ORIGINAL ARTICLE

An assessment of marital adjustment in patients with rheumatoid arthritis

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ABSTRACT

Aim To investigate marital adjustment in patients with rheumatoid arthritis and factors affecting this.

Methods A total of 32 patients diagnosed with Steinbrocker class 1-2 rheumatoid arthritis and 32 healthy individuals from a similar age group were included. Sociodemographic characteristics, the Beck Depression Inventory (BDI), short–form 36(SF-36) and the dyadic adjustment scale (DAS) were evaluated in both groups. A visual analogue scale (VAS), the disease activity score 28 (DAS28) and a health assessment questionnaire (HAQ) were also investigated in the patient group.

Results Mean ages were 46.5±9.2 years in the patient group and 47.7±8.1 in the control group (p=0.5). No significant difference was determined between the two groups in terms of sociodemographic characteristics. No statistically significant correlation was observed between erythrocyte sedimentation rate (ESR), patient and physician global VAS, DAS28, HAQ and morning stiffness and DAS total score. Comparison of DAS subunits revealed a significant difference in dyadic satisfaction and affectional expression in the patient and control groups (p=0.046 and p=0.037). A statistically significant negative correlation was observed between duration of the disease and marital adjustment (p=0.01;r= -0.58).

Conclusion Due to its progressive and prolonged course rheumatoid arthritis can also affect individuals' social relationships besides restricted daily living activities. Activation of rheumatoid arthritis did not affect marital adjustment in this study, but adjustment decreased with duration of the disease.

Keywords: marital relationship, rheumatic disease, disease activity

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INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, inflammatory, systemic connective tissue disease. It is the most common of all forms of inflammatory arthritis, with a prevalence of approximately 0.5-1% (1). It causes pain and joint restriction by frequently affecting the small joints of the hands and feet. The addition of extra-articular symptoms, such as fatigue, compromises patients' daily living activities and reduces their functional independence (2).

Inability to fully predict the chronic course and progression of the disease has an adverse psychological impact on patients (3).The high rates of depression of 9.5-41.5% in RA patients are caused by socioeconomic and patient factors, in addition to factors belonging to the disease itself (4). Among disease-based factors are pain, disease activity, functional disability and inflammation (5). According to the neuroinflammation theory developed to explain the correlation between inflammation and depression, systemic inflammation measureable with acute phase reactants and proinflammatory cytokines was found to be related to the development of depression. The results of studies on this topic have revealed a two-way interaction between pro-inflammatory cytokines (TNF-α, IL-6, IL-1) and major depression (6,7). Additionally, in randomized controlled studies prednisolone, disease-modifying antirheumatic drugs and TNF-α antagonist medications (reducing systemic inflammation) had positive effects on quality of life, functional results and depression (5).

In addition to depression in RA patients, anxiety, reduced self-esteem and changes on body perception may also be observed (8). Physical and psychological impacts of the disease also result in adverse consequences for patients' work and family lives (4,6).

Marital adjustment is a concept that evaluates the nature of the marital relationship and reflects the partners' mutual satisfaction (7,9). Patients with RA, whose physical problems are predominant, often neglect relations with their partners and society.

The aim of this study was to investigate marital adjustment in patients with rheumatoid arthritis and factors affecting this.

PATIENTS AND METHODS

Patients and study design

We enrolled thirty two patients fulfilling 2010 American College of Rheumatology (ACR) diagnosis criteria of rheumatoid arthritis (10), who were under follow up in physical medicine and rehabilitation clinic at Canakkale Onsekiz Mart University School of Medicine in Turkey. Patient enrollment was done sequentially over a period of six months.

Inclusion criteria were as being married and voluntary participation. Non-married and divorced couples were not included in the study. A history of malignancy, presence of chronic neurological disease, previous psychiatric illness, or family history of psychiatric illness and Steinbrocker class (11) 3 or above were adopted as exclusion criteria. A control group (n=32) consisted of volunteers similar to the RA patients (n=32) in terms of age and sex. Four patients who voluntarily participated did not answer questions relating to private life on the dyadic adjustment scale and they were excluded from the study. An approval was obtained from Cthe anakkale Onsekiz Mart University Ethics Committee. All patients provided signed written informed consents.

Methods

Sociodemographic characteristics, the Beck Depression Inventory (BDI) (12), short–form 36 (SF-36) (13) and the dyadic adjustment scale (DAS) (14,15) were evaluated in the patient and control groups. A visual analogue scale (VAS) (16), the disease activity score 28 (DAS28) (17) and a health assessment questionnaire (HAQ) (18) were also investigated in the patient group.

A sociodemographic data form inquired into patients' sociodemographic characteristics, length of disease and morning stiffness.

Visual Analogue Scale (VAS) was used to measure severity of pain. Score was determined by measuring the distance on the 10-cm line (0 no pain, 10 intolerable pain).

Disease Activity Score 28 (DAS 28) was used for evaluation of disease activity. Patients with DAS 28 scores<3.2 were regarded as having low-moderate disease activity and those with score ≥ 3.2 as having high disease activity (19).

The Beck Depression Inventory (BDI) was used for evaluation of severity of depression. It is a 21-item multiple-choice self-report inventory measuring somatic, emotional, cognitive and motivational symptoms. Each question has a set of at least four possible responses, ranging in intensity between 0-3. The standard cut-off scores are: 10–16 indicates mild depression, 17–29 indicates moderate depression and 30–63 indicates severe depression. Higher total scores indicate more severe depressive symptoms (20).

The Health Assessment Questionnaire (HAQ) consisting of 20 questions under 8 sections (dressing, arising, eating, walking, hygiene, reach, grip, and activities) was used to evaluate patients' functional status (21). Patients scoring for each question ranges between 0 (without any difficulty) and 3 (unable to do). For each section the score given to that section is the worst score within the section. The 8 scores of the 8 sections are summed and divided by 8. The final HAQ score will be between 0-3.

Short Form-36 (SF- 36) assesses health related quality of life and includes 36 specific questions and comprises eight subscales of: physical functioning (PF), physical role functioning (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), emotional role functioning (RE) and mental health (MH). The first four subscales comprise general physical health situation (physical component summary, PCS), and the last four subscales comprise general mental health situation (mental component summary, MCS). High scores indicate higher quality of life related to health (22).

Dyadic Adjustment Scale (DAS) was developed by Spanier (1976) and adapted into Turkish by Fışıloğlu and Demir (2000) (14,15). This Likert-type scale (total scores 10-151) consists of four subunits and 32 items developed for the purpose of assessing the nature of a couple's relationship. Items 13 (dyadic consensus), 10 (dyadic satisfaction), 4 (affectional expression), and 5 (dyadic cohesion) were investigated under this subunit. Higher score reflects more satisfaction from the relationship.

Statistical analysis

Normality of variables was examined using the Shapiro-Wilks test and skewness values. Descriptive data were presented as mean, standard deviation, frequency and percentage values. The $\chi 2$ test was used to compare categorical variables between the patient and control groups and the Independent Samples T test for the comparison of mean values. Relations between constant variables were evaluated using Spearman's correlation test and Pearson's correlation test. The $p< 0.05$ was regarded as statistically significant.

RESULTS

Thirty-two patients with RA and 32 healthy controls were enrolled in this study. Mean age of the patient and control group was 46.5±9.2 years (min: 24, max: 66) and 47.7±8.1 (min: 35, max: 65) years, respectively (p=0.5). Mean length of the disease was 66.5±54.6 (min: 1, max: 180) months, and mean duration of morning stiffness was 25.2±44.4 min. Mean DAS28 score was 2.8±1.3. In terms of functional classification, three patients were Steinbrocker class 2 and the others class 1.

The patient and control groups were similar in terms of demographic characteristics, e. g. age, length of marriage, gender, educational level, type of marriage, family status and smoking status (Table 1).

Table 1. Demographic characteristics of patients and control groups

Characteristic	Patient n=32	Control n=32	p
Age (years)	46.5±9.2	47.7±8.1	0.569
Duration of disease (month)	66.5±54.6	-	-
Duration of marriage (years)	24.8±9.4	22.2±10.5	0.303
Gender (No, %)			0.259
Males	11 (34.4)	15 (46.9)	
Females	21 (65.6)	17 (53.1)	
Education (No, %)			0.089
Primary school	20 (62.5)	10 (31.3)	
High school	6 (18.75)	9 (28.1)	
College	6 (18.75)	13 (40.6)	
Working status (No, %)			0.102
Employed	11 (34.4)	18 (56.3)	
Unemployed	21 (65.6)	14 (43.7)	
Marriage manner (No, %)			0.193
Marriage out of love	9 (28.1)	14 (43.7)	
Love-based marriage	23 (71.9)	18 (56.3)	
Family status (No, %)			1.000
Core family	27 (84.4)	27 (84.4)	
Grand family	5 (15.6)	5 (15.6)	
Smoking (No, %)			1.000
Yes	9 (28.1)	9 (28.1)	
No	23 (71.9)	23 (71.9)	

Scores for physical function (PF), physical role (RP) and general health (GH), and bodily pain (BP) were significantly lower in the patient group than in the control group ($p=0.03$, $p=0.01$, $p<0.01$

and p=0.006; respectively). The physical component summary (PCS) in the patient group was found to be lower compared to the control group (37.85±10.42 and 51.26±17.87, respectively; p=0.001). There was no significant difference observed in the subscores for mental health of social function (SF), emotional role (RE), mental health (MH) and vitality (VT) between the patient and control groups (p=0.42, p=0.61, p=0.26, and p=0.15, respectively). The difference in the relation to mental component summary (MCS) in the patient and control groups was statistically insignificant (45.30±9.74 and 45.37±13.17, respectively; p=0.98) (Table 2).

Table 2. Dyadic Adjustment Scale (DAS) and Short Form (SF)-36 scores in patient and control group

	Patient	Control	p
Dyadic Adjustment Scale (DAS)	**Mean ± Standard Deviation**		
Dyadic satisfaction	37.0±7.9	40.5±5.3	0.046
Affectional expression	8.5±3.2	9.9±1.6	0.037
Dyadic cohesion	15.0±6.0	15.2±4.0	0.886
Dyadic consensus	52.2±14.3	52.8±8.2	0.839
DAS total score	114.3±29.6	118.0±13.4	0.530
Short Form (SF)-36			
Physical function	60.00±24.91	77.34±20.39	0,003
Physical role	39.06±41.60	71.87±36.33	0.001
General health	46.93±21.56	65.84±16.19	<0,001
Bodily pain	50.40±26.92	67.93±22.03	0.006
Physical component summary (PCS)	37.85±10.42	51.26±17.87	0.001
Social functioning	67.18±23.27	71.87±23.54	0.426
Role-emotional	47.91±44.75	53.43±41.84	0.612
Mental health	63.77±17.25	69.00±19.43	0.260
Vitality	54.84±22.05	62.96±22.74	0.152
Mental component summary (MCS)	45.30±9.74	45.37±13.17	0.982

Erythrocyte sedimentation rate (ESR), patient and physician global VAS, DAS28, HAQ and morning stiffness exhibited no correlation with total DAS score (p=0.75, p=0.09, p= 0.32, p=0.86, p=0.96; respectively).

Dyadic cohesion decreased in both groups as the length of marriage increased (p=0.016). In addition, affectional expression also decreased with the length of marriage, although this did not achieve statistical significance (p=0.055, r=-0.30). Length of marriage did not affect the total DAS score (p=0.33). A negative correlation was observed between length of the disease and DAS total score (p=0.01, r=-0.58)

Comparison of DAS subunits revealed a significant difference between the patient and control groups only in terms of dyadic satisfaction and affectional expression (37.0±7.9, 40.5±5.3 p=0.046 and 8.5±3.2, 9.9±1.6 p= 0.037, respectively) (Table 2).

Mild-moderate depression levels were higher in the patient group compared to the control group (p=0.019). There was no correlation between depression and DAS subunits.

(dyadic consensus, dyadic satisfaction, affectional expression and dyadic cohesion: p=0.75, p=0.61, p=0.90, p=0.65, respectively)

DISCUSSION

Rheumatoid arthritis is a chronic disease that has an adverse impact on health through pain, activity restriction and emotional stress. In additional to physical disability, it can cause problems in all areas of life, and particularly in family relations (23). Patients frequently neglect family and social relations as they focus on their physical difficulties. Some studies have shown that an adjusted social life and family relations have positive effects on the course of the disease (24, 25).

The results of this study showed that the DAS subunits dyadic satisfaction and affectional expression decreased in patients but marital adjustment was not impaired. This is in agreement with previous studies (23).

Similarly, parameters such as the duration of morning stiffness DAS 28, VAS, CRP, ESR and Steinbrocker class did not affect the DAS. Van Lankveld et al. revealed that social support had a greater effect on sexual and marital happiness compared with disease activity in patients with RA (26). In a study of patients with arthritis, Blake et al. did not find a relation between marital happiness and arthritis (27). A good marital relationship has been reported to make people more tolerant in case of adverse outcomes of the disease (25). We think that partner support plays a role in this outcome. Social support has been found to be associated with less pain and improved psychological adjustment in patients with arthritis (28). Patients without partner support experience greater pain and dysfunction (29, 30). The decrease in the dyadic satisfaction and affectional expression (DAS subunits) may be due to subjects focusing on their diseases.

Although there was no correlation between length of marriage and total DAS score, a negative

correlation was determined between length of disease and total DAS score. We believe that the lifelong progressive and chronic process of RA affects these results. The natural progression of the disease causes individuals to feel a loss of control and develop learned helplessness. The negative effect of this situation may cause the development of both mental (depression, anxiety, loss of self-esteem) and behavioral problems (lack of compliance with medication use).

Some studies have reported that marital problems meet major depressive episode criteria (31). In our study the mild-moderate depression levels in RA patients were higher compared to the control group. Acute phase reactants and inflammatory cytokines in RA patients may cause the development of depressive symptoms (5). Additionally, comorbidities accompanying the disease and side effects of medication may ease the development of these symptoms (5). In conclusion, though it appears that all these negativities may affect the marriage, surprisingly we did not find a correlation between depression and marital adjustment. We believe these results were affected by the fact that patients with severe depression, advanced functional limitations and disease activity were not included in the study.

Evaluation of patients' quality of life revealed that physical function, physical role, general health and bodily pain (physical sub scores) were lower than those of the control group. This finding is not unexpected since musculoskeletal system involvement in RA restricts daily living. No significant correlation was determined between physical subscores and marital adjustment. Our patient group consisting of Steinbrocker class 1 and 2 cases was a significant determinant in this relationship.

The main limitation of this study is its small patient sample. This restriction was due to patients' unwillingness to share their private lives for traditional and religious reasons. Due to the small patient numbers, the parameters that could have been analyzed were also limited.

In conclusion, RA is an important chronic disease that affects individuals' physical, psychological and social lives, and thus all areas of life. Physicians frequently concern themselves with physical problems caused by the disease but neglect family and social life. Yet, resolving problems identified in those spheres may assist with reducing the adverse effects of the disease.

In our study we found that the disease activity did not affect marital adjustment. Additionally as disease duration lengthened, we observed that marital adjustment reduced. As a result in individuals with long disease duration not only physical effects of the disease but social effects should be assessed and solutions should be sought.

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Conflict of interest: None to declare.

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