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Temperament and character traits in patients with anorectal disorder

Anorektal bölge rahatsızlığı olan hastalarda mizaç ve karakter özellikleri

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Abstract

Aim: Patients with anorectal disorders can have different temperament and character traits from healthy individuals and this condition is thought to be able to change the clinical course of the disease with comorbid psychiatric disorders. In this cross-sectional study, it is aimed to examine temperament and character traits in patients with anorectal disorders.

Methods: We compared 102 patients diagnosed with one of the four most common anorectal disorders (hemorrhoidal disease, anal fissure, anorectal abscess/fistulae, and sacrococcygeal pilonidal disease) who applied to the out-patient clinic and 80 healthy adults without any medical condition. Both groups were administered sociodemographic and descriptive information questionnaire, Temperament and Character Scale (TCS), Beck Depression Scale (BDI), Beck Anxiety Scale (BAI) and State and Trait Anxiety Scale (STAI).

Results: According to the control group, the patients with anorectal disorders had higher harm avoidance (HA) scores from temperament dimensions and lower self-directedness (SD) scores from character dimensions. The anxiety and depression rates were higher in the group with anorectal disorders.

Conclusion: Anorectal disorders are common diseases in the society. Temperament and character traits are closely related to comorbid psychiatric disorders seen in patients with anorectal region disease. At the same time temperament and character traits can affect compliance with medical and surgical interventions for anorectal disease. Our study has provided important data to encourage clinicians to evaluate patients in a multidisciplinary approach in the treatment of anorectal disorders that are generally predisposed to chronicity.

Keywords: Anorectal disorder, Temperament and character traits, Mental disorders

Öz

Amaç: Anorektal bölge hastalıkları olan hastaların sağlıklı bireylerden farklı olarak mizaç ve karakter özelliklerinin etkileneceği düşüncesinden hareket ederek, bu kesitsel çalışmada anorektal bölge rahatsızlığı olan hastalarda mizaç ve karakter özelliklerinin incelenmesi amaçlanmıştır.

Yöntemler: Ayakta tedavi kliniğine müracaat eden ve en sık rastlanılan dört anorektal bölge rahatsızlıklarından (hemoroidal hastalık, anal fissür, anorektal abse/fistüller ve sakrokoksigeal pilonidal hastalık) birisi için tanı konulmuş 102 hasta ile herhangi bir tıbbi rahatsızlığı olmayan 80 sağlıklı yetişkinden oluşan kontrol grubu karşılaştırılmıştır. Her iki gruba da sosyo-demografik bilgiler ve tanımlayıcı bilgiler anketi, Mizaç Karakter Ölçeği (MKÖ), Beck Depresyon Ölçeği (BDÖ), Beck Anksiyete Ölçeği (BAÖ) ve Durumluk ve Sürekli Kaygı Ölçeği (STAİ) uygulanmıştır.

Bulgular: Anorektal bölge rahatsızlığı olan hasta grubu kontrol grubuna göre mizaç boyutlarından zarardan kaçınma (ZK) skorlarının daha yüksek, karakter boyutlarından kendini yönetme (KY) skorlarının daha düşük olduğu saptanmıştır. Anorektal bölge hastalığı olan grupta depresyon ve anksiyete oranları daha yüksektir.

Sonuç: Anorektal bölge hastalıkları toplumda sık görülen hastalıklardır. Anorektal bölge rahatsızlığı olan hastalarda görülen komorbid psikiyatrik rahatsızlıklarla mizaç ve karakter özellikleri yakın ilişki içerisindedir. Aynı zamanda mizaç ve karakter özellikleri anorektal bölge hastalıkları için uygulanan tıbbi ve cerrahi müdahalelere uyumu etkileyebilmektedir. Çalışmamız, genellikle kronikleşmeye yatkın anorektal hastalıkların tedavisinde klinisyenleri multidisipliner bir yaklaşımla değerlendirmeye teşvik etmek için önemli veriler sağlamıştır.

Anahtar kelimeler: Anorektal bölge rahatsızlığı, Mizaç ve karakter özellikleri, Ruhsal bozukluklar

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Introduction

Anorectal region diseases are common diseases in the community. Of the chronic diseases of this region, chronic hemorrhoidal disease occur at the rate of 45%, chronic anal fissure at the rate of 6-7%, chronic anal abscess/fistula at the rate of 4-5% and chronic sacrococcygeal pilonidal disease at the rate of 3-4%. Anorectal region diseases are the diseases which can relapse after surgical treatment as well as medical treatment and which may tend to become chronic [1,2]. Complaints such as pain, constipation/diarrhea, and hemorrhage emerging along with the chronic inflammatory process in chronic anorectal diseases are quite severe and disturbing symptoms which decrease patients' quality of life significantly [3]. Because of these disturbing complaints, patients exhibit escape or avoidance behavior from the society, or put up with this under intense distress. The drop in quality of life in conjunction with the impairment in social relationships of the patients diagnosed with the chronic anorectal disease can form a basis for psychiatric disorders which may lead to disability in the upcoming period by resulting in anxiety, depression, and alcohol/substance abuse [2]. However, temperament and character traits play an important role in the occurrence of psychiatric disorders. At the same time, the person who is shaken by the disease tries to adapt to the disease and tries to adapt his/her living conditions to the disease. The more this new situation emerging with the occurring disease causes obstacles in the future plans of the person and flow of daily living, the more severe outcomes will ensue. These problems can range from adaptation attempts to clinical mental disorders. Patients' orientation capacities, which change in quality and duration, to this new condition emerging with diseases and these diseases directly affecting their qualities of life are closely related to their temperament and character traits. Other situations associated with temperament and character traits can be evaluated as whether patients can adapt to living together or to the treatment of their disease, to which extent they can use coping mechanisms with the emerging new condition and the ability to be able to generate a new living plan [4,5,6].

Temperament is an intrinsic characteristic which is transmitted with inheritance and changes very little during life. Character, however, refers to the attitudes developed, learned under the influence of culture and raising, therefore, it includes features that can be changed over time [7]. In the previous years, the studies on other disease groups other than anorectal regional disease revealed that there was a differentiation in the subcomponents of temperament and character compared to the healthy group. [8]. As a result of the literature review conducted by the researchers no study examining the correlation of anorectal region diseases with personality and temperament was encountered. Patients with anorectal disorders can have different temperament and character traits from healthy individuals and this condition is thought to be able to change the clinical course of the disease with comorbid psychiatric disorders. In this cross-sectional study, it is aimed to examine temperament and character traits in patients with anorectal disorders.

Materials and methods

This cross-sectional study was conducted between 14.04.2016 and 28.09.2016. The research sample was constituted by 102 patients who were admitted to the outpatient clinic of General Surgery in our hospital and who were diagnosed with one of four most commonly encountered anorectal region diseases (hemorrhoidal disease, anal fissure, anorectal abscess/fistula and sacrococcygeal pilonidal disease). The participants were composed of male and female patients over the age of 18 years who had a level of education and mental status to be able to fill in the scales and questionnaires delivered for assessment evaluation and who filled in the informed consent form. The data concerning the subject were collected from a total of 102 patients who voluntarily participated in the study within this group and the control group composed of 80 healthy adults who were not diagnosed with any psychiatric disease according to the DSM-IV diagnostic criteria, who were never treated for mental disorders at any time of their lives, and who were matched with the patient group for age and gender. Prior to the study, the ethics committee approval dated 07.04.2015 and numbered 2015/01 was obtained from the local ethical committee of the hospital. A face-to-face questionnaire was administered to the patients who were diagnosed by a proctologic history and examination in the general surgery outpatient clinic. This questionnaire consisted of socio-demographic information and descriptive information, Temperament and Character Inventory (TCI), Beck's Depression Inventory (BDI), Beck's Anxiety Inventory (BAI) and State-Trait Anxiety Inventory (STAI).

Sociodemographic Data Form: In the sociodemographic data form filled by the patients, the query form included patients' gender, age, income, marital status (married/not married), education status (primary/high school /undergraduate/graduate), employement status (full- time/ half-time/unemployed), operation history, being on medication, use of alcohol (consumes/does not consume), smoking(smokes, does not smoke), post-operative relapse (yes/no), complaint (pain, constipation/diarrhea, hemorrhage).

Structured Clinical Interview for DSM-IV Axis-I Disorders (SCIDI/CV): It is the structured clinical interview tool andministered by the interviewer in order to investigate the diagnosis of axis I mental disorders according to DSM-IV It was developed by First et al. SCID-I: It is a structured clinical interview scale developed by the American Psychiatric Association for DSM-IV Axis-I diagnose [9]. The Turkish validity and reliability study of the SCID-I was conducted by Corapcioglu et al. [10].

Temperament and Character Inventory (TCI): The TCI developed by Cloninger based on personality theory is a 7-factor, 240-item self-assessment report with four temperament (novelty seeking, harm avoidance, reward dependence, persistence) and three character dimensions (self-directedness, cooperativeness, self-transcendence) which is answered as "true" or "false". Except for persistence, other temperament and character dimensions are composed of subscales [11]. The Turkish validity and reliability study of the inventory was conducted by Kose et

al. [12] in 2001 and this version was approved by Cloninger as the Turkish TCI.

Beck's Depression Inventory (BDI): It is a self-assessment scale consisting of 21 items. It provides 4-point Likert type measurement. Each item gets an increasing score between 0 and 3 and the total score is obtained by their summation. The cut-off point of the inventory in the Turkish validity and reliability study by Hisli et al. [13] is 17. While scoring the inventory, the score between 0 and 10 points refers to no depression, 11-17 points refers to mild depression, 18-23 points refers to moderate depression and 24 points and above refers to severe depression.

Beck's Anxiety Inventory (BAI): It is a self-assessment inventory developed by Beck in 1988, and it is used to determine the frequency of anxiety symptoms experienced by individuals. It is a Likert type inventory including 21 items. The Turkish validity and reliability was carried out by Ulusoy et al. [14] in 1998. 0-7 points were evaluated as minimal anxiety, 8-15 points as mild anxiety, 16-25 points as moderate anxiety, 26-63 points as severe anxiety.

State-Trait Anxiety Inventory (SAI, TAI): This inventory was developed by Spielberger and Lushen in 1970 [15]. The Turkish adaptation was performed by Oner in 1977 [16]. It consists of two separate tests each with 20 questions. Emotions or behaviors expressed in the items of the state anxiety inventory are composed of 4 options depending on the severity of the experience (1: never, 2: some, 3: very and 4: completely). The emotions or behaviors expressed in the items of trait anxiety inventory are composed of the options, namely 1: almost never, 2: sometimes, 3: most of the time and 4: almost always according to their frequency. There are 10 reverse scored items (1, 2, 5, 8, 10, 11, 15, 16, 19 and 20 items) in the

State Anxiety Inventory while there are 7 reverse scored items (21, 26, 27, 30, 33, 36 and 39 items) in the Trait Anxiety Inventory. The total weighted score of the reverse scored items is subtracted from the total weighted score obtained for direct items and a constant value is added to this number. This value is 50 for the State Anxiety Inventory and 35 for the Trait Anxiety Inventory. The total score from both inventories ranges from 20 to 80. High scores indicate high anxiety level while low scores indicate low anxiety levels. The state anxiety inventory is very sensitive in assessing suddenly changing emotional reactions whereas trait anxiety inventory is very sensitive in measuring the continuity of anxiety which is generally likely to be experienced by the person.

Statistical Analysis

Statistical analyzes were performed using the SPSS 15.0 program. In addition to using the descriptive statistical techniques (mean, standard deviation) for the assessment of the data, the categorical characteristics of the groups were compared with the chi-square test. For Independent groups t-test was used comparisons of two groups for the normally distributed quantitative data. The significance level was considered to be $p < 0.05$ in all tests.

Results

The socio-demographic and descriptive findings of the patient group with anorectal region disease diagnosis (ARDD) and control group included were given in Table 1. There was no statistically significant difference in terms of age, gender, marital status, education level, employment status, monthly income level, smoking and alcohol use among the patient group with the diagnosis of anorectal region disease and control group (Table 1).

When the ARDD group was compared with the control group in terms of the temperament dimensions of the TCI, all subscales along with HA scores were found to be statistically significantly higher than the control group ($p < 0.001$). There was no statistically significant difference between two groups in terms of the mean scores of total NS, RD and P. Evaluating the character dimensions of the TCI, all subscales along with SD and C scores of the ARDD groups were found to be statistically significantly lower compared to the control group ($p<0.005$) whereas it was determined to be statistically significantly higher in the ARDD group in terms of the mean ST score compared to the control group ($p < 0.05$), (Table 2).

Table 1: Sociodemographic characteristics of the ARDD and control groups

	ARDD group		Control group		p[1]
	Number	%	Number	%	
Gender					
Female	11	10.8	9	11.3	0.921
Male	91	89.2	71	88.8	
Age					
16-21	25	24.5	17	21.3	0.937
22-30	56	54.9	44	55.0	
31-45	21	20.6	19	23.8	
Educational Status					
Primary Education	22	21.6	16	20.0	0.994
Secondary education	18	17.6	15	18.8	
Undergraduate	52	51.0	41	51.3	
Graduate	10	9.8	8	10.0	
Income					
Low	8	7.8	5	6.3	0.911
Moderate	86	84.3	69	86.3	
High	8	7.8	6	7.5	
Marital status					
Single	75	73.5	58	72.5	0.877
Married	27	26.5	22	27.5	
Employment Status					
Working full-time	75	93.8	94	92.2	0.865
Working half-time	2	2.5	4	3.9	
Unemployed	3	3.8	4	3.9	
Status of Alcohol Use					
Yes	33	32.4	23	28.8	0.601
No	69	67.6	57	71.3	
Smoking Status					
Yes	70	68.6	56	70.0	0.842
No	32	31.4	24	30.0	
Total	102	100.0	80	100.0	

[1] Chi-square test

Table 2: Comparison of the ARDD and control groups in terms of the TCI parameters

	ARDD group Mean±SD	Control group Mean±SD	p[1]
Temperament components			
Novelty Seeking (NS)	18.79±4.60	18.66±4.54	0.793
Harm Avoidance (HA)	20.60±4.29	16.40±3.29	0.001*
Reward Dependence (RD)	13.21±3.23	13.44±3.26	0.821
Persistence (P)	4.77±1.94	4.84±1.88	0.602
Character components			
Self-directedness (SD)	21.06±5.16	25.48±6.64	0.004*
Cooperativeness (C)	22.21±6.57	28.19±3.97	<0.001*
Self-Transcendence (ST)	19.14±2.81	16.60±3.56	0.029*

[1] T test in the independent groups, * p<0.05

Table 3: Comparison of the ARDD and control groups in terms of anxiety, depression, state and trait anxiety scores

	ARDD group Mean±SD	Control group Mean±SD	p[1]
Beck's Anxiety Score	20.98±10.57	1.83±3.10	<0.001*
Beck's Depression Score	19.18±9.86	1.98±3.25	<0.001*
State Anxiety Score	41.95±5.65	28.65±5.59	0.640
Trait Anxiety Score	41.50±6.57	28.31±5.24	0.234

[1] T test in the independent groups, * p<0.05

The mean BAI score of the patients with ARDD was 20.98±10.57 and that of the control group was 1.83±3.10 while the mean BDI score of the patient group was 19.18±9.86 and that of the control group was 1.98±3.25 and this difference between two groups was statistically significant (p <0.001). The mean state anxiety score of the patients in the ARDD group was 41.95±5.65 and that of the control group was 28.65±5.59 while the mean trait anxiety score of the patient group was 41.50±6.57 and that of the control group was 28.31±5.24 and this difference between two groups was not found to be statistically significant (Table 3).

Discussion

Examining the studies conducted, although temperament character traits have been studied for many diseases, it was observed that a common temperament and character profile could not be established for patients with anorectal region disorder. The temperament model of Cloninger describes four temperament dimensions which are genetically independent of each other, which are assumed to be moderately stable throughout life, to be invariant to sociocultural influences and to contain preconceptual biases in perceptual memory. Of the dimensions in this model, NS was suggested to have a functional association with three basic behavior system which initiated behaviors, RD was suggested to have a functional association with three basic behavior systems which maintained behaviors and HA was suggested to have a functional association with three basic behavior systems which terminated behaviors [7].

Cloninger's character model includes three character dimensions which are assumed to mature in adulthood and to influence personal and social activity by acquiring insight about self- concepts. Character segments are presumed to have a weak genetic inheritance and that they improved gradually rather with social learning [17]. A study investigating the relationship among personality, psychological stress, and pain in patients with non-specific musculoskeletal disorders and comparing 78 patients with 112 healthy control subjects determined that the patient group got high HA and low SD scores. As a result of the study, it was suggested that the personality profile with a tendency towards mood and pain disorders could have high HA and low SD [18]. Similarly, the patient group in our study had also high HA and low SD scores. It was considered that ARDD might have been associated with persistent pain as well as a personality profile that may generate predisposition towards comorbid psychiatric disorders such as depression and anxiety. At the same time, the patients in the ARDD group were observed to have lower scores coming from the SD and C subscales of the character dimensions of the TCI. These results also support the knowledge that those with anorectal region disorders may have a different character profile [5,19]. The HA temperament dimension is inherent to a large extent; it is associated with serotonergic system changes and high HA is associated with susceptibility to anxiety and depression. In the study comparing 78 patients with different persistent pain syndromes and 118 healthy control subjects, it was determined that high HA and low SD arose with psychological stress, anxiety and depression which are probably associated with chronic pain [18]. Also, in the present study, the ratios of anxiety and depression were found to be higher in the ARDD group in which high HA and low SD scores were detected compared to the control group. These results were similar to the previous studies in which high HA and low SD were found to be associated with susceptibility to anxiety and depression.

The differences between patient and control groups are evident in the SD scores reflecting features such as self-esteem, poor personality integrity, efficacy, leadership, honor and hope.

It was stated in the results of the previous studies which found low SD scores that low SD scores were associated with low self-esteem [20]. All of the subscales of SD were found to have low scores in the ARDD group compared to the control group in our study as well. The result of reduced self-esteem in the ARDD group was concluded with low SD scores in the ARDD group in parallel with other studies.

Another study by Conrad et al. [21] on chronic pain patients emphasized the significance of high HA scores. As a result of the study by Van Campen et al. [22] on patients with chronic fatigue syndrome, the HA and SE scores of the patient group were found to be higher. In a study investigating temperament and character traits in Irritable Bowel Syndrome, the total scores of HA temperament dimension and ST character dimension were found to be significantly higher than the control group. The authors suggested that these subscales may be predictive of irritable bowel syndrome disease [23]. In a study conducted by Chatterjee et al. [24] in 1997 examining the relationship between anxiety disorder and temperament character traits, the mean HA score was higher, the mean NS score was lower and the mean SD and C scores were found to be lower in those with anxiety disorder compared to the control group. Pelissolo et al. [25] determined that the mean HA score in the social phobia group was higher than the control group and that the mean SD score was lower. The mean C and ST scores, which

are other character parameters, were observed to be lower than those of the control group, although it was not statistically significant.

In the study by Marteinsdottir et al. [26] comparing patients with anxiety disorder with healthy volunteers, the mean HA score was higher, the mean P, SD, C and ST scores were found to be lower. Mörtberg et al. [27] evaluated patients with anxiety disorder before and after treatment in terms of TCI and observed that patients with anxiety disorder had a higher HA and lower SD and P scores than the control group at the beginning of treatment. The common finding of all previous studies was that patients with anxiety disorder had significantly higher levels of HA, a temperament dimension of the TCI, and significantly lower levels of SD and C, character dimensions of the TCI, compared to the control group. Similarly, although HA was found to be higher in the ARDD group than the control group in our study, the same result could not be obtained for SD and C character dimensions.

Numerous negative emotions such as having a chronic disease, coping with disease symptoms, difficulties or limitations due to treatment, and concerns about the future affect the physical, cognitive and social life and quality of life of the individual [28]. In a study investigating the effect of type D personality on health-related quality of life in patients with anal fissures, patients with type D personality were found to have worse social roles and somatic pain compared to the patients without that personality type. In conclusion, type D personality was determined to be an important predictive for individual differences in anal fissure and to play an important role in the treatment of patients with anal fissure. Since the evaluation and treatment efforts are comprehensive in these patients, the conclusion that a multidisciplinary treatment team consisting of specialist nurses, psychologists and rehabilitation consultants were needed, and reached [29]. As a result of our study, it was concluded that the temperament and character profile of patient has an important place in providing contribution to the solution of the problems by the health personnel in respect to the issues such as observing the problems experienced by patients with chronic perianal regions multi-dimensionally, aiming to determine in which subject help can be provided when the quality of life deteriorates, enabling the improvement of the quality of life by knowing the dysfunctions and stresses expressed by the patient and determining the appropriate timing of the surgical operation and selecting the appropriate surgical approach. The studies investigating the association of psychiatric disorders with other diseases found a high risk of psychiatric disorder in many chronic disease groups such as diabetes, cancer, cardiovascular, cutaneous diseases, respiratory system, gastrointestinal system diseases [30]. Temperament and character traits tend to be chronic just like anorectal region diseases, and this may increase the risk of psychiatric disorder by predisposing patients to comorbid psychiatric disorders such as depression and anxiety. It should also be taken into consideration that the treatment of psychological problems such as depression and anxiety affects compliance to the treatment of patients with chronic disorders positively [31].

The causes of the general concern of the patients draw attention as follows: control of the patient's lives by disease, incontinence problems, uncertainty of the exacerbation of the disease, problems of treatment success, negative communication with surrounding people. As a result of these evaluations, one of the treatment goals should be eliminating these concerns since the patient's temperament and character traits are important determinants in the formation of these anxieties. Timely and systematic evaluations of symptoms in patients with chronic diseases, planning and administering appropriate interventions by the members of treatment team can enable patients to maintain a quality life.

In conclusion, our study is the first study revealing temperament character traits in patients with anorectal region diseases and, at the same time, investigating the relationship between temperament character traits and psychiatric symptoms. Temperament and character traits were suggested to be closely associated with comorbid psychiatric disorders occurring in patients with chronic anorectal disease and, at the same time, it was considered that temperament and character traits might have affected compliance to medical and surgical interventions for anorectal disease. In this respect, clinicians provided important data on the encouragement to evaluate patients in a multidisciplinary approach regarding the treatment choices of anorectal region diseases, which tend to become chronic. Despite the limitations related to the disease, it should be kept in mind that making patients feel good, supporting the maintenance of daily activities have an important place in health care. While initiating the treatment for anorectal region diseases, after a clinical definition and assessment, a good doctor-patient relationship should be established, how the patient perceives the disease, their expectations, what s/he understands from recovery, their fears and concerns should be determined and it should be explained in an appropriate manner. It should not be overlooked that the temperament character traits of the patient are also important for the basis of this solid therapeutic relationship to be established with the patient. Although there is a limited number of studies reporting the effects of temperament and character traits on the additional psychiatric disorders in patients with anorectal region diseases, selection of appropriate treatment modalities, disease progression, treatment compliance and treatment response development, more comprehensive studies to be conducted in the future will allow for these relationships to be revealed more clearly.

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