



Body Image and Self-Esteem in Patients with Rheumatoid Arthritis

Romatoid Artrit'li Hastalarda Beden İmajı ve Benlik Saygısı

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ABSTRACT

Introduction: The study was conducted in order to investigate the effect of disease-related variables such as socio-demographic characteristics, disease complaints and use of necrosis factor (anti-TNF) on the body image and self-esteem in patients with rheumatoid arthritis.

Method: The data was collected by an Introductory Information Form, Body Image Scale (Pfp) BIS and the Coopersmith Self-Esteem Inventory (SEI) in 120 patients with rheumatoid arthritis and in 120 healthy controls. One-way analysis of variance, Tukey HDS analysis, t-test, Kruskal-Wallis test, the Mann-Whitney U test, and Pearson's and Spearman's correlation coefficients were used to compare the data.

Result: 60% of the control group were in the 20-44 year-age group, 75% were women and 30.8% had a bachelor's degree or above, while 60% of patient group were in the 20-44 year-age group, 71.7% were women and 36.7% had a bachelor's degree or higher education level. We observed that the body satisfaction and self-esteem levels were higher in the 20-44 age group, in those with a bachelor's degree or higher education and in the patients who had no additional disease and who did not use anti-TNF. The body satisfaction and self-esteem levels were lower in those who had been receiving treatment for longer than 5 years, who had changes in hands and body, who had gait disturbance and who had changes in family and working life.

Conclusion: The assessment of the psychosocial needs with a holistic approach and training programs for body image and self-esteem would be advisable for patients with rheumatoid arthritis who are aged 45-59 years, who have low self-esteem, who have additional diseases, who use anti-TNF, who have changes in hands and body and who have primary-school education. (*Archives of Neuropsychiatry 2013; 50: 202-208*)

Key words: Rheumatoid arthritis, body image, self-esteem

Conflict of interest: The authors reported no conflict of interest related to this article.

ÖZET

Giriş: Çalışma; romatoid artrit'li hastaların sosyo-demografik özellikleri, hastalık değişkenleri, hastalık şikayetleri ve anti tümör nekroz faktör (anti-TNF) kullanım durumu gibi hastalık değişkenlerinin beden imajı ve benlik saygılarına etkisini belirlemek amacıyla yapıldı.

Yöntemler: Veriler 120 romatoid artrit hastası ve 120 sağlıklı kontrol grubuna "Tanıtıcı Bilgi Formu", "Beden İmajı Ölçeği (BiÖ)" ve "Coopersmith Benlik Saygısı Ölçeği (BSÖ)" uygulanarak toplandı. Verilerin değerlendirilmesinde Tek Yönlü Varyans Analizi, Tukey HDS Analizi, t test, Kruskal Wallis test, Mann Whitney U testi, Pearson ve Spearman's Korelasyon Analizi kullanıldı.

Bulgular: Kontrol grubunun %60'ı 20-44 yaş grubunda, %75'i kadın ve %30,8'i lisans ve üstü mezunu, hastaların ise; %60'ı 20-44 yaş grubunda, %71,7'si kadın, %36,7'si lisans ve üstü mezunudur. 20-44 yaş grubundakilerin, lisans ve üstü mezunlarının, ek hastalığı olmayanların, anti-TNF kullanmayanların beden hoşnutluk düzeyleri ve benlik saygılarının yüksek olduğu; 5 yıl ve üzerinde tedavi görenlerin, el ve vücut bölgesi değişiklikleri ile yürüyüş bozukluğu görülenlerin, aile ve çalışma hayatında değişiklik görülenlerin beden hoşnutluk düzeylerinin ve benlik saygılarının daha düşük olduğu gözlemlendi.

Sonuç: Romatoid artrit hastalarına, beden hoşnutluk düzeylerinin ve benlik saygılarının düşük olduğu 45-59 yaş, ilköğretim mezunu, ek hastalığı bulunan, anti-TNF kullanan, el ve vücut bölgelerinde değişiklik görülenler ile yürüyüş bozukluğu olan hastalar dikkate alınarak, psikososyal gereksinimlerinin bütüncül bir yaklaşımla değerlendirilmesi, beden imajı ve benlik saygılarına yönelik eğitim programlarının verilmesi önerilebilir. (*Nöropsikiyatri Arşivi 2013; 50: 202-208*)

Anahtar kelimeler: Romatoid artrit, beden imajı, benlik saygı

Çıkar çatışması: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemişlerdir.

Introduction

Romatoid arthritis (RA) is a chronic inflammatory multi-system disease with unknown etiology which causes to progressive destruction in joints, which may lead to disability and which shortens the life-time (1). It affects the physical and psychological health to a great extent. Therefore early diagnosis and treatment of the disease is substantially important. In treatment of the disease, many methods with predominance of corticosteroids are used (2).

Tumor necrosis factor (TNF) inhibitors are one of the most efficient agents used in treatment of RA (3).

The disease course in RA may lead to insufficiency in some body functions and structures including musculoskeletal pain, malaise, joint stiffness, joint swelling, muscle weakness and joint fractures and deformities especially in hands and feet and thus to a limitation in physical activity (4,5,6,7,8).

The effects of RA may be observed in all areas of life including family life, social relations and working life and lead

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to a series of social problems (9,10). Additionally, individuals with RA complain of the longevity of the disease (11).

RA is closely related with psychological conditions including changes in body image and self-esteem because of deformities and disabilities and this relation is substantially significant clinically (12). Body image is the way of definition of the form and size of the body in the mind and is formed with the social interactions of the individual (13). Self-esteem is the whole of thoughts, emotions and behavior expressed as self-acceptance, self-respect, self-reliance and self-belief of the individual (14).

Disrupted psychosocial function and depression in women with scleroderma have been related with negative body image (12). It has also been shown that physical defect, deformity and physical diseases in chronic diseases including RA decrease self-esteem by disrupting body-image and creating emotions related with disability (15).

It has been reported that the levels of self-esteem and body image affect the resistance against psychological and physiological diseases, individuals with low self-esteem and body image refuse positive feedback and do not collaborate in treatment (14). Individuals with low self-esteem and body image may develop depression (12). In addition, low self-esteem and body image is important in terms of leading to loss of self-reliance, disruption in social relations and loss of motivation for fighting with the disease (16). In patients with RA, examination of the variables of body image and self-esteem would be clinically important in specification of mental health and health behaviour (17). Therefore, we aimed to examine the effects of the socio-demographic properties, disease-related properties and use of anti-TNA on body image and self-esteem in patients with RA.

Method

One hundred and twenty patients aged 18 years or older who were diagnosed with RA according to the American Rheumatism Association diagnostic criteria between 12.28.2009 and 03.28.2009 in an education and research hospital and a university hospital were included in this study after obtaining approval from the ethics committee. The control group was composed of 120 healthy individuals who had no disease. Informed consent was obtained from all the individuals included in the study.

Data Collection Tools

The data were evaluated with the Introductor Questionnaire Form established by the investigator which included questions about demographic properties for the patient and control groups included in the study and questions related with disease and treatment periods, disease-related properties, presentation complaints, changes which occurred during the disease process and use of anti-TNF for the patient group. The Body Image Scale was used to evaluate body satisfaction levels and the Coopersmith Self-esteem Inventory Short form was used to evaluate self-esteem levels.

The Body Image Scale

The Turkish adaptation and validity/reliability studies of the scale including 40 items were performed in 1989 by

Hovardaoglu (18). Each item is related with a part (arm, leg, face) or function (sexual function level) of an organ or the body and is scored from 1 to 5 (19). The total score of the scale ranges between 40 and 200 (20) and a high score shows that body satisfaction level is increased (21). The Cronbach Alpha Internal Consistency Coefficient of the scale was found to be 0.94.

The Coopersmith Self-Esteem Inventory

The reliability/validity studies of the scale were performed in 1987 by Turan and Tufan in our country (18). Expected answers are scored as 1 and other answers are scored 0 and expected answers vary for each item. The maximum score can be 25 and increase in the score obtained from the scale shows that the self-esteem is increased (22). The Cronbach Alpha Internal Consistency Coefficient of the scale was found to be 0.80.

Statistical Analysis

NCSS (Number Cruncher Statistical System) 2007 & PASS (Power Analysis and Sample Size) 2008 Statistical Software (Utah, USA) program was used in the statistical analysis of the data. One way Variance Analysis, Tukey Analysis, t test, Kruskal Wallis test, Mann Whitney U test, Pearson correlation analysis and spearman's correlation analysis were used in assessment of the scores in addition to descriptive statistics (mean±standard deviation, median, frequency, min-max).

Results

The mean age was 41.53±10.89 years in the control group and 42.70±12.36 years in the patient group. In the control group, the mean total score from the BIS was found to be 129.17±23.47 and the mean total score from SEI was found to be 13.67±2.75. In the patient group, the mean total score from the BIS was found to be 136.97±23.47 and the mean total score from SEI was found to be 18.54±3.79.

In the control group, 60% were in the 20-44-year age group, 26.7% were in the 45-59-year age group and 13.3% were in the 60-72-year age group; 75% were female and 25% were male; 59.2% were graduates of primary school, 10% were graduates of high school and 30.8% had a bachelor's degree or higher education level. In the patient group, 60% of the patients were in the 20-44-year age group, 26.7% were in the 45-59-year age group and 13.3% were in the 60-72-year age group; 71.7% were female and 28.3% were male; 36.7% had a bachelor's degree or higher education level, 34.2% were graduates of high school and 29.2% were graduates of primary school. It was found that there was no significant difference between the control group and patient group in terms of age, gender and education level ($p>0.05$).

It was found that the healthy individuals in the 45-59-year age group had a higher score from BIS compared to the 20-44-year age group ($p<0.05$), the healthy individuals in the 20-44-year age group had a higher score from SEI compared to the 45-59-year age group and a lower score compared to the 60-72-year age group ($p<0.01$).

It was found that healthy women had a higher score in the BIS compared to men ($p<0.05$) and there was no

statistically significant difference in terms of total scores of SEI ($p > 0.05$).

The healthy individuals with an education level of bachelor's degree or higher had a higher score from BIS compared to graduates of primary school and high school ($p < 0.01$). The healthy individuals with an education level of high school and bachelor's degree or higher had a higher score from SEI ($p < 0.01$) (Table 1).

When evaluation according to age groups was made it was found that the patients in the 20-44-year age group had a higher score from BIS compared to the 45-59-year age group ($p < 0.01$) and 60-72-year age group ($p < 0.01$). Again, the patients in the 20-44-year age group had a higher score from SEI compared to the 45-59-year age group ($p < 0.05$).

Male patients had a higher score from BIS compared to female patients ($p < 0.01$). There was no statistically significant difference between male and female patients in terms of total SEI scores ($p > 0.05$).

It was observed that individuals with an education level of bachelor's degree or higher had a higher score from BIS compared to graduates of primary school ($p < 0.01$) and a higher score from SEI compared to graduates of primary school ($p < 0.01$) and graduates of high school ($p < 0.05$). Graduates of high school had a higher score from BIS compared to graduates of primary school ($p < 0.01$).

It was found patients who received treatment for 61 months and longer had a lower score from BIS compared to the ones who received treatment for 1-24 months ($p < 0.05$) and there was no statistically significant difference in terms of total SEI scores ($p > 0.05$).

It was found that there was no significant difference in terms of total BIS scores according to reception of psychological assistance ($p > 0.05$) and the individuals who did not receive psychological assistance had a higher score from SEI compared to the ones who did receive psychological assistance ($p < 0.01$).

The individuals with no additional mortality had a higher score from BIS and SEI compared to the ones who had additional mortality ($p < 0.01$).

The patients who did not use anti-TNF had a higher score from BIS and SEI ($p < 0.05$, $p < 0.05$) compared to the ones who did use anti-TNF ($p > 0.05$) (Table 2).

When disease-related complaints were evaluated, it was found that the patients who had no movement restriction and who had no depression had a higher score from BIS compared to the ones who did have movement restriction and depression ($p < 0.05$, $p < 0.05$) and the patients who had no heat and redness in the involved joints had a higher score from SEI compared to the ones who did have heat and redness in the involved joints ($p < 0.05$) (Table 3).

When the changes which occurred during the disease process were examined, it was found that the patients who did not have changes in hands and body parts and who did not have gait disturbance had a higher score from BIS and SEI compared to the ones who did have changes in hands and body parts ($p < 0.01$, $p < 0.05$) and who did have gait disturbance ($p < 0.01$, $p < 0.01$). The patients who did not have changes in daily activities and family life had a higher score from BIS compared to the ones who did have changes in daily activities ($p < 0.05$) and family life ($p < 0.01$) and there was no statistically significant difference in terms of total SEI scores according to the state of change in sexual life, working life and interpersonal relations ($p > 0.05$).

When scores of SEI were evaluated, it was found that the patients who did not have changes in sexual life and family life had a higher score from SEI compared to the ones who did have changes in sexual life ($p < 0.05$) and family life ($p < 0.05$) and there was no statistically significant difference in terms of total SEI scores according to the state of change in daily life, working life and interpersonal relations ($p > 0.05$) (Table 4).

According to the results of the Pearson correlation analysis a significant positive correlation was found between the

Table 1. The relation of the sociodemographic properties and disease-related properties of the control group with the BIS and SEI scores (n=120)

Variables	Variable categories	BIS		SEI	
		Mean score \pm SD	Test value; p	Mean score \pm SD	Test value; p
Age	20-441	123.69 \pm 22.11	F=3.68	13.90 \pm 2.82	F=9.72
	45-592	136.59 \pm 23.65	p=0.024*	12.21 \pm 1.79	p<0**
	60-723	131.18 \pm 24.66	significant difference between group 1 and 2	15.56 \pm 2.65	Significant difference between group 1 and 2 and group 1 and 3
Gender	Female	117.73 \pm 24.45	t=2.98	13.49 \pm 3.11	t=-0.76
	Male	124.89 \pm 21.72	p=0.04*	13.87 \pm 2.30	p=0.44
Education	Primary school1	115.02 \pm 22.96	F=20.06	13.08 \pm 2.60	F=4.98
	High school2	126.75 \pm 15.76	p<0**	15.33 \pm 1.82	p=0.008**
	Bachelor's degree and higher3	133.51 \pm 15.60	Significant difference between group 1 and 3 and group 2 and 3	16.27 \pm 2.97	Significant difference between group 1 and 2 and group 1 and 3

F: One way variance analysis, KW: Kruskal Wallis test, t: Student t test, * $p < 0.05$; ** $p < 0.01$

Body Image Scale and Self-esteem Inventory at a moderate level in the patient group ($r=0.463$, $p=0.001$). In the control group, no significant correlation was found between the scales ($r=0.145$, $p=0.1$).

Discussion

In our study, it was found that BIS (136.97 ± 23.47) and SEI (18.54 ± 3.79) scores of RA patients were above the average and also higher than the BIS (129.17 ± 23.47) and SEI (13.67 ± 2.75) scores of the control group. Heinberg et al. (23) reported that patients with scleroderma had a low level of body image in the study they conducted with patients with scleroderma. In the study performed by Aslan et al. (24) with RA patients, it was found that the patients with an advanced clinical stage had a low self-esteem level. In contrast to many studies, the fact that

BIS and SEI scores were found to be high in our study may be related with high education and economic levels of the patients. The fact that education and economic levels were not low in the patient group might have affected body image and self-esteem levels by changing the point of view of the individuals to the disease and symptoms.

While no relation was found between the body image and self-esteem in the control group, a positive relation was found between the body image and self-esteem in the patients group. Allgood-Merten et al. (25) showed a strong relation between dissatisfaction of body image and self-esteem and proposed that body image was not a separate structure, but was an important component of self-esteem.

It was observed that the healthy individuals in the 45-59-year age group had a higher body-image dissatisfaction compared to the 20-44-year age group, the 20-44-year age group had

Table 2. Relation of the sociodemographic and disease-related properties of RA patients with BIS and SEI scores (n=120)

Variables	Variable categories	BIS		SEI	
		Mean score \pm SD	Test val.; p	Mean score \pm SD	Test val.; p
Age	20-44 ¹	147.37 \pm 19.92	F=24.741	19.26 \pm 4.02	F=3.791 p=0.025* significant difference between group 1 and 2 and group 1 and 3
	45-59 ²	120.96 \pm 20.09	p=0.001**	17.12 \pm 3.08	
	60-72 ³	122.18 \pm 18.91		18.12 \pm 3.34	
Gender	Female	132.06 \pm 23.37	t=3.846	18.26 \pm 3.64	t=-1.261
	Male	149.38 \pm 18.91	p=0.001**	19.23 \pm 4.13	p=0.210
Education	Primary school ¹	122.48 \pm 19.80	F=12.24	17.48 \pm 3.41	F=6.167
	High school ²	139.44 \pm 21.99	p=0.001**	17.80 \pm 3.66	p=0.003**
	Bachelor's degree and higher ³	146.20 \pm 22.37	significant difference between group 1 and 2 and group 1 and 3	20.06 \pm 3.79	Significant difference between group 1 and 3 and group 2 and 3
Treatment period	1-24 months ¹	144.00 \pm 21.18	F=2.967	19.56 \pm 3.69	F=1.703 p=0.187
	25-60 months ²	139.65 \pm 16.74	p=0.045*	18.46 \pm 3.67	
	\geq 61 months ³	132.22 \pm 26.07	significant difference between group 1 and 3	18.04 \pm 3.85	
About disease	Yes	146.65 \pm 20.00	t=-2.802	18.78 \pm 4.05	t=-0.415
Education status	No	133.45 \pm 23.74	p=0.006	18.45 \pm 3.72	p=0.679
Psychological	Yes	130.04 \pm 25.89	t=1.541	16.36 \pm 3.68	t=-3.080
Receiving assistance	No	138.53 \pm 22.74	p=0.126	19.03 \pm 3.66	p=0.003**
Additional morbidity	Yes	126.46 \pm 22.43	t=3.875	17.04 \pm 3.47	t=-3.358
	No	142.84 \pm 22.06	p=0.001**	19.37 \pm 3.73	p=0.001**
Anti-TNF	Yes	131.63 \pm 20.53	t=2.550	17.71 \pm 3.82	t=-2.427
Usage state	No	142.31 \pm 25.13	p=0.012*	19.36 \pm 3.62	p=0.017*
Use of Anti-TNF Period (n=60)	1-24 months ¹	131.96 \pm 20.78	KW=0.401 p=0.818	17.84 \pm 4.15	KW=0.308 p=0.857
	25-60 months ²	130.33 \pm 19.47		17.38 \pm 3.48	
	\geq 61 months ³	134.00 \pm 25.23		18.14 \pm 3.62	

F: One way variance analysis, KW: Kruskal Wallis test, t: student t test, *p<0.05, **p<0.01

a higher self-esteem level compared to the 45-59-year age group and a lower self-esteem level compared to the 60-72-year age group, women had a lower body image satisfaction compared to men and a lower self-esteem compared to men, though not significantly, the individuals with an education level of bachelor's degree and higher had a higher body-image satisfaction compared to the other education groups and the individuals with an education level of high school and bachelor's degree and higher had a higher self-esteem level compared to graduates of primary school.

It was found that the 20-44-year age RA group had a higher body-image satisfaction and self-esteem level compared to the 45-59-year age RA group and 60-72-year age RA group and female patients had a lower body image satisfaction compared to male patients. In studies in which the relation between age

and gender and disease activity index, functional freedom and pain was investigated in RA patients, it was shown that female gender and advanced age caused to a markedly worse physical freedom (26,27). It was observed that graduates of high school and individuals with an education level of bachelor's degree and higher had a higher body-image satisfaction compared to graduates of primary school and individuals with an education level of bachelor's degree and higher had a higher self-esteem level compared to the other education groups. In the study conducted by Doeglas et al. (28) with RA patients, it was shown that individuals with a higher education level were more self-reliant.

It was observed that the patients who received treatment for 61 months and longer had a lower body-image satisfaction compared to the ones who received treatment for 1-24

Table 3. Relation of the complaints of RA patients with with BIS and SEI scores (n=120)

Variables	Variable categories	BIS		SEI	
		Mean score ± SD	Test val.; p	Mean score ± SD	Test val.; p
Malaise, tiredness	Yes	139.25±23.57	t=-1.031 p=0.305	18.77±3.87	t=0.652 p=0.516
	No	134.83±23.35		18.32±3.74	
Morning stiffness	Yes	136.33±20.65	t=0.291 p=0.291	18.42±3.59	t=-0.333 p=0.740
	No	137.59±26.06		18.65±4.01	
Heat and redness in the involved joints	Yes	135.07±23.15	t=760 p=0.449	17.50±3.94	t=-2.620 p=0.010*
	No	138.37±23.77		19.30±3.52	
Pain, swelling, tenderness in small joints	Yes	137.31±24.38	t=-0.196 p=0.845	18.94±3.78	t=1.429 p=0.156
	No	136.45±22.27		17.93±3.78	
Movement restriction	Yes	132.19±22.80	t=2.155 p=0.033*	18.01±3.66	t=-1.444 p=0.151
	No	141.30±23.40		19.01±3.88	
Loss of appetite, weight loss	Yes	138.07±21.64	t=-0.269 p=0.788	18.26±4.04	t=-0.412 p=0.681
	No	136.67±24.05		18.61±3.74	
Fever, night sweat	Yes	130.13±28.04	t=1.565 p=0.120	18.69±4.03	t=0.215 p=0.830
	No	138.59±22.10		18.50±3.76	
Changes related with the skin and eyes	Yes	129.94±20.95	t=1.338 p=0.183	17.58±3.22	t=-1.118 p=0.266
	No	138.13±23.75		18.69±3.87	
Depression	Yes	115.20±21.33	Z=2.115 p=0.034*	16.40±2.60	Z=-1.443 p=0.149
	No	137.92±23.18		18.63±3.82	

t: student t test, Z: Mann Whitney U test, *p<0.05, **p<0.01

months and their self-esteem levels were also lower, though the difference was not significant. It has been reported that patients pass through four stages including reaction, regression, acceptance and regeneration in response to changes in the body (21). It can be stated that many factors including observation and progression of physical deformation in the advanced stages of the disease in RA patients compared to the baseline cause to prolongation of the stages of acceptance and regeneration and thus body image satisfaction and self-esteem levels are affected negatively. It was observed that patients who received education about the disease had a higher body-image satisfaction. Hindistan and Ergüney (29) reported that the endurance level of RA patients who had low endurance against their diseases and problems in the pre-test increased after education in their study conducted with RA patients. Although the differences were not significant, it was observed that the individuals who did not receive psychological assistance had a higher body-image satisfaction and self-esteem level and the individuals who did not have additional mortality had a higher body-image satisfaction and self-esteem level compared to the ones with additional mortality. In the study conducted by Tekin (30) with RA patients, it was reported that there was a significant relation between depression and presentation to a psychiatry clinic, patients with depression needed psychological assistance with a higher rate and the rate of depression was found to be higher in the patients with additional mortality compared to the ones who had no additional mortality. It was observed that the patients who had movement restriction and depression were not satisfied with their body image, the patients who had heat and redness in the involved joints had a lower self-esteem and no significant difference was found according to the other complaints. Patients experience some fears even if physical

restriction and dependence have not developed yet. These fears lead to a change in the body-image and decreased self-esteem by causing the patient to find himself/herself insignificant and insufficient and to depression (31).

It was observed that the patients who had changes in hands and body parts and gait disturbance were not satisfied with their body-image and their self-esteem levels were affected negatively. In the study conducted by Altinkesen (32) with RA patients in the early and late stages of the disease, it was reported that movement restriction observed in distal joints especially in hand and wrist joints inhibited daily life activities which required ability and performance in their occupations.

It was observed that changes in daily activities affected body-image satisfaction negatively and changes in sexual life affected self-esteem levels negatively. Although the difference between the groups was not significant, it was observed that the patients who did not have changes in working life were more satisfied with their body-image and had a higher self-esteem level. It was found that body-image satisfaction and self-esteem levels were affected negatively in the patients who had changes in their family lives and there was no significant difference in terms of body-image satisfaction and self-esteem levels according to changes in interpersonal relations. Aslan et al. (24) reported RA causes to disruption in physical and psychosocial life and the symptoms result in restriction of daily activities, decreased efficiency in working life, problems in sexual life, social isolation and dependence to other people.

It was observed that the patients who did not use anti-TNF drug had a higher body-image satisfaction and self-esteem level compared to the ones who used anti-TNF and there was no significant difference according to the period of

Table 4. Relation of the changes which occur during the disease process in RA patients with BIS and SEI scores

Variables	Variable categories	BIS		SEI	
		Mean score ± SD	Test val.; p	Mean score ± SD	Test val.; p
Change in hands and body parts	Yes	132.02±23.29	t=-3.028	17.86±3.76	t=2.531
	No	144.93±19.63	p=0.003**	19.63±3.62	p=0.013*
Gait disturbance	Yes	128.09±22.91	t=3.900	17.37±3.64	t=-3.091
	No	144.00±21.59	p=0.001**	19.46±3.98	p=0.002**
Changes in daily activities	Yes	134.06±23.80	t=2.065	18.34±3.90	t=0.829
	No	143.51±21.59	p=0.041*	18.97±3.57	p=0.409
Changes in sexual life	Yes	137.51±25.24	t=-0.136	17.00±4.26	t=-2.445
	No	136.81±23.07	p=0.892	18.98±3.55	p=0.016*
Changes in workin life	Yes	134.84±24.28	t=-1.058	18.28±4.12	t= 0.637
	No	138.95±22.80	p=0.292	18.75±3.55	p=0.525
Changes in family life	Yes	129.44±24.16	t=-3.432	17.66±3.76	t=2.424
	No	143.56±24.16	p=0.001**	19.31±3.68	p=0.017*
Changes in interpersonal relations	Yes	129.44±24.33	t=-1.484	17.16±4.04	t=1.678
	No	138.0±23.18	p=0.141	18.78±3.72	p=0.096

t: student t test, *p<0.05, **p<0.01

drug usage. TNF- α is one of the pro-inflammatory cytokines which is involved in the pathogenesis of many inflammatory disease including RA. It is also known that anti-TNF group drugs including infliximab, etanercept and adalimumab which have been used frequently in recent years provide clinical and functional improvement (33). Despite developed therapeutic options which have to be frequently used for long-term and which can only be used in selected patients, RA may lead to deformation in small, medium and large joints and atrophy in muscles. This changes body-image and self-experience to a great extent in time together with the changes arising from the drugs used (for example, corticosteroids) (5).

Conclusion

Considering the 45-59-year age group, graduates of primary school, patients with additional mortality, patients who use anti-TNF, patients who have changes in hands and body parts and patients with gait disturbance who have a low self-esteem level, preparation and application of education programs including treatment and care plans and conduction of studies in which the long-term effects of these programs are observed can be recommended.

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