Research Article

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Coping with Stress and Body Image in Patients with Ankylosing Spondylitis

Ankilozan Spondilit Hastalarında Stresle Başa Çıkma Tutumları ve Beden İmgesi

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ABSTRACT

Introduction: The aim of this study was to determine coping with stress and body image in patients with ankylosing spondylitis (AS) and to investigate the correlation between these two characteristics together and also between them and disease activity/functional capacity.

Method: Fourty healthy controls and 40 patients with AS who were diagnosed on the basis of Modified New York Criteria were included in the study. The exclusion criteria were another medical disease or comorbid psychiatric disorder. All participants were administered the Coping Orientations to Problems Experienced (COPE) questionnaire in order to evaluate attitudes to coping with stress and the Multidimensional Body-Self Relations Questionnaire (MBSRQ) to evaluate body image. The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were used to evaluate AS patients' disease activities and functional capacities.

Results: There was no difference between the two groups in terms of COPE scores. The MBSRQ 'health evaluation' subscale scores were lower and the 'fitness orientation' scores higher in the AS group. The COPE active coping subscale had a weak, positive correlation with MBSRQ total score and a weak, negative correlation with BASFI score. MBRSQ total score had a moderate, negative correlation with BASFI score, and a weak, negative correlation with BASDAI score.

Conclusion: The attitudes to coping with stress in AS patients with no accompanying medical disease or psychiatric disorder may not differ from that in healthy controls. Negative health evaluation and fitness orientation must be characteristics considered in psychotherapeutic interventions applied to these patients. In addition, psychotherapeutic interventions directed toward coping with stress and body image may be especially useful in active stages of the disease and in patients with limited functional capacity. *(Archives of Neuropsychiatry 2014; 51: 110-115)*

Key words: Ankylosing spondylitis, coping with stress, body image, disease activity, functional capacity

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

ÖZET

Giriş: Bu çalışmanın amacı ankilozan spondilit (AS) hastalarının stresle başa çıkma tutumları ve beden imgelerinin belirlenmesi, ayrıca bu iki özelliğin birbirleriyle ve hastalık aktivitesi/fonksiyonel kapasite ile ilişkisinin araştırılmasıdır.

Yöntem: Çalışmaya Modifiye New York Kriterlerine göre tanısı konmuş 40 AS hastası ile 40 sağlıklı kontrol olmak üzere toplam 80 gönüllü alınmıştır. AS hastaları için ek tıbbi hastalığa ya da ruhsal bozukluğa sahip olmak çalışmadan dışlanma ölçütü olarak belirlenmiştir. Tüm katılımcılara stresli yaşam olayları karşısında başa çıkma tutumlarını değerlendirmek için Başa Çıkma Tutumlarını Değerlendirme Ölçeği (BÇTDÖ), beden imgelerini değerlendirmek için Çok Yönlü Beden-Self İlişkileri Ölçeği (ÇYBSİÖ) uygulanmıştır. AS hastalarının hastalık aktivitelerini ve fonksiyonel kapasitelerini değerlendirmek için Bath Ankilozan Spondilit Hastalık Aktivitesi İndeksi (BASDAI) ve Bath Ankilozan Spondilit Fonksiyonel Kapasite İndeksi (BASFI) kullanılmıştır.

Bulgular: BÇTDÖ puanları açısından iki grup arasında fark saptanmamıştır. AS grubunda ÇYBSİÖ'nin 'sağlığın değerlendirilmesi' alt ölçek puanı daha düşük, 'fiziksel yeterlik yönelimi' alt ölçek puanı daha yüksek bulunmuştur. BÇTDÖ'nin sorun odaklı başa çıkma alt ölçeği puanı ile; ÇYBSİÖ total puanı arasında pozitif, BASFI puanı arasında negatif yönde zayıf derecede korelasyon saptanmıştır. ÇYBSİÖ total puanı; BASFI puanı ile negatif yönde orta derecede, BASDAI puanı ile negatif yönde zayıf derecede korelasyon göstermiştir.

Sonuç: Ek bir tıbbi hastalık ya da ruhsal bozukluk eşlik etmeyen AS hastalarında stresli yaşam olayları karşısında başa çıkma tutumları sağlıklı kontrollerden farklı olmayabilir. Sağlığın olumsuz değerlendirilmesi ve fiziksel yeterlik yöneliminin bu hastalara uygulanacak psikoterapötik girişimlerde dikkate alınması gerekir. Ayrıca özellikle hastalığın aktif dönemlerinde ve fonksiyonel kapasitesi sınırlı hastalarda stresle başa çıkma tutumlarına ve beden imgelerine yönelik psikoterapötik girişimler de faydalı olabilir. *(Archives of Neuropsychiatry 2014; 51: 110-115)*

Anahtar kelimeler: Ankilozan spondilit, stresle başa çıkma, beden imgesi, hastalık aktivitesi, fonksiyonel kapasite

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

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Introduction

Ankylosing spondylitis (AS) is an inflammatory genetic disease with unknown etiology which is characterized with marked inflammation in spinal joints and adjacent structures leading to progressive bone fusion in the vertebra. It may cause to deformities in the vertebra. Peripheral joint involvement occurs with a lower rate and hip and shoulder joints are also involved in 1/3 of the cases. The disease may involve various organs including the eye, heart, lung and kidney. It is observed with a 3-fold higher rate in men. The most important clinical complaints include headache, morning stiffness and functional inadequacy. The onset is insidious and slow (1). Since it is progressive, leaves deformities and leads to labour loss, it may lead to some psychiatric symptoms and affect the quality of life. In the literature, studies investigating psychiatric symptoms and quality of life in AS patients are frequently encountered (2,3,4,5,6,7,8,9). Psychiatric studies are generally scale studies which measure the levels of depression and anxiety (7,8,9). There are limited number of studies investigating the attitudes of coping with stress and body image in patients with AS which leads to great difficulties in daily life because of its chronicity and it nature leading to disability (10,11).

It is a universal attitude to minimize or abolish the negative effects of stressful events and factors. "Coping" may be defined as the whole of cognitive, emotional and behavioral reactions which the individual demonstrates with the objective of resisting against stressful events or factors and enduring these events or factors. Medical and psychiatric diseases may affect the individual's coping attitudes (12,13). "Body image" is the individual's evaluation of his/her positive or negative emotions against his/her body parts and their functions. Body image is closely related with the concepts of self-respect, selfhood, identity and personality. Acute (amputation, mastectomy etc.) or chronic (aging, obesity, arthritis etc.) changes in body structure may lead to disruption in body image (14). Coping attitudes and body image in AS patients is an issue which is ignored. In the literature, there is only one study in which coping attitudes under stressful conditions are examined in AS patients in comparison with healthy controls (10). In this study, it was found that AS patients used the methods of relieving by comparing their stressful lives with heavier lives of others, withdrawing from stressful experiences by searching for other satisfaction methods (purchasing something which is longed for for a long time etc.), less self-accusation compared to healthy controls and withdrawal (10). Similarly, there is only one study which examines body images in AS patients in comparison with healthy controls in the literature (11). In this study, AS patients reported concerns about potential physical deficits, lack of self-confidence related with physical attractiveness, thoughts about having a negative body and a better physical endurance (11).

The objective of this study was to investigate the attitudes of coping with stress and body images in AS patients and to examine the relation of these two properties with each other and with disease activity/functional capacity.

Methods

This study is a joint study of Ondokuz Mayıs University, Medical Faculty, Department of Physical Therapy and Rehabilitation and Department of Psychiatry. The study was conducted with 46 AS patients who were diagnosed according to the modified New York criteria and 40 healthy volunteers matched for age and sex. The study protocol was explained to 46 patients who were referred to the department of psychiatry by the department of physical therapy and rehabilitation and psychiatric examination was performed in volunteer patients. The study inclusion criteria for the patient and control groups included absence of a psychiatric disease, being above the age of 18 years, being literate and absence of any other medical illness. 5 patients who were found to have mental disturbance (1 depressive disorder, 2 anxiety disorder not otherwise specified, 1 panic disorder, 1 histrionic personality disorder) and 1 illiterate patient were excluded from the study. No other medical disease was found in any of the patients with AS. The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were applied to 40 patients who fulfilled the inclusion criteria by the department of Physical Therapy and Rehabilitation. 40 individuals included in the control group met the study inclusion criteria. The Coping Orientations to Problems Experienced (COPE) questionnaire was applied to specify coping attitudes and the Multidimensional BodySelf Relations Questionnaire (MBSRQ) was applied to evaluate body images in the patient and control groups.

Our study was evaluated by the ethics committee of our university and approved.

Measurements

Sociodemographic and Clinical Information Form

This form which was prepared by the investigators questioned age, gender, marital status, occupation, income status, residence and education level.

The Multidimensional BodySelf Relations Questionnaire (MBSRQ)

The Multidimensional BodySelf Relations Questionnaire (MBSRQ) is a self-assessment scale composed of 69 items which was developed to evaluate the cognitive, behavioral and emotional aspects of body image (15). The validity and reliability study of the Turkish form of the scale was performed by Doğan and Doğan and it is composed of 57 items (14). It has seven subscales: assessment of appearance (6 items), appearance orientation (10 items), assessment of physical adequacy (6 items), physical adequacy orientation (9 items), assessment of health (6 items), health orientation (11 items), satisfaction with body parts (9 items). Each item is graded between 1 (I do definitely npt agree) and 5 (I do definitely agree). The score of the Turkish form ranges between 57 and 285. High scores show a higher satisfaction level related with body image.

The Coping Orientations to Problems Experienced (COPE) questionnaire

The Coping Orientations to Problems Experienced (COPE) questionnaire is a self-assessment scale composed of 60 ques-

tions. It aims to measure how individuals cope with difficult or worrysome events or problems in daily life. It includes 15 subscales and each subscale is composed of four questions (16). Its Turkish validity and reliability study was performed by Ağargün et al. (12). It is answered over four options:

I can never do such a thing; 2- I do such a thing very rarely; 3- I do such a thing at a moderate level; 4- I do such a thing most of the time. High scores obtained from each of the subscales gives information about a separate coping attitude: Problem-focused coping (active coping, planning, keeping away, use of useful social support, suppressing other activities), emotionally focused coping (positive reinterpretation, religious coping, passing over lightly, acceptance, use of emotional social support), non-functional coping (focusing on the problem and demonstrating emotions, denial, behavioral ignorance, intellectual ignorance, substance abuse) (13). While problem-focused coping includes active coping attitudes used in order to abolish the main source of the problem, emotionally focused coping includes the attitudes of coping with emotional effect caused by the main source. Non-functional coping attitudes are indicators of inability to cope with stressful conditions and are closely related with psychiatric disorders (12). This scale can be used to determine how people cope with a specific stressful factor or general daily stressful events (16). In our study, the participants were asked to fill in the scale considering how they cope with general daily stressful events.

The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI)

The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were used to evaluate disease activity and functional capacity of the patients. BASDAI includes 6 questions which evaluate five significant findings of the disease in the last one week (fatigue, hip and spine pain, swelling and pain in the peripheral joints, entesitis, duration and severity of morning stiffness). The total score is measured by grading each question on a visual analogue scale of 0-10 cm and calculating the mean score. High scores indicate a high disease activity. BASFI is composed of 8 questions which evaluate the functional capacity of patients and 2 questions which evaluate daily life. High BASFI scores show greater functional limitation. The total score is measured by grading each of these 10 questions on a visual analogue scale of 0-10 cm in a period of one week and calculating the mean score. BASFI and BASDAI are self-report scales (17,18). Their Turkish validity and reliability studies were performed (19,20).

Statistical analysis

Chi-square test was used to compare categorical data and student's t test was used to compare the data obtained by counting. Pearson correlation test was performed to determine the correlation of the psychiatric scale scores between themselves. A "r" value of .30-.49 was considered low correlation,

Table 1. Comparison of the AS and control groups in terms of sociodemographic properties

		AS		Control			
		(n=40)	%	(n=40)	%	Chi-square	p
Gender	Male	32	80.0	32	80.0		
	Female	8	20.0	8	20.0	.00	1.00
Marital status	Married	25	62.5	25	62.5		
	Single	15	37.5	15	37.5	.00	1.00
Education	Primary school	15	37.5	15	35.0		
	High-school	12	30.0	19	47.5	3.41	.18
	University	13	32.5	7	17.5		
Occupation	Officer	14	35.0	9	22.5		
	Labourer	12	30.0	21	52.5	4.96	.20
	Independent	6	15.0	3	7.5		
	Unemployed	8	20.0	7	17.5		
Income level	Low	7	17.5	9	22.5		
	Moderate	32	80.0	30	75.0	.31	.85
	High	1	2.5	1	2.5		
Residence	Village-County	26	65.0	18	45.0		
	Province	14	35.0	22	55.0	2.47	.12
Total		40	100.0	40	100.0		

a "r" value of .50-.69 was considered moderate correlation, a "r" value of .70-.89 was considered high correlation and a "r" value of .90-1.00 was considered very high correlation. The data obtained by counting were expressed as percentages and the data obtained by measurement were expressed as mean±standard deviation. A p value of <.05 was considered significant in all analyses.

Results

No difference could be found between the anklylosing spondylitis group and control group in terms of age (31.27±5.30 and 31.45±8.19), gender, marital status, education level, occupation, socioeconomical level and residence (p>.05) (Table 1). The mean disease time of the AS patients was found to be 8.22±7.90 years. The mean BASFI and BASDAI scores were found to be 2.13±1.30 (min=.20, max=6.90) and 2.07 ±1.90 (min=.50, max=5.30).

No difference was found between the patient and control groups in terms of the problem focused coping, emotionally focused coping and non-functional coping subscales of the scale which evaluated coping attitudes (p>.05) (Table 2). The scores of "assessment of health" subscale of the Multidimensional BodySelf Relations Questionnaire were found to be lower in the AS group compared to the control group (p=.02) and "physical adequacy orientation" scores were found to be higher in the AS group compared to the control group (p=.02). No difference was found between the patient and control groups in terms of the other subscale scores (p>.05) (Table 3).

In the patient group, the problem focused coping subscale scores of the COPE scale showed a weak positive correlation with the total scores of the Multidimensional BodySelf Relations Questionnaire (r=.41, p<.05) and a weak negative correlation

Table 2. Comparison of the AS and control groups in terms of coping attitudes

Coping attitudes scale	AS (n=40)	Control (n=40)	T test	p
Problem focused coping	58.35±7.17	58.37±7.97	-.01	.99
Active coping	12.70±2.74	12.85±2.04	-.28	.78
Planning	12.70±2.41	12.80±2.03	-.20.84	.84
Withdrawal	10.67±2.13	10.05±2.10	1.32	.19
Use of beneficial social support	11.32±2.68	11.82±2.62	-.84	.40
Suppression of other activities	10.70±2.31	10.67±2.53	.05	.96
Emotionally focused coping	55.82±6.54	54.72±7.42	.70	.48
Positive reinterpretation and development	13.27±2.07	13.35±2.03	-.16	.87
Religious coping	12.37±3.72	11.85±3.65	.64	.53
Humour (passing over lightly)	7.70±2.74	8.22±3.22	-.78	.43
Acceptance	11.05±2.74	10.02±3.10	1.57	.12
Use of emotional social support	11.15±2.33	11.27±2.15	-.25	.80
Non-functional coping	40.30±7.49	39.00±9.90	.66	.51
Focusing on the problem and demonstrating emotions	11.27±2.86	11.50±2.99	-.34	.73
Denial	7.32±3.03	6.75±2.51	.92	.36
Behavioral ignorance	7.12±3.03	6.60±2.63	.83	.41
Intellectual ignorance	9.57±2.42	8.72±2.32	1.60	.11
Alcohol-substance abuse	5.22±2.36	5.92±3.52	-1.04	.30

Table 3. Comparison of the AS and control groups in terms of body image

Multidimensional Body Self Relations Questionnaire	AS (n=40)	Control (n=40)	T test	p
Assessment of appearance	3.39±.72	3.43±.78	-.09	.93
Appearance orientation	3.52±.72	3.44±.75	.48	.63
Assessment of physical adequacy	3.42±.73	3.51±.68	-.58	.56
Physical adequacy orientation	3.21±.56	2.91±.56	2.38	.02
Assessment of health	3.16±.64	3.51±.70	-2.36	.02
Health orientation	3.45±.61	3.22±.57	1.73	.09
Satisfaction with body areas	3.43±.67	3.65±.72	-1.40	.16
Scale total score	3.37±.47	3.35±.45	.19	.85

with the scores of the Bath Ankylosing Spondylitis Functional Index (r=.32, p<.05). The total scores of the Multidimensional BodySelf Relations Questionnaire showed a moderate negative correlation with the scores of the Bath Ankylosing Spondylitis Functional Index (r=.53, p<.05) and a weak negative correlation with the scores of the Bath Ankylosing Spondylitis Disease Activity Index (r=-.33, p<.05). The Bath Ankylosing Spondylitis Functional Index scores and the Bath Ankylosing Spondylitis Disease Activity Index scores showed a moderate positive correlation (r=.65, p<.05). No correlation was found between the other scale scores (p>.05) (Table 4).

Discussion

The objective of this study was to investigate the attitudes of coping with stress and body image in AS patients and to examine the relation of these two properties with each other and with disease activity/functional capacity. Medical and psychiatric diseases may affect coping attitudes (12,13). Therefore, AS patients who had medical and psychiatric disorders were excluded from the study. In the literature, there is only one study which examines the coping attitudes of AS patients in comparison with healthy controls (AS all male n=76, control n=16) (10). In this study in which the attitudes of coping with stress were specified by a scale used in German speaking countries, it was found that AS patients used coping methods including relieving by comparing their stressful lives with heavier lives of others, withdrawing from stressful experiences by searching for other satisfaction methods (purchasing something which is longed for for a long time etc.), less self-accusation compared to healthy controls and withdrawal. In our study, no difference was found between the AS patients and healthy controls in terms of coping attitudes. This result suggested that the attitudes of coping with stress in AS patients might not be different from healthy people. However, this finding of us is contradictory to the study of Günther et al. (10). In the study of Günther et al., there is no information about exclusion of the subjects with medical and psychiatric diseases from the study (10). Therefore, the contradiction between the two studies might be related with methodological differences (different scales, different patient and control numbers, inclusion of only one gender in the study, lack of exclusion of medical and psychiatric diseases etc.). Studies with a higher number of patients using coping attitude scales (like COPE) used widely worldwide are needed to specify the attitudes of coping in AS patients.

Another significant issue in AS patients is body image disruptions. It has been reported that approximately half of AS patient are worried about their appearance (5). However, there is only one study in the literature examining the body images of AS patients in comparison with healthy controls (11). In this study which used a different scale compared to our study, the AS patients reported anxieties about potential physical deficits, lack of self-confidence related with physical attractiveness, thoughts about having a negative body and a better physical endurance (11). In our study, the scores of the "assessment of health" subscale were found to be low and the scores of the "physical adequacy orientation" subscale were found to be high in the Bodyself Relations Questionnaire in AS patients. The subjects who have a low score for the subscale of "assessment of health" think that they cannot keep their health under control, they do not know how their bodies will be from one day to another, their health states continuously show ups and downs, they are vulnerable against diseases and they become ill frequently (14). Although it is an expected outcome that individuals with a chronic disease causing disability evaluate their health states negatively, body image is not only related with real outcomes related with the body, but also with how the individual perceives his/her body. Sometimes, this perception may not reflect the reality completely. "Assessment of health" is related with the emotional aspect of body image. It may or may not be compatible with the actual status (14). Therefore, "assessment of health" should be the target point in psychotherapeutical interventions which will be performed in AS patients. Individuals with a high "physical adequacy orientation" give importance to being physically strong, show special effort for physical well-being, try to develop endurance, have information about physical health and do regular physical exercise. Physical adequacy orientation is related with the cognitive and behavioral aspect of body image (14). Thus, AS patients may use physical adequacy orientation as a defense against diseases which may cause to physical disability. In AS patients, regular exercise programs which increase spinal flexibility and help to adjust the posture are a significant part of treatment (21,22). Thus, interventions directed to increase these features in these patients with a tendency to physical adequacy

Table 4. Correlation between the scale scores in the AS patients

	COPE	MBRSQ	BASFI	BASDAI
COPE				
Problem focused coping		r=.41 p=.02	r=-.32 p=.44	r=-.21 p=.20
Emotionally focused coping		r=-.21 p=.20	r=-.18 p=.28	r=-.09 p=.59
Non-functional coping		r=-.21 p=.20	r=1.67 p=.30	r=.13 p=.43
MBRSQ			r=-.53 p=.00	r=-.33 p=.04
BASFI				r=.65 p=.00

COPE: the Coping Orientations to Problems Experienced questionnaire; MBRSQ: The Multidimensional BodySelf Relations Questionnaire; BASFI: The Bath Ankylosing Spondylitis Functional Index; BASDAI: The Bath Ankylosing Spondylitis Disease Activity Index

orientation may make positive contributions to treatment of the disease by facilitating compliance with exercise programs.

In the literature, there is no study investigating the relation between coping attitudes in face of life events and body image. In our study, a positive correlation was found between problem focused coping and body image. No correlation was found between emotionally focused and non-functional coping attitudes and body image. Problem focused coping is a mature method of coping including active coping attitudes directed to abolish the main source of the problem (12). Our finding suggests that active coping attitudes and body satisfaction may affect each other positively. In our study, a negative correlation was found between problem focused coping and functional capacity, while no correlation was found with disease activity. No correlation was found between emotionally focused coping and non-functional coping attitudes and functional capacity and disease activity in our study. This result shows that active coping is not correlated with disease activity, but negatively correlated with functional capacity. In our study, it was also found that body image was negatively correlated with disease activity and functional capacity. Acute and chronic changes related with the body affect body image negatively (14). The final finding in our study was that functional capacity and disease activity were positively correlated in AS patients. Since functional capacity will decrease in active disease periods, this is an expected finding.

The first limitation of our study is the relatively low number of subjects. However, we think that this does not reduce the importance of our study, because the issue has not been adequately examined in the literature. Nevertheless, studies related with this issue including a higher number of subjects should be conducted. The second limitation of the study was the fact that our patients were composed of patients who had relatively lower disease activity (the mean BASDAI score=2.07±1.90) and relatively better functional capacity (the mean BASFI score=2.13±1.30). Our results do not reflect the coping attitudes and body images of AS patients with more severe disease activity and poorer functional capacity. Studies should be conducted with this group of AS patients. The third limitation is related with investigation of the correlation between coping attitudes and body image and disease activity and functional capacity. BASDAI and BASFI should be evaluated considering the last week of the patients. Thus, coping attitudes and body image may be affected by other factors besides disease activity and functional capacity. Thus, longer term studies investigating the correlation between measurements of disease activity and functional capacity and coping attitudes and body image are needed.

Coping attitudes against stressful experiences in AS patients who have no additional medical or mental illness may not be different from healthy controls. Psychotherapeutical interventions directed to negative assessment of health and physical adequacy orientation among body image features may provide additional benefits for medical treatment of the disease. In addition, psychotherapeutical interventions directed to coping attitudes and body image in active periods of the disease and in patients with limited functional capacity may also be useful.

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