

Personality Characteristics in Migraine and Tension Type Headache

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Abstract

Introduction: Headache is one of the most common nuisances known to men. About 65% of patients seen in headache clinics suffer from migraine, 25% from tension type headache and about 10% from other types of headaches. Most people experience mood and behavior changes as an accompanying feature during a headache attack.

Objectives: This study aimed to investigate the different types of personality characteristics in patients with migraine and tension type headache.

Methods: In a cross-sectional study, all neurology and psychiatry outpatients of 5th Azar clinics of Gorgan, referred with chief complaint of headache were examined during 2007-2008. Patients with a final diagnosis of migraine or tension type headache were included. They filled short form of Minnesota Multiphasic Personality Inventory (MMPI).

Results: From 160 patients, 148 (92.5%) were women and 12 (7.5%) were men. 96 patients (60%) had tension type headache and 64 (41.2%) had migraine.

In tension type headache, depressed personality (43.8%) and hysterical personality (16.4%) were more common, but in migraine group, depressed personality (48.9%) and paranoid personality (20%) had higher frequency.

There was a significant difference between higher versus lower education and showing depression in MMPI ($P=0.04$).

Psychopath deviation showed in 10 (6.76%) female and 3 (33.33%) male ($P=0.02$).

Mean age \pm SD was 34.94 ± 11.92 in tension type headache group and it was 31.01 ± 10.07 in the migraine group ($P=0.03$).

Conclusion: The higher prevalence of depressed personality type in both migraine and tension type headache may increase the attention to these patients about their future possibility of depression and preventive cares.

Keywords: Tension type Headache; Migraine, Personality characteristic; MMPI

Introduction

Headache is one of the most common disorders of the nervous system. Its several subtypes such as tension type headache, migraine and cluster headache cause substantial levels of disability. Yet, throughout the world, headache has been and continues to be underestimated in scope and scale, and headache disorders remain under-recognized and under-treated everywhere [1]. Migraine is a common neurological disorder with a prevalence of approximately 12%, and a cause of significant disability for many patients [2-7]. As a

result, the World Health Organization has listed migraine as a significant public health concern and a major cause of years of life lived with disability [8,9]. Tension type headache is the most frequent type of primary headache disorder in the general population with a prevalence of about 42% of adult patients. It has a major impact on patient's job performance and quality of life, leading to an economic burden on society [10]. Numerous studies have examined the personality structure of patients with primary headache disorders, and it has been found that such patients were mildly anxious and depressed relative to their headache-free counterparts [11-13]. These patients have generally experienced more adverse events and rated them as more stressful than did headache-free volunteers [14]. A high level of anxiety, neuroticism, or depression has also been found in

patients with this headache type [12]. These patients present a significant impairment of anger control, a higher level of anxiety, depression, phobias and obsessive compulsive symptoms, emotional liability, and psychophysiological disorders, thus suggesting a connection between anger and duration of headache experience [15].

The importance of personality traits in migraine has been widely debated. Claims have been made that migraineurs display increased neuroticism and anxiety and are anti-aggressive, but complex interactions regarding personality traits need to be considered [16,17]. It may be that some of these personality traits also could be an effect of serious and insufficiently processed life events, as it is shown that migraine patients may have a history of maltreatment, especially during childhood [18-20].

Minnesota Multiphasic Personality Inventory (MMPI) is the most popular assessment instrument used to investigate personality traits [21,22]. The Mini-Mult MMPI-71 has generated an appreciable amount of research related to its utility with a variety of clinical population [22-25]. This study aimed to investigate the different types of personality characteristics in patients with migraine and tension type headache with short edition of MMPI.

Material and Methods

The subjects were all neurology and psychiatry outpatients with chief complaint of headache who had been referred to 5thAzar clinics of Gorgan, the capital city of Golestan province in Iran during 2007-2008. The diagnosis of migraine and tension type headache was made by means of face to face clinical interview by a neurologist or psychiatrist using the International Headache Society (2nd edition, IHS-II; 2004) criteria [26]. The patients who had any known medical condition, other psychiatric problems, or have been treated for the headache before, were excluded.

After an explanation of the confidentiality of the data, the patients were visited by a general physician and demographic data were collected from which volunteers were accepted for the research. Each subject indicated his response on an individual sheet of paper. The Mini-Mult MMPI-71 is an abbreviated form of the MMPI. This 71-

item short form provides conversion tables for deriving raw scores for three validity scales and eight clinical scales (scales MF and SI were omitted). The standard booklet form of the normalized Persian version of the Mini-Mult MMPI-71 was completed by each subject at the first session of admission when subjects were free from drug effects or withdrawal symptoms and score of cognitive function was higher than 25 on the mini-mental status examination[27].

The reading level of the subjects was sixth grade or higher. Predicted raw scores for the three validates and eight clinical scale of the MMPI were obtained from Armentrout's (and Rouzer's) recommendation, who defined technically invalid as either L, F, or K, T scores of above 70 [28].

Statistical analysis was done by chi-square test using the Statistical Package for Social Sciences version 16.0 software (SPSS Inc, Chicago, IL, USA) and a p-value of less than 0.05 was deemed statistically significant.

Results

From 160 eligible patients were included, 148 patients (92.5%) were women and 12 (7.5%) were men. 64 patients (40.0%) had migraine and 96 patients (60.0%) had tension type headaches. The migraineurs had migraine without aura and the patients with tension type headache had frequent episodic tension type headache using the International Headache Society (2nd edition, IHS-II; 2004) criteria[26].

Mean \pm SD of age was lower (31.02 ± 10.07 ; range 18-55 years) in migraine group than (34.94 ± 11.92 years; range 18-60) in tension type headache group ($P=0.03$). Out of 160 patients, 98 (61.2%) didn't finish high school education. 39 of them (39.8%) showed depression trait in MMPI versus those who finished high school education (15 from 62; 24.2%) ($P=0.04$).

There was no significant difference between migraine and tension type headache in male and female gender. Also, either of migraine and tension type groups didn't have significant difference in having abnormal personality traits, overall. Frequency of different types of personality traits in headache groups has been showed in Table 1.

Type		Hypochondriasis	Depression	Psychopathic Deviation	Paranoia	Psychasthenia	Schizophrenia	Normal	Guard	Total	
Headache	Migraine	N	5	22	3	9	6	0	16	3	64
		%	7.7	34.4	4.7	14.1	9.4	0	25.0	4.7	100.0
	Tension	N	12	32	10	8	9	2	22	1	96
		%	12.6	33.3	10.4	8.3	9.4	2.1	22.9	1.0	100.0
Total	N	17	54	13	17	15	2	38	4	160	
	%	10.6	33.8	8.1	10.6	9.4	1.2	23.8	2.5	100	
PValue		0.35	0.89	0.19	0.25	1.00	0.24	0.76	0.15	0.43	

Table 1: Personality traits in headache groups

6.8% of females (N=10) and 25.0% of males (N=3) showed psychopathic deviation ($P=0.03$). Maybe this result caused by low number of our male subjects.

Mean \pm SD of age in schizophrenia trait was 41.00 ± 0.00 versus others (33.27 ± 11.39). There was a significant association between higher age and schizophrenia trait ($P<0.005$).

From all subjects 4 (2.5%) were in guard group according to L, F and K scale score over 70. Mean \pm SD of age in guard group was 25.25 \pm 4.86. There was a significant association between lower age and showing guard group scales ($P=0.03$).

Discussion

The literature on personality characteristics and headache still poses considerable discrepancies, with regard to both the eventual pathogenic role of personality characteristics and possible association between certain personality traits and migraine [29]. "Migraine personality" defined as a characteristic set of psychological features that was found among adult migraine sufferers [30]. More recent population based studies have demonstrated bi-directional associations between migraine and depression and migraine with panic disorder [31,32]. Some previous studies found significant difference between migraine patients than normal control groups on different personality traits [29]. Some studies showed that persons with chronic tension type headache had a significantly higher neuroticism score and a significantly higher level of psychological distress than the general population. Headache or medication days per month had no significant influence on the neuroticism [33]. In our study there was no significant difference between different personality traits and migraine and tension type headache patients. Females were not different in any kind of personality traits compared to their male counterparts. But male subjects showed significantly higher scores in psychopath deviation trait. That maybe because of our little male subject numbers and should be assessed in a more equal sample in the future. In a Turkish study, tension type headache group got significantly higher scores on neurotic subtests (Hypochondriasis, depression, hysteria) than subjects in the control group. Likewise, migraine subjects got significantly higher scores on hysteria subtest than control subjects. No significant differences were noted between migraine and tension type groups. However, none of the headache groups could be characterized by marked elevations on any of the validity and clinical scales [21]. In our study also, migraine and tension type headache group didn't show any significant difference that supports these findings. In another study in Germany, there were no statistically significant differences between the headache groups. It was impossible to distinguish headache groups on the basis of their personality profiles by means of reclassification with discriminate analysis [34].

Our study showed a significant difference in mean of age between migraine and tension type headache groups. In another study in USA, suggested specific age differences in migraineurs, in the most instances shows an age decline in frequency of variables, such as stress trigger, photophobia, dizziness, throbbing, pressure, stabbing, and being forced to sleep or rest with headache. Hormones as a trigger peaked in women in the 30 to 49 year old age group. Increases with age were seen with alcohol, smoke, and neck pain triggers, neck location, and running of the nose/tearing of the eyes. The over 50 age group showed trends suggesting a lesser acute migraine attack [35]. Considering our bigger sample of women compared to men in our study, hormonal trigger maybe engorge the role of age in different groups of headache.

We noted a significant difference between age and showing schizophrenia personality trait and also being in guard group. There is some evidence of dopamine receptor activity in migraine and tension type headache [36,37]. Also Dopamine is an inhibitory neurotransmitter involved in the pathology of schizophrenia. The revised dopamine hypothesis states that dopamine abnormalities in the mesolimbic and prefrontal brain regions exist in schizophrenia

[38,39]. Further studies with a greater sample size may be needed to confirm any association.

The role of social and environmental stressors may also have a role in the development of schizophrenia and schizophrenia-like psychosis after age 40 [40]. We assumed that our older patients encountered more social and environmental stressors to compare with younger patients. So, it might affect on their schizophrenia trait scales. Any significant association should be assessed by future more powerful studies.

Further studies with a greater sample size may be needed to confirm that.

Our results showed a significant association between depression personality trait and lower educational attainment. In a study in USA, showed that those who reported <16 years of education had a significantly higher mean BMI (Body Mass Index), were more likely to be obese, were more likely to experience depression, and have a higher mean BID (Body Image Dissatisfaction) score compared to those with ≥ 16 years of education [41]. Another study suggested cognitive behavioral problem solving therapy or training might be a viable option for reducing levels of stress and depression, and to increase life-satisfaction in patients suffering from primary headache [42].

The presence of different personality traits in headache patients may need further future studies. Active screening using MMPI in headache patients may identify these personality traits. But personality traits as anxiety and depression should be noted by physicians in headache patients. Also, age and hormonal situation in women can be important to consider.

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