



Research Article

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Psychological Symptoms in Young Adult Migraineurs

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Abstract

We aimed to reveal psychological symptoms of young university students (18-25 y/o) with no secondary disease with complaints of migraine headaches. We compared the psychological symptoms with a young control group that did not present headaches and other studies examining migraines in different age groups to determine any similarities. The study consisted of 75 migraine cases; 13 with aura and 62 without aura) and 42 non-headache control subjects. The International Classification of Headache Disorders 3 (ICHD-3) with criteria questions and the Psychological Symptom Research Scale were applied to all participants and SPSS Statistics Program evaluated the data. Findings: 1) In the test of Descriptive Statistics for the Sample of Students, average values of both sexes were taken and found the average values of the migraine groups were higher than control group. 2) The Anova Test found differences in the diagnostic group besides depression (Somatisation $p<.$, others $p<.01$) with no significant difference in depression ($p=0.315$). 3) The Pearson Correlation Analysis, found no association between age and psychological symptoms. There's a significant relationship between psychological symptoms with somatisation (besides paranoid) ($p<.05$). There's a significant relationship between depression and other psychological symptoms ($p<.05$). There's a significant relationship between anxiety, obsession, interpersonal relationships, psychoticism, paranoia, anger, phobia, additional scale and other psychological symptoms ($p<.01$). Result: The study demonstrated psychological symptoms in young migraineurs. The average psychological symptoms of both migraine groups were higher than the control group, this showed psychological symptom similarities between young migraineurs and migraine patients of different age groups.

Keywords: Headaches, Migraine, Migraine without Aura, Migraine with Aura, psychological symptom screening test SLC-90-R, ICHD-3

1. Introduction

Migraine headaches within primary headaches are those localized on one side of the head, that arise in episodes, last 4-72 hours, increases with physical activities preventing one from completing tasks; with moderate or severe throbbing. Migraine headaches can be unilateral as well as bilateral. The localization of the pain is front temporal and per orbital. Migraine headaches can accompanied by nausea and/or vomiting, discomfort from light, sound/noise or smells. (Headache Classification Committee of the International Headache Society, The international classification of headache disorders 3rd edition, 2013).

According to the classification of The International Classification of Headache Disorders 3 (ICHD-3) migraines are divided into 6 main classes (Headache Classification Committee of the International Headache Society, The international classification of headache disorders 3rd edition, 2018). Migraine without Aura, Migraine with Aura, Chronic Migraine, Migraine Complications, Potential Migraine, Episodic syndromes associated with migraine. "Approximately 80%-85% of migraine headaches are Migraines without Aura while 15%-20% are Migraines with Aura. There can be various behavioural and mood changes during the stages of prodrome (prior to pain) or postdrome (after pain) of migraine attacks. Some of these changes can be yawning, lethargy, listlessness, stiffness of the neck, loss of concentration" (Öztürk, 2018).

Symptoms of Migraines with Auras are temporary focal neurological symptoms which are visual, sensory, motor, language and brainstem disorders. Aura appears before pain, develops slowly in minutes and lasts for 5-60 minutes. (ICHD 3rd edition, BETA)

The Symptom Distress Check List - SCL-90-R used in the study has been developed by Leonard R. Derogatis et al, 1971, 1973, 1974, 1976, 1977) at the Psychedelic Research Unit of Johns Hopkins University utilizing the inventory of Hopkins Symptom Check List (HSCL). The Psychological Symptom Checklist SCL-90-R: is a tool used to measure the psychological symptoms of the individuals and to determine what level the symptoms are and which areas they spread to (Kılıç, 1991).

4 new subscales, Anger - Hostility (HOS), Phobic Reaction (PHOB), Paranoid Ideation (PAR), psychoticism (PSY) have been added to the 5 HSCL Symptom subscale; Somatisation (SOM), Obsessive - Compulsive (O-C), Interpersonal Sensitivity (INT), Depression (DEP), Anxiety (ANK) and 4 answer categories ranging from «None» to «Advanced» marked with 0-2-1-3-4 and with the addition of 5 response scales showing the degree of presence has been developed to form a comprehensible inventory consisting of 9 sub clauses, 9 subscales and one additional scale resulting in 10 symptom groups. 7 of the 90 items belong to the additional scale and fall outside these main groups. The items that constitute the tenth symptom group include eating and sleeping disorders and feelings of guilt (Dağ, 1991).

2. Material and Method

This study with participants from Cyprus American University and Girne American University consisted of 75 migraine subjects and 42 control subjects without headache in the 18-25 age group.

As a method, students who complained of headaches and wanted to voluntarily participate in the study were requested to complete a Headache questionnaire based on the ICHD-3 classification, which is internationally agreed upon as common ground for Migraine headaches.

The first questionnaire questions, asked if young subject with headaches had a systemic disease and the subjects who reported a systemic, neurological and secondary psychiatric disease were not included in the study.

Those who did not complete the questionnaire and those who gave inconsistent answers were excluded from the study.

Interviews were conducted with those that met the criteria and provided a family history.

The SCL-90-R test was applied to 75 Migraine subjects who met the ICHC-3 criteria to reveal their psychological symptoms

The SCL-90-R test and a headache question was given to the 42 young university student control subjects without complaints of headaches.

In the SCL-90-R Psychological Symptom Screening Test, the young students who participated in the study were asked of psychological symptoms that could be present in everyone using 90 different sentences. Attempts were made to rate the young students discomfort in the last month.

The rates were set from zero to 4 (0=not at all 1: very little 2=moderately 3=severely 4=extremely)

Thus we tried to measure the scale of the psychological symptoms present in the students who graded themselves.

The responses were evaluated by a neurology specialist and clinical psychologist

The result of the evaluation determined 75 Migraines (62 without Aura and 13 with Aura Migraines)

3. Findings

The study used the SPSS Statistical Method with the 75 Migraine (62 without Aura and 13 with Aura Migraines) and 42 control subjects without headache group. The results obtained from the SCL-90-R Psychological Symptom Search Test were evaluated by following tests:

- a) Descriptive Statistics for the Sample of Students,
- b) Pearson Correlation Matrix,
- c) ANOVA test.

3.1 Results

Table 1: Descriptive Statistics for the Sample of Students (N = 75)

I Diagnosis	Gender				All	
	Male		Female			
	Mean	SD	Mean	SD	Mean	SD
controlSOM	.797	1.51	1.10	2.19	.889	1.72
A M	1.81	1.77	1.41	.661	1.51	1.09
AUM	1.33	.353	1.89	.738	1.80	.712
controlANK	.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
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
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	.885
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
control PSY	.310	.341	.200	.258	.276	.319
A M	1.34	.592	.889	.542	1.01	.589
AUM	1.10	.989	1.20	.789	1.18	.777
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
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
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
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
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

(N =) for somatisation =SOM, anxiety =ANK, obsession=O-C, depression=DEP, interpersonal sensitivity =INT, psychotic =PSY, paranoia=PAR, anger=HOS, phobic=PHOB, additional scale=AS,G.S.Index=GSI
Migraine without Aura = AM, Migraine with Aura =AUM
The control group consisted of students who did not define headaches.

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
SOM		.329*	.257**	.354**	.276**	.258**	.129	.255**	.333**	.256**	.357**
ANK			.666**	.435**	.705**	.768**	.551**	.628**	.759**	.650**	.887**
O-C				.353**	.718**	.620**	.585**	.508**	.614**	.617**	.826**
DEP					.396**	.416**	.309**	.345**	.435**	.323**	.478**
INT						.762**	.714**	.549**	.723**	.604**	.867**
PSY							.628**	.547**	.726**	.597**	.842**
PAR								.561**	.570**	.469**	.721**
HOS									.542**	.465**	.702**
PHOB										.592**	.821**
AS											.766**
GSI											

**p < 0. Somatisation =SOM, anxiety =ANK, obsession=O-C, depression=DEP, interpersonal sensitivity =INT, psychotic =PSY, paranoia=PAR, anger=HOS, phobic=PHOB, additional scale=AS, General Symptom Index=GSI

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

		Sum of Squares	Df	Mean Square	F	Sig.	MEANİNG
Somatisation	Between Groups	16,419	5	3,284	2,610	,026	S
	Within Groups	234,054	186	1,258			
	Total	250,473	191				
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				
Paranoia	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				
G.S.I	Between Groups	25,037	5	5,007	18,744	,000	S
	Within Groups	49,691	186	,267			
	Total	74,729	191				

3.2 Findings

1. Of the 75 migraine patients 55 are female (with average age of: 20.87), and 20 are male (with average age of: 22.15). The average age of the Migraine subjects is 21.21. (The average age of 13 Migraines with Aura is 20.61. The average age of 62 Migraine without Aura is: 21.33).
The average age of the controlled group of 42 subjects without complaints of headaches is 18.88 (the average age of the female subjects of the controlled group is 21.78, and the average age of the male subjects of the controlled group is 21.35).
The average age of both sexes, jointly and severally in the Control group is higher than the migraine group and the migraine group with and without Aura
2. The Descriptive Statistics for the Sample of Students test, where the average values of both sexes were taken found that the average values of the migraine groups with and without aura individually is higher than the control group.
3. This was checked with Anova test. For the diagnostic group in Anova test with the exception of depression there are significant differences (Somatisation $p < .05$, others $p < .01$) however, there is no significant difference in depression ($p = 0.315$).
4. No relationship was found between age and all psychological symptoms in the Pearson Correlation Analysis. There is a significantly positive connection between Somatisation (except paranoia) and all psychological symptoms ($p < .05$). There is a significantly positive connection between depression and all psychological symptoms. ($p < .05$) There is a significantly positive connection between anxiety, obsession, interpersonal sensitivity, psychoticism, paranoia, rage, phobia, additional scale, and all psychological symptoms.

4. Argument

Headache is associated with many psychiatric disorders, especially with anxiety and depression (Sayılğan, Domaç, Güleç, 2019).

Migraine headaches are commonly observed together with psychiatric disorders such as bipolar disorder (BD), phobia, depression, suicide tendency and attempt and anxiety disorder (Wang, Chen, Fuh, 2010).

In our study, symptom levels of somatization, anxiety, obsession, depression, interpersonal sensitivity, psychosis, paranoid, anger, phobic and additional scales investigated within Migraine groups with and without aura revealed higher average values than control group. This indicated psychiatric symptom similarities between young migraine subjects in our study and other studies on different age groups.

There was 35% psychiatric illnesses present in the study by Sayılğan and colleagues carried out on migraine patients. These were 18.3 % depression 5% anxiety disorder + depression and anxiety, 5% obsessive compulsive disorder, 3.3% dissociative disorder, 1.7% affective bipolar disorder and 1.7% hypochondria.

Akhan et al found that with the SCL-90-9 test, somatisation, depression, anxiety and phobic anxiety subscale scores of migraine patients were significantly higher than healthy control group. ($p < .01$) The subscale scores of anger, hostility and psychoticism were significantly higher than the healthy controlled group. ($p < .05$) (Akhan, Alptekin, Bayburtoğlu, 1995).

In our test the average values of somatization, anxiety, depression, rage, phobia and psychoticism in both migraine groups were higher than the control group with no headache. This shows similarities with Akhan et al's studies. In our study, significant differences in average values except in depression were found between the migraine groups. (Somatization $p < .05$, others $p < .01$) Even though the level of depression in the migraine group is higher compared to the control group this is statistically insignificant. ($p = 0.315$) This may be due to the migraine group consisting of only young university students between the age of 18-25 or the study not including different age groups.

The study conducted by Merikandes et al found high rates of anxiety disorder and social phobia in migraine patients (Akhan et al, 1995). (Marikangas, Angst, Isler, 1990) High values of anxiety and phobia in both migraine groups and the control group with no headache was also found in our study.

Özden et al investigated obsessive - compulsive symptoms in Migraine patients and found that in terms of phobias these patients carried a higher risk of anxiety disorders and partial panic disorders. (Özden, Baykan, Ertekin, 2015). In our study the values of psychological symptoms of anxiety, obsession and phobia are higher in both migraine groups in comparison to the control group with no headache. The studies conducted by Kocabaş and Çelebi with boarding students from a vocation school for girls aged between 14-18 (Kocabaş, Çelebi, 1997) showed that in comparison to the control group the levels of anxiety, depression and neurotic tendency were higher in migraine and regressional headache groups. In our study, anxiety and depression levels were also higher than the control group without headache

Some authors (Merskey, 1975) mention that migraine attacks (72%) can be precipitated by emotional factors (Kocabaş and Çelebi, 1997). Seby and Lance determined that migraine attacks became increasingly frequent by emotional factors (Kocabaş and Çelebi, 1997). (Selby, Lance, 1960). Many authors have reported that acute anxiety causes headaches in migraine and regressional headaches. (Kocabaş, Çelebi, 1997) (Merskey, Sandrini, Manzoni, Zanferrari, Nappi, 1993). (Sandrini, Manzoni, Zanferrari, Nappi, 1993) Major depressive disorder, bipolar disorder (Jette, Patten, Williams, Becker, Wiebe, 2008). (Hamelsky, Lipton, 2016), panic disorder and social phobia are common in cases of migraine headache. (Yaşar, Balıbay, Alay, Tekeli, Türker, Bayar, 2016). In the study conducted by Yaşar et al, levels of depressive symptoms were higher in the migraine group compared to the control group. This is also the case in our study. It has been reported that depression and anxiety are frequently associated with migraine with aura. (Yaşar et al, 2013) (Breslau, Schultz, Stewart, Lipton, Lucia, Welch, 2000). (Samaan, Farmer, Craddock, Jones, Korszun, Owen, McGulf, 2009). Our study also shows the same association.

In the study conducted by Yaşar et al no difference was found between the symptoms of anxiety, depression and obsessive-compulsive disorder in both migraine with and without aura. This is also the case in our study. (Both Yaşar et al and our study consisted of few cases of migraine with aura and young subjects). Somatic complaints are commonly observed in migraine headache patients and this is closely related to the patient's level of depression and anxiety. (Maizels, Burchette, 2004) (Öz, Erdem, Yücel, Akgün, Yozgatlı, Balıkçı, Durukan, Demirkaya, Odabaşı, 2011). The important factor that triggers migraine attacks is stress (Özden et al) (Wacogne, Lacoste, Guillibert, Hugues, Le Jeunne, 2003).

It is conspicuous that our study found that somatisation, anxiety and depression symptom levels were higher in migraine patients compared to control group without headache and shows similarities with the findings of Maizels - Burchette, 2004 and Özden et al.

Çelik, Arkar and İdman found that depression and anger scores were significantly higher in migraine headache patients than in healthy subjects. (Çelik, Arkar, İdman, 2010) Our study also showed that the average values of depression and anger symptoms in migraine patients were higher than the control group without headache.

Korkmaz and colleagues used the SCL-90-R Psychological Symptom Test on migraine patients aged between 18-49 and compared the patient and control group. In their study (Korkmaz, Kozgan, Korucu, Gönen, Yılmaz, Atmaca, 2019) they found high values somatization, anxiety ($p=0.000$), depression ($p=0.003$), anger ($p=0.02$), interpersonal sensitivity ($p=0.006$), phobia ($p=0.001$), paranoid thoughts ($p=0.012$), psychosis ($p=0.031$), additional scale ($p=0.014$) and General Symptom Index ($p=0.001$).

In our study, except for depression, there are significant differences compared to the diagnosis group. (Somatisation $p<.05$, anxiety $p<.01$, obsession $p<.01$, inter personal sensitivity $p<.01$, psychosis $p<.01$, paranoid thoughts $p<.01$, anger $p<.01$, phobia $p<.01$, additional scale $p<.01$, GSI $p<.01$). Both studies have similar findings

5. Conclusion

The aim of our study was to detect migraine patients among young university students (18-25) and to investigate the psychological symptoms of these migraine patients. Our study revealed the presence of psychological symptoms in young migraineurs.

The comparison made in our study between the psychological symptoms of migraine groups and the control group found that the average value of both migraine groups are higher than the control group.

Similar findings were observed in our study and other studies when comparing the psychiatric symptoms of young university migraine patients (18-25) with the psychiatric symptoms of migraine patients in other studies involving different age groups.

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