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Psychological Symptoms in Young Adults with Migraine and Tension type Headaches

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Abstract **– In this study, we aimed to reveal the psychological symptoms of university students aged 18-25 years who had no headache and complained of migraine or tension headaches. These symptoms were compared with similar studies in other age groups and the similarity or differentiation of psychological symptoms was investigated. Our method; the study included 75 cases of migraine, 75 Tension Headache and 42 headache-free controls. All of the participants were given a questionnaire containing the questions that meet the criteria of International Classification of Headache Disorders 3 (ICHD-3) Migraine and Tension Type Headache classification and SCL-90-R Psychological Symptom Research Scale was applied. As a result of the headache survey, Migraine (62 Migraine without Aura, 13 Migraine with Aura) and Tension Type Headache (47 rare episodic TTH, 27 frequent episodic TTH and one chronic TTH) were classified. SPSS statistical program was used to analyze the data. Our results showed that; the mean psychological symptom values of migraine groups with and without aura were higher than the control group. In both rare and frequent episodic tension headache groups, the mean values of all symptoms were higher than the control group. The Anova Test showed significant differences between the mean values of psychological symptoms of tension-type headache groups, migraine-type headache groups and control group without headache (Somatisation p <.05, other psychological symptoms p <.01). (Depression p = 0.315). The Pearson Correlation Analysis showed no correlation between age and all psychological symptoms. There was a significant positive relationship between somatisation (except paranoid) and all psychological symptoms (p <.05) there was a significant positive relationship between depression and all other psychological symptoms (p <.05) Anxiety, obsession, interpersonal relationships, psychoticism, paranoid, anger, phobic, with additional scale there was a significant positive relationship between all other psychological symptoms (p <.01). In conclusion, our study revealed the presence of psychological symptoms in migraine and tension headache cases in young university students. This result is very similar to the results obtained from studies on other age groups in the literature.**

Keywords **– Headache, Migraine, Tension Type Headache, SCL-90-R Psychological Symptom Research Scale, International Classification of Headache Disorders 3 (ICHD-3).**

I. INTRODUCTION

Migraine headache is one of the primary headaches, localized in one half of the head, arriving in attacks, lasting 4-72 hours, increased with physical activity and prevents the person from doing business; is a moderate or severe throbbing headache. Migraine headache may be unilateral or bilateral. The localization of the pain is front temporal and periorbital. Migraine headache may be accompanied by nausea and/ or vomiting, light, sound / noise or odour disturbance [1].

During the prodrome or postdrome periods of migraine attacks, there may be some behavioural and mental status changes. Some of them are stretching, desire to sleep, fatigue, stiffness in the neck, loss of concentration [2].

The International Headache Society (IHS) published the ICHD-3 in the classification of headache diseases in 2018. According to the International Classification of Headache Disorders 3 (ICHD-3) classification, Migraine is

divided into 6 main headings as Migraine without Aura and Migraine with Aura, chronic migraine, Migraine Complications, Possible migraine and episodic syndromes associated with Migraine [3].

80-85% of migraine headaches are migraine without aura and 15-20% are migraine with aura.

Aura symptoms in migraine with aura are transient focal neurological symptoms including visual, sensory, motor, language and brainstem disorders. Aura occurs before pain and develops slowly within minutes. The duration of the aura is 5-60 minutes. (IHCD, 3rd edition, BETA)

Tension Type Headaches (TTH) are the most common headaches. Lifetime prevalence is TTH -78%, has indeterminate symptoms. The pain is more bilateral, compressive and /or pressure-sensitive and unlike migraine, it is not throbbing. It does not increase with head movements or physical activities and does not accompany nausea and / or vomiting. The intensity of the pain is often mild or moderate.

According to the TTH ICHD-3 classification, it is divided into the following main headings:

1. Sparse Episodic TTH,

2. Frequent Episodic TTH,

3. Chronic TTH,

4. Possible TTH.

Tension headache (TTH), which occurs less than 15 days a month, is considered episodic, and Tension headache that develops 15 or more times a month is considered chronic (ICHD-3).

Tension headache (TTH), which occurs less than 15 days a month, is considered episodic, and Tension headache that develops 15 or more times a month is considered chronic (ICHD-3). I. Symptom Distress Check List (SCL-90-R).

Psychiatric Symptoms Screening List, Johns Hopkins University Psychometric Research Unit; It was developed by Leonard R. Derogatis et al. (1971, 1973, 1974, 1976, 1977) using the inventory known as Hopkins Symptom Check List (HSCL). Mental Symptoms Screening List SCL-90-R: It is a measurement tool that determines the level of psychological symptoms (Symptoms) in individuals and which areas they spread (4, 5).

HSCL has 5 symptom dimensions (SOM), Obsessive - Compulsive (OC), Interpersonal Sensitivity (INT), Depression (DEP), Anxiety (ANK) 4 new subscales Anger - Hostility (HOS), Phobic Reaction (PHOB), Paranoid Thought (PAR), Psychoticism (PSY), 4 response categories, from 0 to «Advanced», marked as 0-1 -2-3-4 and indicating the degree of occurrence of 5 response scale developed 9 A sub-item and 9 sub-items and an additional scale consisting of 10 symptom groups were included in the questionnaire and 7 of the 90 items belong to the additional scale and are excluded from these main groups.

These substances include symptoms such as eating and sleeping disorders and feelings of guilt [4] [5].

II. Research Methods

This study consisted of 75 Migraine, 75 Tension Headache and 42 control cases without headache in the 18-25 age groups.

As a method, a Headache questionnaire based on ICHD-3 classification, which was agreed as a common lan-

-guage for Migraine and Tension Type Headache, was requested and filled out for those who complained of headache among the students voluntarily.

At the beginning of the questionnaire questions, it was questioned whether the headache young person had a systemic disease, and those who reported a systemic, neurological and psychiatric segmental disease were not included in the study.

Those who did not answer all questionnaire questions and those who gave inconsistent answers were excluded from the study. Cases that met the criteria and gave a family history were interviewed.

SCL-90-R test was performed to reveal the psychological symptoms in 75 Migraine and 75 TTH patients who met ICHC-3 criteria.

42 young universities who did not complain about headache were asked to fill the headache questionnaire in the same way and SCL-90-R test was given.

Psychological Symptoms of SCL-90-R Psychological Symptoms Screening Test were asked to participants who participated in the study with 90 different sentences. It was tried to measure how uncomfortable the symptoms were in the last month. The degree of measurements is from zero to 4 (0 = none, 1: very little, 2 = Moderate, 3 = Very high, 4 = Extreme). Thus, the psychological symptoms present in the students were graded by themselves.

The responses were evaluated by the neurologist physician and specialist psychologist. 75 Migraine (Migraine without Aura: 62 and Aura with Migraine: 13) and 75 Tension Headache (47 rare episodic TTH, 27 frequent episodic TTH and one chronic TTH).

III. Analysis Result

75 Migraine (Migraine without Aura: 62 and Migraine with Aura: 13) and 75 Tension Headache (47 rare episodic TTH, 27 frequent episodic TTH and one chronic type TTH) were included in the study. Chronic TTH was not included in the study because it was a person.

In the study, using the SPSS Statistical Method, the results obtained with the SCL-90-R Psychological Symptom Search Test were evaluated by the following tests:

1. Descriptive Statistics for the Sample of Students.

2. Pearson Correlation Matrix among the variables.

3. ANOVA test.

A. *Results*

Table 1. Descriptive Statistics for the Sample of Students (N = 192).

	Gender					
	Male		**Female**		**All**	
Diagnosis	Mean	SD	Mean	SD	Mean	SD
Control SOM	.797	1.51	1.10	2.19	.889	1.72
A M	1.81	1.77	1.41	.661	1.51	1.09

	Gender					
	Male		Female		All	
AUM	1.33	.353	1.89	.738	1.80	.712
SEG	-	-	1.12	.676	1.02	.569
SEB	1.27	.727	1.34	.929	1.32	.859
KGB	-	-	-	-	-	-
Control ANK	.524	.434	.423	.297	.492	.396
A M	1.46	.498	1.36	.598	1.39	.571
AUM	.850	.353	1.76	.740	1.62	.765
SEG	1.05	.689	1.28	.665	1.02	.569
SEB	1.40	1.22	1.28	.901	1.33	1.01
KGB	-	-	-	-	-	-
Control O-C	.978	.604	1.00	.348	.985	.534
A M	2.11	.570	1.86	.772	1.93	.726
AUM	1.89	.565	2.35	.661	2.28	.647
SEG	1.71	.471	1.83	.570	1.77	.522
SEB	1.91	.660	2.05	.682	2.00	.665
KGB	-	-	-	-	-	-
Control DEP	1.57	2.23	.739	.528	1.32	1.91
A M	1.87	.690	1.71	.663	1.76	.669
AUM	1.53	.671	1.96	.922	1.90	.8
SEG	1.23	.623	1.73	.618	1.49	.661
SEB	1.42	.710	1.92	.800	1.74	.794
KGB	-	-	-	-	-	-
Control INT	.672	.689	.623	.419	.657	.613
A M	2.06	.721	1.56	.773	1.69	.779
AUM	1.50	.078	1.99	1.08	1.91	1.00
SEG	1.35	.584	1.66	.504	1.51	.560
SEB	1.36	.647	1.77	.625	1.61	.654
KGB	-	-	-	-	-	-
Control PSY	.310	.341	.200	.258	.276	.319

	Gender					
	Male		Female		All	
A M	1.34	.592	.889	.542	1.01	.589
AUM	1.10	.989	1.20	.789	1.18	.777
SEG	.878	.545	.958	.583	.919	.560
SEB	.760	.594	1.06	.698	.951	.667
KGB	-	-	-	-	-	-
Control PAR	.752	.688	.858	.480	.785	.627
A M	1.66	.864	1.52	.693	1.57	.740
AUM	1.16	.707	1.74	.949	1.65	.916
SEG	1.55	.664	1.63	.711	1.60	.682
SEB	1.33	.773	1.85	.647	1.66	.728
KGB	-	-	-	-	-	-
Control HOS	.902	.610	.743	.614	.853	.608
A M	1.66	.987	1.39	1.01	1.47	1.00
AUM	.833	.707	2.02	.934	1.83	.983
SEG	1.52	.923	1.52	1.14	1.52	1.03
SEB	1.13	1.18	1.89	.824	1.61	1.02
KGB	-	-	-	-	-	-
Control PHOB	.181	.292	.241	.205	.200	.267
A M	.831	.576	.745	.555	.769	.558
AUM	.928	.706	1.22	1.00	1.18	.942
SEG	.627	.588	.726	.489	.677	.536
SEB	.614	.591	.940	.848	.819	.767
KGB	-	-	-	-	-	-
Control AS	.753	.539	.724	.366	.744	.488
A M	1.77	.825	1.52	.650	1.59	.704
AUM	1.99	.403	1.85	.694	1.87	.646
SEG	1.36	.578	1.42	.686	1.39	.629
SEB	1.19	.583	1.53	.891	1.41	.796
KGB	-	-	-	-	-	-

	Gender					
	Male		Female		All	
Control GSI	.635	.434	.593	.275	.622	.389
A M	1.62	.506	1.43	.531	1.48	.527
AUM	1.33	.557	1.87	.773	1.79	.751
SEG	1.20	.439	1.39	.397	1.30	.425
SEB	1.26	.671	1.56	.652	1.45	.663
KGB	-	-	-	-	-	-

Descriptive Statistics for the Sample of Students (N =). For somatisation = SOM anxiety = ANK, obsession = O-C, depression = DEP, interpersonal sensitivity = INT, psychotic = PSY, paranoid = PAR, anger = HOS, phobic = PHOB, additional scale = AS, General Symptom Index = GSI. Migraine without Aura = AM, Migraine with Aura = AUM, Rare Episodic Tension Headache = SEG, Frequent Episodic Tension Headache = SEB, Chronic Tension Headache = KGB. Chronic TTH was not included in the study because it was 1 person. The control group consisted of students who did not define headache.

Table 2. Pearson Correlation Matrix among the variables.

	SOM	ANK	O-C	DEP	INT	PSY	PAR	HOS	PHOB	AS	GSI
Age	.001	-.057	.020	.011	-.004	.029	-.007	-.099	-.003	.036	-.027
ST		.329*	.257**	.354**	.276**	.258**	.129	.255**	.333**	.256**	.357**
AS			.666*	.435**	.705**	.768**	.551**	.628**	.759**	.650**	.887**
OB				.353**	.718**	.620**	.585**	.508**	.614**	.617**	.826**
DP					.396**	.416**	.309**	.345**	.435**	.323**	.478**
KI						.762**	.714**	.549**	.723**	.604**	.867**
PI							.628**	.547**	.726**	.597**	842**
PA								.561**	.570**	.469**	.721**
OF									.542**	.465**	.702**
FB										.592**	.821**
EK											.766**
GS											

** p <0.01 somatisation = SOM, anxiety = ANK, obsession = O-C, depression = DEP, interpersonal sensitivity = INT, psychotic = PSY, paranoid = PAR, anger = HOS, phobic = PHOB, additional scale = AS, General Symptom Index = GSI. Table 2. Shows the correlation matrix among the variables.

Table 3. Summary of ANOVA testing the difference in these symptoms.

		Sum of Squares	df.	Mean Square	F	Sig.	Meaning
Somatisation	Between Groups	16,419	5	3,284	2,610	026	S
	Within Groups	234,054	186	1,258			
	Total	250,473	191				

		Sum of Squares	df.	Mean Square	F	Sig.	Meaning
Anxiety	Between Groups	25,652	5	5,130	11,742	,000	S
	Within Groups	81,267	186	437			
	Total	106,919	191				
Obsession	Between Groups	31,810	5	6,362	16,226	000	S
	Within Groups	72,928	186	392			
	Total	104,738	191				
Depression	Between Groups	7,147	5	1,429	1,191	315	NS
	Within Groups	223,184	186	1,200			
	Total	230,332	191				
Interpersonal Sensitivity	Between Groups	34,303	5	6,861	14,153	000	S
	Within Groups	90,165	186	485			
	Total	124,469	191				
Psychotic	Between Groups	17,430	5	3,486	11,070	000	S
	Within Groups	58,570	186	315			
	Total	76,000	191				
Paranoid	Between Groups	22,591	5	4,518	8,863	000	S
	Within Groups	94,820	186	510			
	Total	117,411	191				
Anger	Between Groups	17,234	5	3,447	3,917	002	S
	Within Groups	163,655	186	880			
	Total	180,889	191				
Phobic	Between Groups	16,894	5	3,379	10,280	000	S
	Within Groups	61,132	186	329			
	Total	78,026	191				
Additional scale	Between Groups	22,897	5	4,579	10,676	000	S
	Within Groups	79,783	186	429			
	Total	102,680	191				
General Symptom Index	Between Groups	25,037	5	5,007	18,744	000	S
	Within Groups	49,691	186	267			
	Total	74,729	191				

B. *Results*

Of the 75 migraine cases, 55 were female (mean age: 20.87) and 20 were male (mean age: 22.15). The mean age of migraine cases is 21.21. (Migraine group of 13 people with aura mean age 20.61), the average age of migraine without aura (62 people) is 21.33.

Of the 75 people with Tension Type Headache, 43 were women (mean age: 22.34), and 32 were men (mean age: 22.06). 47 were classified as Rare Episodic Tension Headache, 27 frequent episodic Tension Headache, and one was classified as chronic Tension Headache. The median age of TTH cases, regardless of subgroups and gender, was 21.65. The mean age of the control group was 21.23 years. Sparse Episodic TTH is the average age of 21.63; Frequent Episodic TTH is the average age of 21.62. The mean age of migraine and tension headache groups is very similar.

The mean psychological symptom values of migraine groups with and without aura were higher than the control group. In both rare and frequent episodic tension headache groups, the mean values of all symptoms were higher than the control group.

Anova Test showed significant differences between the mean values of psychological symptoms of tension-type headache groups, migraine-type headache groups and control group without headache (Somatization $p < .05$, other psychological symptoms $p < .01$) (depression $p = 0.315$).

Pearson Correlation Analysis showed no correlation between age and all psychological symptoms. There was a significant positive relationship between somatization (except paranoid) and all psychological symptoms ($p < .05$) There was a significant positive relationship between depression and all other psychological symptoms ($p < .05$) Anxiety, obsession, interpersonal relationships, psychoticism, paranoid, anger, phobic, with additional scale.

There was a significant positive relationship between all other psychological symptoms ($p < .01$).

IV. DISCUSSION

Headache is associated with many psychiatric disorders, especially anxiety and depression [6]. The aim of our study is to reveal these similarities or differences.

Migraine headache, bipolar disorder (BAD), phobia, depression, suicidal tendency and attempt, and psychiatric disorders such as anxiety disorder are common [6]. In our study, somatisation, anxiety, obsession, depression, interpersonal sensitivity, psychosis, paranoid, anger, phobic and additional scale symptom levels were higher in the migraine headache cases compared to the control group without headache. This supports the presence of psychiatric symptoms in young migraine and young rare and frequent episodic tension headache patients in our study.

In a study on tension-type headache patients [8], 90.2% had psychiatric co morbidity, 72.4% of them had anxiety disorder and 56.1% had mood disorder (bipolar).

In the study of Jung et al., 78% of migraine headache patients and 64% of TTH patients had psychiatric co morbidity [9].

The main causes of tension - type headache Anxiety, psychological stress, depression, somatisation disorder, muscle strain [10] [11].

Sagduyu, found somatoform pain disorder, depression, and generalized anxiety disorder in Tension Headaches [12].

In a study by Puca et al. on tension headaches, anxiety was 52.5%, depression 36.4%, and somatoform disorder

21.7% [13].

Sayilgan et al. (35%) had a psychiatric disorder in migraine patients. 18.3% were depression, 5% (generalized anxiety disorder + depression and anxiety), 5% OCD, 3.3% Dissociative disorder, 1.7% BAB, 1.7% Hypochondriasis.42.5% of the patients had a psychiatric disorder [6].

Sayılgan et. al found (% 42.5) a psychiatric disorder in tension headache patients.

These are 20% depression, 10% BAD, 5% depression and anxiety, 5% OCD, 2.5% acute stress reaction. [6]

Akhan et al. Found that somatisation, depression, anxiety and phobic anxiety subscale scores were significantly higher in patients with migraine by SCL-90-9 test compared to healthy control group ($p < 0.01$) Anger, hostility and psychotism subscale scores were compared to healthy controls found to be significantly higher than the other groups ($p < 0.05$) [14].

In our study, the mean values in both migraine groups in Somatizone, Anxiety, Depression and Phobic were higher than the control group without headache.

In the psychosis and anger groups, our findings ($p < .01$) differed significantly from those of Akhan et al. ($P < .05$) and showed a statistically significant difference.

Our study was found to be higher in all subgroups (Somatisation, Anxiety, Obsession, Depression, Interpersonal Susceptibility, Psychosis, Paranoid, Anger, Phobic, Additional Scale) compared to controls without headache.

In a study performed by Merikandes et al., they found high rates of generalized anxiety disorder and social phobia in migraine patients (Akhan and collegues1995). In our study, anxiety and phobia were significantly higher in both migraine groups compared to control group without headache ($p<.01$).

Ozden et al. investigated obsessive-compulsive symptoms in patients with migraine and reported that migraine patients had a higher risk of anxiety disorders and partially panic disorder-phobia [15].

In our study, anxiety and phobic subgroups were significantly higher in both migraine groups compared to controls without headache ($p < .01$).

In the study conducted by Kocabaş and Celebi between 14-18 years of age among female boarding students, anxiety, depression and neurotic tendency levels were higher in migraine and tension headache groups compared to the control group. Respectively ($p < .01$).

In the Kocabas and Celebi studies [16], anxiety, depression and neurotic tendency levels in migraine group; In our study, anxiety and depression levels were found to be higher in both migraine groups compared to tension headache groups.

It has been reported by some authors that emotional factors precipitate migraine attacks (72%) in patients with migraine [17]. Selby and Lance found that migraine attacks were more frequent with emotional factors [17].

Many authors have reported that acute anxiety causes headaches in migraine and tension headaches [19] [20]. Major depressive disorder, bipolar disorder, panic disorder [21] [22] and social phobia are common in migraine headache cases [23].

In the study performed by Yasar et al., Depressive symptom levels were higher in the migraine group compared

to the control group (Yasar et al. 2013). In our study, the situation is the same (p <.01).

It has been reported that depression and anxiety are frequently associated with migraine with aura [24] [25]. Yasar et al. Found no difference between the symptoms of anxiety, depression and obsessive-compulsive disorder between migraine with aura and migraine without aura.

In our study, no significant difference was found between migraine with aura and migraine without aura between symptom levels of anxiety, depression and obsessive disorder (p <.01).

Somatic complaints are common in patients with migraine headache, and this is closely related to the level of depression and anxiety [25] [26]. An important factor that triggers migraine attacks is Stress [27].

In our study, somatisation, anxiety and depression symptom levels were significantly higher in migraine patients compared to control group without headache (p <.01).

Oz et al. Found that trait anger levels were higher in migraine patients (p <0.001). In our study, anger level was significantly higher in both migraine groups compared to control group without headache (p <.01).

Tanrıverdi and Gozum investigated the psychiatric symptom levels in TTH cases. They found that somatisation, depression, interpersonal sensitivity, anger-hostility and anxiety were higher than the comparison group. In our study, somatisation, depression, interpersonal sensitivity, anger and anxiety were higher than the control group without headache (p <.01).

Depression and anxiety symptom levels were significantly higher in tension-type headaches by some researchers [29] [31]. In our study, depression and anxiety were significantly higher in tension-type headaches compared to control group without headache (p <.01).

Celik, Arkar and Idiman found that depression and anger scores were significantly higher in migraine headache patients than healthy subjects [32]. In our study, depression and anger symptom levels were higher in migraine patients compared to the control group without headache.

In our study, there were significant differences in all psychological symptoms except for depression in the investigation of the differences between migraines - tension type headache groups according to diagnostic groups.

V. Conclusion

Foremost, our study showed the presence of psychiatric symptoms in migraine and tension headaches in young university students. The mean values of the present psychiatric symptoms were higher in both diagnostic groups than in the control group (except depression). In our study, depression did not show a significant difference in the investigation of the differences between Migraine and Tension Type Headache Groups according to the diagnosis groups, and it can be attributed to the fact that our study consisted of young university students aged 18-23 years compared to the relatively older cases in the other studies in the literature. Our study, when compared with other studies conducted in the literature on the detection of psychological symptoms of migraine and tension-type headache cases, our findings and results are quite similar to the findings and results found in other studies in the literature. This study was conducted among a limited number of young university students. Our aim was to determine the presence of psychological symptoms in young migraine and tension headache students. In this case, we can easily say that the aim we set out at the beginning of the study was realized. It is noteworthy that these

symptoms have significant similarities when compared with those of other age groups however in order to make generalization in the study, it is necessary to work with a larger sample.

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