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Maladaptive Cognitive Content and Attitudes Accompanying Tension Type Headache and Migraine

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ABSTRACT

Maladaptive cognitive content and attitudes accompanying tension type headache and migraine

Objective: In this study, we examined the presence of some dysfunctional cognitive contents, processes and attitudes which are supposed to accompany the primary headache and described to take part in psychopathologies like anxiety and depression.

Methods: Thirty three patients diagnosed with migraine, 34 patients diagnosed with chronic tension type headache according to IHS (International Headache Society) criteria who referred to a Turkish training and research hospital neurology outpatient clinic were included. Thirty three healthy volunteers without headache were included as the control group. Automatic Thought Questionnaire (ATQ), White Bear Suppression Inventory (WBSI), Pain Catastrophizing Scale (PCS) and Demographic Information Questionnaire (DIQ) were administered to the participants for the determination of cognitive contents and attitudes.

Results: The results showed that in the tension type headache group, ATQ total scores and "Negative Self-Concepts", "Personal Maladjustment and Desire for Change" and "Giving up/Helplessness" subscale scores were significantly higher than the control group. There was no significant difference between the three groups in WBSI. It was shown that in PCS total scores and all scores of "rumination", "magnification" and "helplessness" subscales, tension type headache group and migraine group had significantly higher scores according to the controls.

Conclusion: Higher levels of negative cognitive contents in both of the migraine and tension type headache groups according to the healthy controls can explain high depression frequencies in these clinical manifestations. Another result obtained in our study was that as a way of coping with pain, rumination is used more than thought suppression in these individuals.

Key words: Tension type headache, migraine, coping, cognition

ÖZET

Gerilim ve migren tipi baş ağrılarına eşlik eden işlevsel olmayan bilişsel içerikler ve tutumlar

Amaç: Bu araştırmada, birincil baş ağrılarına eşlik edebileceği varsayılan ve anksiyete, depresyon gibi psikiyatrik bozuklukların psikopatolojisinde yer aldığı saptanmış olan bazı işlevsel olmayan bilişsel içerik, süreç ve tutumların varlığı incelenmiştir.

Yöntem: Araştırmaya, ülkemizdeki bir eğitim ve araştırma hastanesinin nöroloji polikliniğine başvuran ve çalışmamıza katılmayı kabul eden, IHS (International Headache Society/Uluslararası Başağrısı Birliği) ölçütlerine göre migren tanısı konmuş 33, kronik gerilim tipi baş ağrısı tanısı konmuş 34 hasta ve baş ağrısı yakınması bildirmeyen 33 sağlıklı gönüllü alınmıştır. Katılımcılara sosyodemografik form ile birlikte, bilişsel içerik ve tutumların tespiti amacıyla Otomatik Düşünceler Ölçeği (ODÖ), Beyaz Ayı Supresyon Envanteri (BASE), Ağrıyı Felaketleştirme Ölçeği (AFÖ) uygulanmıştır.

Bulgular: Kontrol grubuna göre, gerilim tipi baş ağrısı grubunun ODÖ toplam puanlarında ve ODÖ'ye ait 'kendine yönelik olumsuz duygu düşünceler', 'kişisel uyumsuzluk ve değişme istekleri' ve 'ümitsizlik' alt-ölçekleri puanlarında anlamlı biçimde yükseklik olduğu tespit edilmiştir. BASE toplam puan ortalamalarında ise bu üç grup arasında anlamlı fark saptanmamıştır. AFÖ ve alt-ölçekleri değerlendirildiğinde, migren ve gerilim tipi baş ağrısı grubunun "ruminasyon", "büyütme", "çaresizlik" alt-ölçek puanlarının tümünde ve AFÖ toplam puanlarında, kontrol grubuna göre anlamlı olarak yükseklik sergilediği tespit edilmiştir.

Sonuç: Migren ve gerilim tipi baş ağrısı gruplarının her ikisinde de sağlıklı kontrol grubuna göre olumsuz bilişsel içeriklerin daha yüksek saptanması, bu klinik tablolara sıklıkla eşlik eden depresif belirtilerin varlığını açıklayabilir. Araştırmamızda ortaya çıkan bir diğer sonuç; bu bireylerde, ağrıyla baş etme yöntemi olarak düşünce baskılamadan ziyade, ruminatif tepki biçiminin daha sık kullanıldığıdır.

Anahtar kelimeler: Gerilim tipi baş ağrısı, migren, başa çıkma, biliş

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INTRODUCTION

Although headache is one of the most common bodily complaint of human being, its importance in the public health is frequently overlooked as a result of its episodic nature and non-lethality. Considering 90% of people experience at least one headache during their lifetime (1), headache should not be evaluated as a simple pain issue. One may suggest the necessity of discussing headache also in terms of the headache-related multi-dimensional burden brought to the society by the restricted social activities and professional life of the individual, significant medication consumption and increasing health care costs due to headache (2).

According to the general acceptance, headaches are classified as primary in case of no underlying organic cause can be detected or as secondary in the presence of a pathological condition such as trauma, infection, tumor, cerebrovascular diseases, glaucoma, sinusitis, cranio cervical dystonia, psychiatric disorder (3,4). Primary headaches account for approximately 90% of headaches; migraine and tension type headache (TTH) are the most common among all types of headaches (5).

Even though primary headaches are considered as neurological pathologies, the relationships between these clinical pictures and psychiatric and psycopathological processes such as anxiety and depression have been frequently emphasized in the literature. When the results of these researches are considered, the prevalence of psychiatric disorders such as anxiety and depression accompanying primary headaches is higher in comparison to normal population (6). In addition to the beliefs regarding the lower coping abilities of the individuals presenting this clinical manifestation, cognitive attitudes such as catastrophizing and rumination are significantly more common compared to the normal population. These individuals have been found to have lower levels of acceptance of thoughts and feelings and dependently, they develop maladaptive pain related coping strategies such as behavioral alterations and avoidance (7). These findings support the approaches regarding the possible role of maladaptive cognitive processes in the etiology and persistence of primary headache. For example in a study on the personality pattern accompanying headache, paranoid and obsessive compulsive personality traits were found significantly higher in the patient group compared to the healthy control group (8). However, no conclusive evidence exists about the priority-posteriority in this mutual relationship at present.

The hypothesis of this study is the existence of more negative cognitive content, thought suppression, rumination and pain catastrophizing attitudes in individuals with tension type and migraine type headache compared to the control group. For this purpose, the existence of certain maladaptive cognitive contents, processes and attitudes partaking in the background of the psychopathological conditions such as anxiety disorders and depression that are supposed to accompany primary headache, will be explored. The potential findings of this study are supposed to reveal the existence of the aspects that may be the focal points in the prognosis and treatment of these syndromes.

METHODS

Study Sample

The participants of the study were the individuals applied to the neurology outpatient clinic of a training and research hospital in our country between March 2009 - May 2009. The patients were assessed and the type of the headache was determined according to the IHS (International Headache Society) criteria by a neurologist. 33 patients diagnosed with migraine and 34 patients diagnosed with chronic TTH (67 in total), were informed about the study according to the order of admission and accepted to participate in the study voluntarily, constituted the sample of the study. Thirty three (23 females, 10 males) volunteers having similar sociodemographic characteristics such as education, age and sex with the patient group and having no complaint of headache were selected as the control group.

The inclusion criteria were determined as being over 18, being literate, and being a volunteer for the study. Any other neurological disease that may cause headache, any physical or mental illness impeding meeting the inclusion criteria and mental retardation were defined as exclusion criteria.

Data Collection Tools

Automatic Thought Questionnaire (ATQ), White Bear Suppression Inventory (WBSI), Pain Catastrophizing Scale (PCS) and Demographic Information Questionnaire (DIQ) were administered to the participants.

Socio-demographic Information Questionnaire: It is a semi-structured form prepared in order to evaluate sociodemographic characteristics such as age, sex, marital status, psychiatric status of the study sample.

Automatic Thought Questionnaire: ATQ is a self-report scale of 30 Likert type items, developed by Hollon and Kendall (9) aimed at determining the frequency of depression related negative automatic thoughts. Each item is scored from 1 to 5. The total score may vary between 30 and 150. Higher scores indicate higher frequency of automatic thoughts. It includes the subscales of "Negative Self-Concepts", "Confusion/ Escape fantasies", "Personal Maladjustment and Desire for Change", "Lonliness/Isolation", "Hopelessness". The study of validity and reliability of the Turkish version was performed by Sahin and Sahin (10).

Pain Catastrophizing Scale: PCS is a self report scale of 13 Likert type items, developed by Sullivan et al. (11) in 1995 in order to detect the ineffective coping strategies and catastrophic thoughts and feelings of the patients concerning pain experience. Each item is scored from 0 to 4. The total score varies between 0 and 52. It includes the subscales of rumination, magnification, and helplessness. High scores indicate a high level of catastrophizing.

White Bear Suppression Inventory: WBSI is a Likert type self report scale developed by Wegner and Zanakor (12) in order to assess the inclination towards conscious suppression of unwanted intrusive thoughts. This inventory constituted by 15 items, particularly measures the inclination towards chronic thoughts and each item is scored from 1 to 5. Total score varies between 15 and 75 points. High scores define a high tendency of conscious suppression of unwanted intrusive thoughts. The study of validity and reliability of the Turkish version of the inventory was performed by Agargun et al. (13).

Statistical Analysis

A SPSS 13.0 version of statistical package program ("Statistical Package for Social Sciences") was used for the data analysis of the participants. Following the descriptive statistical analysis, Chi- Square or a one way variance analysis was performed taking into consideration whether the variable is continuous or categorical. Although the size of the sample was adequate, standard error was high and therefore a Kruskal-Wallis test was performed to compare the averages among the groups. Mann-Whitney U test was used for the paired comparison aimed at determining the group generating the possible difference. The Bonferroni adjustment method was performed to exclude type 1 error in paired comparisons among the three groups and a p-value of <0.017 was considered as significant. Spearman correlation analysis was used in the analysis of the relationships between the scale scores.

RESULTS

Thirty one (91.2%) females and 3 (8.8%) males with TTH, 28 (84.8%) females and 5 (15.2%) males with migraine, as well as a control group of 23 females (69.7%) and 10 (30.3%) males who did not complain of a chronic headache, participated in the study. While the mean age in the individuals with TTH was 33.82 (age range:19-56, SD=11.2) years, it was detected as 35.18 (age range:23-55, SD=8.74) years in the individuals with migraine and 37.45 (age range:17-69, SD=12.57) years in the control group. No statistically significant difference was found between the groups in age and sex ($p>0.05$) (Table 1 and Table 2).

While 63.6% of the migraine patients were primary school graduates, 18.2% of them were high school graduates and 18.2% of them were university graduates. 5.9% of the individuals with TTH were unschooled,

Table 1: Sex and educational status in the Migraine, Tension Type Headache (TTH) and in the control groups

	Migraine		TTH		Control		Total		p
	n	%	n	%	n	%	n	%	
Sex									
Female	28	84.8	31	91.2	23	69.7	82	82	0.064
Male	5	15.2	3	8.8	10	30.3	18	18	
Education									
Primary School	21	63.6	22	64.7	20	60.6	63	63	0.325
High School	6	18.2	10	29.4	8	24.2	24	24	
University	6	18.2	2	5.9	5	15.2	13	13	

TTH: Tension Type headache

Table 2: The comparison of the mean ages of the groups by one way variance analysis

	Migraine (n=33)		TTH (n=34)		Control (n=33)		p
	Mean	SD	Mean	SD	Mean	SD	
Age	35.18	8.748	33.82	11.024	37.45	12.572	0.406

TTH: Tension Type Headache, SD: standard deviation

58.8% of the patients were primary school graduates 29.4% were intermediate-high school graduates and 5.9% of them were university graduates. While 60.6% of the controls were primary school graduates, 24.2% of them were high school graduates and 15.2% of the controls were university graduates. While the majority in each of the three groups were primary school graduates, no significant difference was found between the groups in the educational level (χ^2=6.952, p=0.325) (Table 1).

While the rate of psychiatric admittance was 21.2% in the control group, it was detected as 23.5% in the TTH group and 15.2% in the migraine group. No significant difference was found among the three groups in psychiatric admittance (χ^2=0.780, p=0.677).

The Kruskal-Wallis test indicating whether a difference exists between the averages of the groups, was applied to determine the possible relationship between the type of pain and automatic thoughts. A statistically significant difference was found between the averages of the total ATQ scores of the three groups (χ^2=6.281, p=0.04). In the paired comparison analyses performed by using Mann-Whitney U test, the TTH group was found to have a significantly higher total ATQ score when compared to that of the control group (p=0.016). Although total ATQ scores were found higher than those of the control group, it was not statistically significant when compared to the two other groups (for TTH p=0.51 and for the control group p=0.04). The difference between the groups in the subscales of ATQ was assessed by Mann-Whitney U test. Statistically significant differences were found between the TTH and the control groups in the subscale scores of "negative self concepts" (U=294.0, p=0.013), "Personal Maladjustment and Desire for Change" (U=266.0, p=0.001), "Hopelessness" (U=272.0, p=0.012) in favor of the TTH group. However, although the scores of the subscales of "Loneliness/Isolation" (U=394.0, p=0.157) and "Confusion/Escape Fantasies" (U=366.0, p=0.75) were found higher in favor of the TTH group, the difference was not statistically significant (Table 4).

When the migraine group was compared to the control group in ATQ subscales, despite of high scores of the migraine group in all subscales, no statistically significant difference was detected between the two groups (Table 3).

When the TTH group was compared to the migraine group in ATQ subscales scores, the scores of the subscale of "Personal Maladjustment and Desire for Change" were found significantly higher in favor of the TTH group (U=360.5, p=0.016). Even though the scores of the rest of the subscales were found higher in the TTH group, these differences were not significant (Table 3).

When the averages of the scores of the WBSI

Table 3: The comparison of the Automatic Thought Questionnaire (ATQ) total and subscales scores between the Tension Type Headache (TTH), Migraine and Control groups

ATQ	n	Average of Range	Sum of the ranges	Mann-Whitney U	Z	P
ATQ total						
TTH	25	32.04	801.00	224.000	-2.247	0.025
Control	28	22.50	630.00			
Migraine	30	33.75	1012.50	292.500	-1.986	0.047
Control	28	24.95	698.50			
Migraine	30	26.70	801.00	336.000	-0.659	0.510
TTH	25	29.56	739.00			
Negative Self Concepts						
TTH	31	36.52	1132.00	294.000	-2.483	0.013
Control	30	25.30	759.00			
Migraine	32	35.77	1144.50	343.500	-1.935	0.053
Control	30	26.95	808.50			
Migraine	32	30.17	965.50	437.500	-0.806	0.420
TTH	31	33.89	1050.50			
Confusion and Escape Fantasies						
TTH	33	35.91	1185.00	366.000	-1.783	0.075
Control	30	27.70	831.00			
Migraine	32	35.56	1138.00	350.000	-1.840	0.066
Control	30	27.17	815.00			
Migraine	32	33.19	1062.00	522.000	-0.079	0.937
TTH	33	32.82	1083.00			
Personal Maladjustment and Desire for Change						
TTH	33	39.94	1318.00	266.000	-3.312	0.001
Control	31	24.58	762.00			
Migraine	33	35.03	1156.00	428.000	-1.131	0.258
Control	31	29.81	924.00			
Migraine	33	27.92	921.50	360.500	-2.370	0.016
TTH	33	39.08	1289.50			
Lonelinessand Isolation						
TTH	32	35.19	1126.00	394.000	-1.414	0.157
Control	31	28.71	890.00			
Migraine	33	31.98	1055.50	494.500	-0.231	0.818
Control	31	33.05	1024.50			
Migraine	33	30.39	1003.00	442.000	-1.139	0.255
TTH	32	35.69	1142.00			
Hopelessness						
TTH	25	35.43	1063.00	272.000	-2.503	0.012
Control	28	24.38	707.00			
Migraine	32	35.47	1135.00	321.000	-2.089	0.037
Control	29	26.07	756.00			
Migraine	32	30.09	963.00	435.000	-0.637	0.524
TTH	30	33.00	990.00			

Table 4: The comparison of the total scores of White Bear Suppression Inventory (WBSI) and Pain Catastrophizing Scale (PCS) by Kruskall- Wallis analysis

	n	Average of range	χ^2	p
PCS total				
Control	32	28.00	26.936	<0.001
TTH	32	57.36		
Migraine	33	61.26		
WBSI total				
Control	31	41.15	1.359	0.507
TTH	27	48.56		
Migraine	32	47.14		

χ^2: Chi square test, TTH: Tension Type Headache

Table 5: The comparison of total and subscale scores of Pain Catrastrophizing Scale (PCS) among the Tension Type Headache (TTH), Migraine and control groups

PCS	n	Average of Range	Sum of Range	Mann-Whitney U	Z	p
PCS total						
TTH	32	41.88	1340.00	212.000	-4.032	<0.001
Control	32	23.13	740.00			
Migraine	33	44.27	1461.00	156.000	-4.885	<0.001
Control	32	21.38	684.00			
Rumination						
TTH	32	41.81	1338.00	214.000	-4.017	<0.001
Control	32	23.19	742.00			
Migraine	33	44.50	1468.50	148.500	-4.995	<0.001
Control	32	21.14	676.50			
Magnification						
TTH	32	42.44	1358.00	194.000	-4.285	<0.001
Control	32	22.56	722.00			
Migraine	33	42.58	1405.00	212.000	-4.163	<0.001
Control	32	23.13	740.00			
Helplessness						
TTH	32	40.69	1302.00	250.000	-3.527	<0.001
Control	32	24.31	778.00			
Migraine	33	43.38	1431.50	185.500	-4.502	<0.001
Control	32	22.30	713.50			

subscale were assessed, even though no statistically significant difference was detected among the three groups, the total average scores of the TTH and migraine groups were found higher than that of the control group (Table 4).

No statistically significant difference was found between the groups, regarding the total PCS scores of the individuals in the migraine, TTH and control groups (Table 4). Paired analyses performed by using Mann-Whitney U test, revealed that the total PCS scores in the TTH (U=212, p<0.001) and the migraine (U=156, p<0.001) groups were statistically significantly higher than the control group. No statistically significant difference was found between the total PCS scores of the TTH and migraine groups (U=495, p=0.669).

No statistically significant difference was found also among the groups in terms of the scores of PCS subscales. The Mann-Whitney U test was performed in order to determine the groups revealing differences. In each of the three subscales of Rumination (U=214, p<0.001), Magnification (U=194, p<0.001) and Helplessness (U=250, p<0.001), the scores of the TTH

group were significantly higher than those of the control group (Table 5). When the migraine group was compared to the control group, the PCS subscales scores were significantly higher in the migraine group [Rumination (U=148.5, p<0.001), Magnification (U=212, p<0.001) and Helplessness (U=185.5, p<0.001)] (Table 5). No statistically significant difference was found between the TTH and migraines groups regarding the scores of the PCS subscales [Rumination (U=492.5, p=0.64), Magnification (U=487, p=0.58) and Helplessness (U=463, p=0.39)].

The Spearman correlation analysis was performed to assess the correlation between the ATQ and PCS scores of the headache groups and the control group. While no statistically significant correlation was found between the total scores of the two scales in the control group, a strong positive (r= 0.550, p<0.01) correlation was found in the TTH group and an intermediate correlation was found in the migraine group (r=0.550, p<0.01).

DISCUSSION

No difference was determined between the study groups, in sociodemographic characteristics of the participants. No significant difference was found between the migraine and TTH groups in educational levels. These data were found consistent with the results of the study conducted by Ozturk et al. (14) indicating similar sociodemographic characteristics either in individual with tension type headache or in individuals with migraine. Although the associations between tension type and migraine type headaches and psychiatric disorders such as especially depression and anxiety disorders have been reported in the literature (15), the mechanism concerning the interaction responsible for the occurrence of this association has not been clearly demonstrated. Thus, the investigation of accompanying psychopathological content and attitudes may serve to explain this clinical association. The exploration of the existence of the negative automatic thoughts (16) which constitute a basis for depression and the response styles to these thoughts, may assist to determine a focal point in the treatment of these clinical manifestations accompanying to headache as well as may provide improvements in the prognosis of clinical headache. In our study, we used the Automatic Thoughts Questionnaire (ATQ) to explore the intensity and the contents of the automatic thoughts accompanying to headache. In accordance with the results, although not significant, we determined that the total ATQ scores of the patients in the migraine group were lower than those of the TTH group and higher than those of the control group. The ATQ total scores of the patients with TTH were found significantly higher compared to those of the control group. These results were consistent with the results of the study conducted by Yücel at al. (17) demonstrating significantly higher total AQT scores in the individuals with TTH in comparison to the control group. Although not as high as those of the TTH group, the determination of the higher total ATQ scores in the migraine group compared to the control group, supports the findings (6) indicating migraine as a risk factor for depression.

Considering the differences in the ATQ subscale scores between the groups, we aimed at determining the possibly accompanying particular depressive cognitive contents. In the assessment of these findings, the scores of the subscales of "Negative Self-Concepts" "Personal Maladjustment and Desire for Change", "Hopelessness", "Confusion/Escape Fantasies", "Loneliness/Isolation" were all found higher in TTH group compared to the migraine group. However the difference was significant only in the subscale of "Personal Maladjustment and Desire for Change". When the TTH group was compared to the control group, the scores were higher in the TTH group in all subscales of ATQ. While the high scores were significant in the subscales of "Negative Self-Concepts" "Personal Maladjustment and Desire for Change", "Hopelessness", they were not significant in the subscales of "Confusion/ Escape Fantasies" and "Loneliness/Isolation".

These findings support the study of Saygın et al.(18) demonstrating a higher risk of concomitant depression in the TTH group compared to the migraine group. The significantly higher scores in the "Personal Maladjustment and Desire for Change" subscale, pointed out the more distinctive characteristics of the

self assessments of these patients compared to the migraine and the control group. When considering the content of the items constituting this subscale ("Nothing goes in my life as I wanted to" "There is nothing worth striving for" "Something has to change") one may observe that this subscale is aimed at demonstrating the negative beliefs of the individuals concerning the World which is a field of Beck's "cognitive triad" (16). Therefore, one may conclude that the negative cognitive themes particularly concerning the Life/World are higher in individuals with TTH, accordingly, these individuals avoid from new attempts and to develop a different behavioral profile and consequently a tendency to depression develops. Once again, our findings overlap with the findings obtained in the aforementioned study of Tamgaç et al. (8) indicating the higher levels of paranoid and obsessive compulsive personality traits with the dominance of negative schemas concerning the outer World in the individuals with primary headache. The significant higher scores of depressive content in the individual with TTH show higher maladaptive attitudes in every field of "Cognitive triad" and explain the higher risk of depression in these individuals.

Another cognitive process investigated in our study was the thought suppression (19) developed against the unwanted thoughts as a maladaptive reaction type which was demonstrated to be associated with anxiety disorders and obsessive compulsive disorder in particular. For this purpose we used the White Bear Suppression Inventory (WBSI) which is frequently used to measure chronic thought suppression response. In the assessment of the groups, the total scores of WBSI of the TTH and migraine groups were found higher compared to the control group however this difference was not statistically significant. The only study on the relationship of the thought suppression with primary headache that we could determine was the study of Wieser et al. (20). In this study in contradistinction to the hypothesis, no relationship was found between the thought suppression response and the frequency and intensity of the pain. While a more general thought suppression scale was used in our study, the pain the med Kiel Pain Inventory (21) was used in the study of Wieser. After all, the similar results obtained in both studies suggest that thought suppression as a coping style does not differ between the healthy control group and the individuals with primary headache. Thus one may assert that unlike the other pain types (22), the cognitive avoidance strategies are not used by the individuals with headache. However, the actual number of studies is not sufficient to make a clear inference about the differences between the response types against pain.

In our study, Pain Catastrophizing Scale (PCS) was used to determine the affective and cognitive attitudes of the individuals to pain, which was another field that we focused on. According to our results, while no statistically significant difference was detected between the patients with tension type headache and the patients with migraine type headache in total PCS scores, the PCS scores of both groups were found higher than that of the control group. These findings were consistent with the results of the study conducted by Drahovzal et al. (23). In the study conducted by Buenaver et al. (24), on the relationship between the catastrophizing and depression in young adults with headache, no significant difference was found between the catastrophizing scores of the headache group and the control group. While the average age of the individuals in our study was 34.5 years, it was 22.3 years in the study of Buenaver. Therefore, one may assert that the average age of this study sample may not be adequate for the development of chronic headache and consequently for the occurrence of a high level of catastrophizing attitude.

In our study, along with the high total PCS scores in the tension type and migraine type groups, the ATQ total scores were also found higher in these groups compared to the control group. On the other hand, our findings indicating a positive correlation between the PCS scores and ATQ scores in the headache groups, support the opinion that the catastrophizing is related to the depressive symptoms (24).

Among the three groups, in the assessment of the PCS subscales scores, the determination of higher scores in all of the subscales of "Rumination", "Magnification" and "Helplessness" in the migraine and tension type headache groups compared to the control

group indicate the high level of maladaptive coping attitudes in the individuals having these clinical symptoms. "Helplessness" subscale which can be defined as insufficiency in coping with pain at an effective level and "Magnification" subscale which can be defined as the magnification of the negative expectations and discontentment concerning to pain, by excessively focusing to the negative aspects of pain, reflect the cognitive contents of the psychopathological conditions such as anxiety and depression accompanying headache. Rumination subscale which measures the ruminative thoughts, anxiety, and the in suffiency in preventing the thoughts related to pain and distracting the attention from these thoughts, is connected with the maladaptive coping behaviors developed against painful conditions (24). In the headache groups, the higher scores in each of the three subscales explain the increased level of pain and depression risk in these individuals, revealing less active coping behaviors aimed at decreasing pain.

Our study reveals some limitations. The cognitive processes and their contents are required to be investigated in a large scale and in a more homogenous study sample group in terms of sex and other sociodemographic characteristics. Once again the prognosis of pain in the participants, the measurements of the perceived pain, and lack of the duration of the clinical pain, might affect the results of our study. Whether episodic or chronic, the clinical course of headache was not taken into the consideration in our study. This situation might influence the results of the study. Although the relationship between negative automatic thoughts and the intensity of pain catastrophizing attitudes and depression, anxiety disorders and loss of functionality had been demonstrated in the literature, the lack of the assessment of the study sample in terms of depressive symptoms, anxiety disorder and functionality/the quality of life was another limitation of our study.

CONCLUSION

In this study, we investigated the cognitive contents and attitudes accompanying the most common primary headaches; tension type headache and migraine and we compared our results to those of the control group. In compliance with our hypothesis, the detection of higher levels of negative cognitive content in tension type headache and migraine groups compared to the healthy control group, may assist to explain the depressive symptoms frequently accompanying these clinical pictures. Also, the significantly higher scores of the subscale of "Personal Maladjustment and Desire for Change" in the TTH group suggest a specific difference in the cognitive contents particularly concerning the World of these patients. Further studies are required to assess the clinical importance of this cognitive difference.

Contrary to our hypothesis another finding in our study was the determination that the thought suppression was not used significantly to cope with pain in primary headaches. In addition, rather than cognitive suppression which is one of the cognitive avoidance strategies, the ruminative reactions were frequently used by these patients as a coping method. Therefore, the ruminative processes should be particularly considered in the additional psychotherapeutic approaches that may functionally contribute to coping with headaches, and planning of necessary strategies may be recommended.

The exploration of the cognitive and behavioral repertoires accompanying to headache will contribute to the reduction of the functionality loss related to the pathological condition as well as it will demonstrate the findings concerning the importance of the psychological factors in these clinical pictures in terms of etiology, transition from acute to chronic and prognosis. Prospective studies are required to more clearly understand the importance of cognitive and behavioral attitudes in chronic headaches.

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