

Coping Strategies and Personality Traits in Women Patients with Migraine and Tension Type Headache

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ÖZET:

Migren ve gerilim tipi başağrısı olan bayan hastalarda kişilik özellikleri ve baş etme yöntemleri

Amaç: Stres ve anksiyete baş ağrılarının en sık tetikleyicileridir. Kişilik özellikleri ve başa çıkma yöntemleri bireylerin strese verdiği yanıtı etkiler. Yapılan çalışmalarda kaygılı ve depresif kişilik özelliklerinin başağrısına yatkınlık oluşturabileceğini, başağrısı olan hastaların işlevsel olmayan başa çıkma yöntemlerini daha sık kullandıklarını göstermiştir. Bu çalışmada migren ve gerilim tipi başağrısı olan bayan hastalarda başa çıkma yöntemlerinin ve kişilik özelliklerinin incelenmesini amaçlanmıştır.

Yöntem: Çalışmaya 45 migren, 45 gerilim tipi baş ağrısı olmak üzere toplam 90 hasta ve 42 sağlıklı gönüllü alınmıştır. Katılımcılara Görsel Analog Skala, Başa Çıkma Tutumlarını Değerlendirme Ölçeği (COPE), Eysenck kişilik anket / Revize Kısaltılmış Formu, Beck Depresyon Ölçeği ve Beck Anksiyete ölçeği uygulanmıştır.

Bulgular: Migren ve gerilim tipi baş ağrısı olan hastalarda sağlıklı bireylere kıyasla anksiyete ve depresyon düzeylerinin daha yüksek olduğu bulundu. Ayrıca, bu hastaların kontrol grubuna göre daha yüksek nörotizm puanlarına sahip olduğu tespit edildi. Migren hastalarında COPE alt ölçeklerinden yararlı sosyal destek kullanımı puanlarının kontrol grubuna kıyasla daha düşük, dini olarak başa çıkma düzeylerinin daha yüksek olduğu bulundu. Gerilim tipi baş ağrısı olan hastalarda ise aktif başa çıkma puanlarının kontrol grubuna göre daha düşük olduğu bulundu.

Sonuç: Bu sonuçlar migren ve gerilim tipi baş ağrısı olan hastaların sağlıklı bireylerle karşılaştırıldığında aktif başa çıkma yöntemleri daha az kullandıklarını, daha fazla nevroitik kişilik özelliklerine sahip olduklarını, ayrıca daha yüksek depresyon ve anksiyete düzeylerine sahip olduklarını göstermektedir. Sözkonusu etkenler başağrılarının başlamasında, tetiklenmesinde ve şiddetinde önem taşıyabilir.

Anahtar sözcükler: stres, baş ağrısı, baş etme, kişilik özellikleri

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ABSTRACT:

Coping Strategies and personality traits in women patients with migraine and tension type headache

Objective: Stress and anxiety are the most frequent triggers of headaches. Personality traits and coping strategies can affect the human stress response. Some studies demonstrated that certain personality traits may predispose to headaches and headache patients have less effective and more passive coping strategies. The present study aimed to examine coping strategies and personality types in women with migraine and tension type headache (TTH).

Methods: Participants were composed of 45 patients with migraine, 45 patients with TTH, and 42 healthy controls. Visual analogue scale (VAS), The COPE scale, Eysenck personality questionnaire Revised/Abbreviated Form (EPQR-A), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were administered to the participants.

Results: We found that patients with migraine and tension-type headache had higher levels of anxiety and depression than those of individuals without headache. Also, these patients had higher neuroticism scores than that of control subjects. Migraine patients scored lower for the use of instrumental social support subscale and higher for the religious coping subscale as determined by the COPE. Subjects with tension-type headaches showed lower on the active copingsubscale.

Conclusion: This study shows that patients with migraine and TTH had maladaptive and ineffective coping responses, and more neurotic personality features, when compared with healthy subjects. These factors may play a significant role in the development of headaches and their severity.

Key words: stress, headache, coping, personality traits

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INTRODUCTION

Migraine and tension-type headache (TTH) are most common types of primary headaches(1). Migraine is a chronic neurological disorder characterized by recurrent moderate to severe headache attacks lasting from hours to days. Symptoms of migraine include the pain accompanied by nausea, vomiting, phonophobia (increased sensitivity to noise), and photophobia (increased sensitivity to light) (2). There are many potential migraine triggers including stress, hormone changes (menstruation, pregnancy), dietary habits (e.g. cheese, chocolate, and nuts), hunger, travel, and poor sleep. TTH, previously called muscle contraction headache and stress headache, is characterized by generalized pressure or tightness in the head. There is usually mild to moderate pain which is unaffected by activity. In general, TTH is not associated with nausea, vomiting, photophobia, and phonophobia (3).

Patients with headache have significantly higher rates of psychiatric comorbidity (4). Stress and anxiety are also the most frequent triggers of headaches (5). The concept of stress is defined as the subjective reaction to a mentally or emotionally disruptive or upsetting situations. Feeling of stress is related to various dynamic processes of the interactions between person and his or her social and nature environment. Personality traits and coping strategies can affect the human stress response (5,6). Coping is a complex, multidimensional, cognitive and behavioral response to manage the stressful conditions. The coping strategies which are influenced by personal, social, familial, work, and the environment factors can be categorized into several different types such as problem-focused coping strategies versus emotion-focused coping strategies, confrontation versus avoidance coping strategies, and active coping strategies versus passive coping strategies (7,8). Problem-focused coping includes behavioral efforts to change or eliminate the stressor. Emotion-focused coping is the attempt to reduce the emotional impact of stress (8). Problem-focused coping, seeking advice from counselors and seeking social support, has been found to be positively related to mental health and well-being, while use of avoidance-oriented coping is ineffective. It has been shown that headache patients have less effective and more passive coping strategies(5,9). These findings suggest that maladaptive

cognitive processes can cause the persistent headache syndromes.

Personality can be defined as a person's characteristics accounting for relatively consistent patterns of thoughts, feelings, and behaviors (10). There are several models of conceptualizing personality. Eysenck developed three dimensional model of personality: psychoticism, extraversion, and neuroticism. Neuroticism is characterized by anxiety, depression, low self-esteem, and emotional instability. Extraversion is related to socialization, having many friends, impulsive and sometimes aggressive behaviors. Psychoticism is associated with genetic liability to psychosis, hostility, intolerance, and lack of empathy (11). In some studies, the authors demonstrated that certain personality traits might predispose to headaches (5,9,12). For example in a study on the effect of personality traits on headache, paranoid and obsessive compulsive personality traits were found significantly higher in patients with headache than healthy control group (12). Another study reported that Negative Self-Concepts, Personal Maladjustment and Desire for Change and Giving up/Helplessness subscale scores of Automatic Thought Questionnaire (ATQ) were significantly higher in TTH group than the control group (9). The present study aimed to examine COPE and personality types in women with migraine and TTH.

PATIENTS AND METHODS

Patients

The patients were 90 headache sufferers applied to the neurology outpatient clinic of the Ipekyolu Public Hospital. Participants were 45 migraine patients, 45 patients with TTH, and 42 healthy controls. The headache diagnoses were made according to the IHS (International Headaches Society, 2004) criteria. Since migraine and TTH are significantly more frequent in women than in men, only women were included in the study to avoid any gender specific possible effects. Patients with previously diagnosed cardiovascular, neurological, gynecological diseases, any major physical or mental illness and with substance abuse were excluded. The control group was recruited from hospital staff that has no complaint of headache and no history of psychiatric or medical illness.

The study received approval from the University Ethical Committee. Written informed consent was obtained from the participants.

Instruments

Socio-demographic questionnaire, Visual analogue scale (VAS), The COPE scale, Eysenck personality questionnaire Revised/Abbreviated Form (EPQR-A), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were administered to the participants by a psychologist.

Socio-Demographic Questionnaire: The Socio-demographic questionnaire included questions about age, marital status, educational level, employment status, duration of headache.

Visual Analogue Scale (VAS): The Visual Analogue Scale (VAS) is an instrument commonly used to measure the pain level a patient feels. It is a horizontal line involving a number from 0 (no pain) to 10 (worst pain possible) (13).

The COPE Scale: The COPE scale (14) is a 60-item self-report measure designed to assess 15 coping strategies in stressful situations. Participants are instructed to indicate for each item, on a 4-point Likert scale ranging from 1 (I usually don't do this at all) to 4 (I usually do this a lot). The subscales of the COPE are as following; (1) positive reinterpretation and growth, (2) mental disengagement, (3) focus on venting of emotions, (4) use of instrumental social support, (5) active coping, (6) denial, (7) religious coping, (8) humor, (9) behavioral disengagement, (10) restraint, (11) use of emotional social support, (12) substance use, (13) acceptance, (14) suppression of competing activities, and (15) planning. The validity and reliability Turkish version of this scale was demonstrated by Agargün et al. (15).

Eysenck Personality Questionnaire Revised/Abbreviated Form (EPQR-A): The Revised-Abbreviated version of the Eysenck Personality Questionnaire (EPQR-A, 15F) is a 24 items self-report questionnaire containing Extraversion (extraversion/introversion), Neuroticism (stability/emotionality), Psychoticism and Lie subscales, each contain 6 items. 60 The answer to a

yes-no question is scored 1 or 0, and a high scores show personality traits. It has been adapted and standardised for the Turkish population (11).

Beck Depression Inventory (BDI): The Beck Depression Inventory (BDI) is a 21-item self-report measure of depressive symptom severity. Each item is rated on a 0-3 and the total scores range from 0 to 63, with higher values indicating more severe depressive symptoms. The validity and reliability Turkish version of the BDI was demonstrated by Hisli (16).

Beck Anxiety Inventory (BAI): The Beck Anxiety Inventory (BAI) consists of twenty-one items self-report used to assess emotional, physiological, and cognitive symptoms of anxiety (such as tingling or numbness, pounding heart, fear of dying). 64 Multiple choices questions have four possible answers: not at all (0 points), mildly (1 points), moderately (2 points), and severely (3 points). The test scores range between 0 and 63. The validity and reliability Turkish version of the BAI was performed by Ulusoy (17).

Statistical Analysis

Descriptive statistics for studied variables (characteristics) were presented as mean and standard deviation. One-way ANOVA test was used to compare control and patient groups for the studied variables. After ANOVA test, Duncan multiple comparison test was employed to determine different groups. Statistical significance levels were considered as 5%. The SPSS (ver. 13) statistical program was used for all statistical computations.

RESULTS

The age, Visual Analogue Scale (VAS), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI) for each group are presented in Table 1. The ages of participants were between 18 to 40, the mean age for the migraine, TTH, and control groups were 30.71 ± 6.18 , 24.73 ± 6.43 , and 25.28 ± 6.13 years respectively. The mean age of the migraine group was significantly higher than that of the TTH and control groups. There was no statistically significant difference in the VAS, BDI and BAI

Table 1: The age, VAS, BDI, and BAI scores for groups

Groups	Migraine	TTH	Control	F	p
Age	30.71±(6.18) ^a	24.73±(6.43) ^b	25.28±(6.13) ^b	12.43	0.00
VAS	8.93±(1.45)	8.28±(1.7)	-	0.46	0.06
BDI	17.75±(9.74) ^a	21.60±(9.27) ^a	12.76±(9.05) ^b	9.69	0.00
BAI	23.46±(11.32) ^a	25.60±(11.95) ^a	13.16±(10.83) ^b	14.64	0.00

VAS: Visual Analogue Scale, BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory

→^{a,b}: Different lower cases indicate statistically significant difference among groups' mean

Table 2: The COPE scale and The Eysenck Personality Questionnaire scores for each group

Groups	Migraine	SD	TTH	SD	Control	SD	F	p
COPE Scale								
Positive reinterpretation and growth	11.97	2.80	11.17	3.10	12.54	3.76	1.97	0.14
Mental disengagement	9.62	2.43	9.97	2.61	9.90	2.42	0.25	0.77
Focus on and venting of emotions	11.20	3.51	11.60	2.69	12.07	2.34	0.98	0.37
Use of instrumental social support	10.24 ^a	3.42	11.15 ^{ab}	3.12	12.11 ^b	3.09	3.67	0.02
Active coping	10.93 ^{ab}	3.23	10.02 ^a	2.80	11.30 ^b	2.43	2.36	0.04
Denial	7.71	2.71	8.00	2.76	7.14	2.59	1.13	0.32
Religious coping	14.68 ^a	2.35	14.28 ^{ab}	2.15	13.38 ^b	3.34	2.75	0.03
Humor	7.00	3.09	7.22	2.96	8.04	2.86	1.47	0.23
Behavioral disengagement	8.28	3.08	9.26	3.34	8.00	2.44	2.16	0.11
Restraint	10.55	3.33	10.82	2.67	10.21	1.80	0.55	0.57
Use of emotional social support	11.35	3.14	11.35	3.22	12.42	2.88	1.72	0.18
Substance use	5.08	2.29	5.15	2.29	5.92	2.68	1.59	0.20
Acceptance	10.57	3.57	10.53	3.04	9.85	2.29	1.76	0.46
Suppression of competing activities	10.33	2.51	10.13	2.68	10.50	1.90	0.25	0.96
Planning	11.37	3.29	2.68	2.91	11.21	2.72	0.33	0.77
Eysenck Personality Inventory								
Neuroticism	4.64 ^a	1.70	4.22 ^a	1.83	3.47 ^b	1.75	4.84	0.009
Extraversion	3.22	1.73	3.08	1.85	3.21	1.64	0.08	0.922
Psychoticism	1.40	1.85	1.60	1.60	1.59	1.10	0.43	0.651
Lie	4.88 ^a	1.02	5.02 ^a	1.21	4.00 ^b	1.76	7.46	0.001

→^{a,b}: Different lower cases indicate statistically significant difference among groups' mean

scores between migraine and TTH patients. It was found that the means of both BDI and BAI scores were significantly higher in patients with headache than those of the control group.

Table 2 presents the four scales of the Revised-Abbreviated version of the Eysenck Personality Questionnaire (EPQR-A) and the subscales of the COPE for each group. Post-hoc comparison tests indicated that patients with both migraine and TTH had significantly higher scores than the control group on the neuroticism ($F=4.84$, $p=0.009$) and the lie scales ($F=7.46$, $p=0.001$). The scores of the migraine group on "use of instrumental social support" were significantly lower than those of the TTH and control groups ($F=3.67$, $p=0.02$). Patients with migraine type headache scored significantly higher on the COPE subscale "religious coping" than that of the

TTH and control groups ($F=2.75$, $p=0.03$). Subjects with tension type headache scored significantly lower for the "active coping" compared to that of the migraine and control groups ($F=2.39$, $p=0.04$).

DISCUSSION

We found that patients with migraine and tension-type headache have higher symptom level of anxiety and depression than those of individuals without headache. Also, these patients have higher neuroticism scores than that of control group. Migraine patients had a lower level of use of instrumental social support scale of the COPE and a higher level of religious coping. Subjects with tension-type headaches showed lower on the active coping subscale. Results from this study support that

patients with headache have maladaptive coping skills. It is known that coping strategies can contribute to a more severe course of the headaches (5). The coping strategies to stressful experiences may be important for buffering, reducing or eliminating the pain (5,7). Some studies indicate that the effectiveness of coping strategies used is associated with decreased pain intensity, disability, depression, as well as increased physical and psychological functioning among headache patients (7).

It has been shown that people often attribute their successes to internal or personal factors, but attribute their failures to external or situational factors leading to avoidance and escapist responses which may cause the onset or symptoms exacerbation (18). There are the engagement and disengagement dimensions of coping strategies. Engagement strategies include appraisal and active coping to manage stress. Appraisals are associated with increased engagement coping and less use of disengagement coping and physical symptoms (19,20). In this study, patients with tension type headache did show significant lower scores on active coping when they were compared to migraine and control groups. Active coping such as active problem solving, planning, reconceptualize, and self-reliance strategies, are better ways to deal with stressful events, and avoidant coping strategies such as withdrawal, alcohol or drug use, lead to adverse effects involving headaches to stressful situations (21,22).

It has been demonstrated that patients with migraine and TTH have increased vulnerability to stress, ineffective coping strategies, and high levels of anxiety and depression (5,9,23). Siniatchkin et al. suggest that psychological factors are important for exacerbation or chronification of headaches (5). They demonstrated a less adaptive coping strategies, elevated anxiety, depression and lower quality of life among headache patients. Yavuz et al. examined dysfunctional cognitive contents, processes and attitudes in patients with migraine, tension type headache and control group. The results showed that patient groups had significantly higher levels of negative cognitive contents such as magnification and helplessness, which can explain the high prevalence of depression than healthy controls (9). Wieser et al. investigated pain-related cognition and coping in patients with migraine and tension type headache. They found that headache sufferers often used dysfunctional coping strategies like fear and avoidance (23).

In the present study, we found that migraine patients exhibited a significantly reduced use of instrumental social support. Several studies indicated that social support could help individuals to reduce the amount of stress experienced as well as to protect the harmful effects of stress on physical and mental health (24-26). Yasin and Dzulkipli examined the relationship between social support and psychological problems such as stress, depression and anxiety among undergraduate students (24). The study results revealed a negative relationship between social support and psychological problem. Social support could reduce the effect of stressors on psychological well-being and somatic complaints. The authors argued that it might be related to appraisal of effective problem-focused coping strategies. The proposed plan can be implemented the following assessment process of actually available resources for dealing with stress. Siedlecki et al. investigated the relationships among types of social support and different aspects of subjective well-being (i.e., positive and negative affect, life satisfaction) in a sample of adults between the ages of 18 and 95 years. They found that enacted or perceived support predicted life satisfaction, provided support predicted positive affect, and perceived support predicted negative affect. Perceived helpfulness and impact of social support from peers, family members, friends and community provide an emotional support including positive effects on feeling of distress, depression anxiety and other emotional states (25).

The comorbidity of depressive and anxiety disorders in patients with primary headache disorders, especially migraine and tension type headache, is previously well established (27,28). Tan et al. found the high levels of depression and anxiety in both migraine and TTH patients. The incidences of depression, anxiety and depression+anxiety were 37.3%, 15.7% and 9.8%, respectively, in migraine patients and 43.2%, 9.1% and 6.8%, respectively, in TTH patients (27). Yücel et al. evaluated depressive automatic thoughts, alexithymia, and assertiveness in patients with tension-type headache and in healthy controls. The headache patients had significantly higher scores on measures of depression, automatic thoughts, and alexithymia, and lower scores on assertiveness. Chronic headache sufferers had higher depression and automatic thoughts scores than subjects with episodic tension-type headache (28). Our results

confirmed the presence of the depressive and anxiety symptoms among patients with migraine and TTH. The mean BDI, BAI scores of both headaches types were significantly higher than the control group. Depression and anxiety, either associated or not with pain, can lead to feeling powerless, passive attitude, low self-esteem, and inadequately managed pain (27,29). These disorders can make people more sensitive to pain and its negative effects.

The personality traits of an individual may also contribute to pain responses. Subjects with high levels of neuroticism (high emotional sensitivity and reactivity) have greater sensitivity to body sensations, fear of pain, more catastrophic cognitions, avoidance safety behaviors, feelings of helplessness, and ultimately to an important role in the onset, maintenance exacerbations or severity of pain and poorer adjustment (7,27). Migraine and

tension type headache sufferers are often neurotic, anxious, depressed and hypochondriac, or as resentful, hostile, and rigid (6,30,31). This study is consistent with the literature showing associations between migraine, TTH and neuroticism.

In conclusion, this study shows that patients with migraine and TTH have maladaptive coping strategies, also have an escapist, more neurotic personality, higher levels of depression and anxiety when compared with healthy subjects. These ineffective responses to stressful events may play a role in the development of migraine and TTH.

This study has many limitations. First, only women were included in the study. Second, the control group was recruited from hospital staff. Third, our sample size was relatively small; thus, our findings need replication in larger samples.

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