also found a correlation between physician's global assessment scores and laboratory markers of inflammation whereas patient's global assessment did not. Also the results of these studies increases an

awareness that the patient's and the physician's general perceptions of disease activity are drawn from different perspectives. Understanding the reasons for a discordant view of disease activity will help to facilitate the sharing of decision making to target RA therapy.

Some limitations of our study must be noted. A potential limitation of our study is its cross-sectional design and relatively small number of participants. In addition age, gender, and disease spesific instruments were the patient related data we collected, so we were not able to assess the separate contribution of all possible confounders that have been associated with patient's global assessment in patients with RA which reduced the statistical power of our study. Furthermore small number of participants precludes us to make regression analyze for all possible confounders that have been associated with patient's global assessment. Further longitudinal studies with larger RA patient groups are required to more accurately identify asoociated factors with patient's global assessment in patients with RA.

Conclusion

Identifying which factors are associated with patient's global assessment may provide benefit in targeting therapy. As a result, it is concluded that patient's and physician's global assessment are important outcomes strongly related with severity of pain and disease activity respectively, in patients with RA. We can suggest that severity of pain has major influence on patient's global assessment.

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