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A COMPARATIVE STUDY OF DEFENSIVE MECHANISMS BETWEEN THE WOMEN WHO SUFFER FROM MIGRAINE AND THE HEALTHY ONES IN TEHRAN

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ABSTRACT

The Purpose of this Study was comparison of defensive mechanisms between a group of women who suffer from migraine and a normal group in Tehran. The present study is a descriptive Ex-Post Facto research. The statistical population included all normal women in Tehran and all women who suffer from migraine headache and went to headache clinics and visited neurologists in Tehran in the spring and summer of 2013. A sample of 25 people was selected as control group and 25 people as experimental group. These two groups matched up in terms of age, level of education and marital status. The “DSQ” defense mechanisms' questionnaire was used as a research tool. The data were analyzed by using SPSS-16 through descriptive statistics and MANOVA. The experimental group showed higher scores in the immature and neurotic defensive mechanisms than the control group. But in the mature mechanism, the control group obtained higher scores than the experimental group. The findings confirm previous studies on the role of defensive mechanisms in psychosomatic disorders.

Keywords: *Defensive Mechanisms, Migraine, Psychosomatic Disorders*

INTRODUCTION

Introduction and Literature Review

Migraine is one of the most common types of headache throughout the world including in Iran which can affect all dimensions of the patient's personal, social and occupational life (Kruit, 2004). In the recent research of World Health Organization, the major migraine has been considered as a debilitating chronic disorder (Goadsby, 2014). Headache is one of the most common problems of health (Al-Hashel, 2014) and one of the most important medical cases in women's health (Matharu, 2002). Migraine attacks usually include unilateral headaches which can be accompanied by digestive symptoms such as nausea and vomiting or excessive stimulation such as fear of light or sound. An average of 1-2 percent of the world's population and 15-20 percent of who go to the headache clinics suffer from migraine (Fumal *et al.*, 2006; Ouray, 2006). Prevalence of migraine has been reported between 10-25 percent (Knight, 2002). Hu also believes that the average of attacks during one year is 34 times for men and 37 times for women. Based on the recent studies, the cause of migraine are the secondary vascular changes due to disorder in the brainstem neurons' function. However, its main reason is still unknown (James and Alcott, 2003). According to the systematic researches from 1980 to 2008, a strong and bilateral relationship has been obtained between migraine and mental disorders. It also has been found that diagnosis of migraine and depression in women is four times more than men and the possibility of being exposed to migraine (24% versus 9%) and major depression (24% versus 13%) in 30 year old women is twice more than men (Goadsby, 2013). The investigators have found a significant relationship between migraine and psychological factors (Levy, 2003). Freud's Psychoanalytic approach has had a profound impact on the theory and practice of psychology and psychiatry, our notion of human's nature and our understanding of personality (Schultz and Schultz, 2012). The fundamental premise of the Psychoanalytic approach is based on the fact that the psychological life of each person is rooted in unconscious processes. In Freudian system, this part of mind is the resources of inaccessible instinctive momentum, repressed experiences, memories of childhood before language development and strong but unsatisfied desires (Rio, 2008). In traditional and modern psychoanalysis, many concepts of theories are connected directly with

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the concept of unconsciousness. In this regard "Ego defense mechanisms", which is defined as unconscious strategies of "Ego" to control desires and momentum by Freud, is one of the most important concepts that is related to unconsciousness which was introduced for explaining defensive performance against anxiety and stress (Offer, 2000).

Defensive mechanisms have taken into clinical and particular consideration, because they have specific importance in conceptualization of mental disorders and their treatment from psychodynamic perspective (Cramer, 2000). In psychoanalysis approach, any mental disorder is accompanied by specific non-adaptive defense mechanisms, and defenses play important roles in people's health (Offer *et al.*, 2000; Andrews *et al.*, 1989; Bond, 2004; Blaya, 2006). The studies have shown the role of defensive mechanisms in psychosomatic disorders and migraine diseases. Based on the study of Posture *et al.*, (1998), which was done on the relationship between migraine and defensive mechanisms of oppression and aggression with a group of 23 female psychology students, there is a relationship between these two defensive mechanisms and migraine. After a stressful situation, this defensive mechanisms cause sympathetic activities in body and these psychological activities cause migraine attack. With regard to confrontation and defensive mechanisms as risk factors for cancer, Olenden *et al.*, (2005) have shown that woman who suffer from breast cancer use defensive, denial, rationality, concentration and reverse reaction mechanisms more. Moreover, the women who suffer from breast cancer use rational-analytical coping strategies, empathy and defensive mechanisms of sublimation and substitution less (Goadsby, 2013). The results of studies done by Liver (2005) show that people who suffer from migraine show a pattern of excessive blame and criticism of themselves and others and anger and aggression. In a study, Offer *et al.*, (2000) compared the defensive mechanisms in three groups of people who suffer from depression, obsession and schizophrenia with healthy ones. The analysis showed that the amount of using immature defensive mechanisms in clinical group is significantly more than control group. It was also found that the cancelation and reacting mechanisms in people who suffer from obsession is more than the other groups. In regard to psychological burden of mental disorders and simultaneity of these disorders with migraine in women and emphasis on psychological factors which cause migraine headaches, we can say that two above-mentioned psychological factors can also be of the initial keys in such headaches and creating psychological disorders in women. Then by knowledge of and insight into these unconscious factors, maybe we can take a step for decreasing the burden of psychological disorders in women.

Therefore, in this study, we are going to approve or reject the hypothesis that "there is a significant difference between the women who suffer from migraine and the healthy ones in terms of defensive mechanisms".

MATERIALS AND METHODS

Methodology

The method of this study is descriptive Ex-Post Facto. The plan of the research is fundamental-applied which its general aim is to explain the relationship between phenomena and to add some new knowledge to the existing collection of the knowledge about psychosomatic diseases. The study has a Causal-Comparative aim. Based on the area of the study and nature of the variables that has formed already, manipulation of variables is impossible. The plan of Ex-Post Facto is Causal-Comparative in which the researcher tries to analyze and explain the obtained results. The statistical population includes all the women in general population of Tehran and all the women who visited neurologists and headache clinics in all over of Tehran in the spring and summer of 2013 and they suffer from migraine based on the neurologists' diagnosis. Since the study is Ex-Post Facto and Causal-Comparative and in such studies the minimum size of sample is 25 to 30 people, therefore the researcher has selected 25 people as experimental group and 25 people as control group who are from available women in general population. These two groups matched up in terms of age, level of education and marital status. The inclusion criteria are: 1. be at the age range from 20 to 40; 2. their minimum level of education be diploma; 3. don't suffer from any acute psychiatric disorders such as anxiety, depression, etc. The researcher collected his required sample by referring to neurologists and headache clinics in Tehran in the spring and summer of

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2013 and to reduce the effect of psychiatric disorders associated with migraine as a moderator variable, the test of SCL90 was used and if they didn't suffer from acute psychiatric disorders, the researcher compared the two groups by test of DSQ-40 for examining the defensive mechanism. The control group has also been selected from available women of general population and they completed the test of SCL90 (for testing psychological health) and the defensive questionnaire of DSQ-40. It should be mentioned that ethics have been respected during the research, such as informed consent, being voluntary, justice and secrecy.

The data was analyzed by SPSS and by using descriptive statistical indexes (frequency, percentage, mean and standard deviation) and for analyzing the hypotheses, the multi-variate analysis of variance (MANOVA) was used.

Research Instruments

The employed instruments in the study are as follows;

1. The clinical diagnosis: Based on the screening and diagnosis of neurologist.
2. The defensive mechanisms' questionnaire (DSQ-40) (Andrew *et al.*, 1993).

The defensive styles' questionnaire in which was DSQ at first, has been developed in 1983. The test is a self-grading scale with 88 statements in the form of Likert Scales from 1 (strongly disagree) to 9 (strongly agree). These statements show the defensive mechanisms which are clustered on the basis of their compliance in four defensive styles. These four styles are: 1. non-adaptive practice style (the first style); 2. Defensive style of distorting images (the second style); 3. defensive style of ego sacrificing (the third style) and 4. Adaptive defenses (the fourth style) (Hersoug *et al.*, 2002).

The tool of DSQ-40 (Andrew *et al.*, 1993) is a revised version of the main scale. There are 20 secondary scales (defense) with two statements for each defense in this tool. The defenses have been divided into three factors or styles: mature, neurotic and immature. The mature defenses include: sublimation, humor, anticipation and mental regression. Neurotic defenses include: revocation, false altruism, idealizing and opposite reaction. The immature defenses also include: projection, passive aggression, effusion, insulation, trivializing, autistic daydreaming, denial, displacement, decomposition, cutting, justification and reification. Since there are two statements for each secondary scale, the Cronbach's alpha for the scales is too variable, from 42% for trivializing to 71% for autistic daydreaming. For this scale, enough validity and reliability have been reported by Andrew *et al.*, (1993) and Bond (1995) (Sinha and Watson, 2004). The clinical psychology professors were asked to insure the reliability of the questionnaire and all of them confirmed the reliability of the questionnaire. We used the method of test-retest and internal consistency for analyzing the reliability in pre-study step. The reliability of test-retest was equal to 78% and its Cronbach's alpha was equal to 72%.

The Test of SCL-90

This test was designed and introduced for analyzing the psychological aspects of physical and mental patients by Derogatis *et al.*, (1973) (Derogatis, 1983; quoted by Yazdani-e Qichaq, 1996). The questionnaire analyzes a person in 9 dimensions and includes: somatization, compulsive obsession, interpersonal sensitivity, depression, tension, aggression or hostility, phobic horror, paranoid ideation and psychoticism (Derogatis, 1983; Kaplan and Sadok, 1989; quoted by Yazdani-e Qichaq, 1996).

Conducted studies on the reliability of this scale showed high convergence from 73% to 36%, such as concurrent reliability with MMPI. Based on the coefficients of Alpha and Kuder Richardson, the reliability of this test also declared satisfactory for all dimensions. The reliability of test-retest with one week interval was showed from 0.78 to 0.9 (Derogatis, 1983; Derogatis, Leonard, 1976; quoted by Bagheri-e Yazdi, 1993; quoted by Yazdani-e Qichaq, 1996).

RESULTS AND DISCUSSION

Findings

The participants were a group of 25 women who suffered from migraine and a control group with 25 normal ones in which their means were 31.24 for control group and 32.08 for the experimental group. The groups were partially at the same age range. Their education levels were from diploma to MA and the

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frequency showed that the two groups were in same range and most of the participants in two groups were diploma.

In the explanation part, the central tendencies of mean and standard deviation for dependent variables will be presented for both groups:

Table 1: Mean and Standard deviation (SD) of the mechanisms with components

Dependent Variables	Control Group		Experimental Group	
	Mean	SD	Mean	SD
Mature	12.32	1.62	7.32	1.62
Immature	7.76	1.63	11.52	1.87
Neurotic	8.16	1.66	11.72	1.51
Total mechanisms	32.28	4.88	47.20	3.86

The descriptive table of content shows that means of the two groups is different from each other in all dependent variables of the study. For specifying the significant difference between the groups in terms of the study variables, we use the inferential analysis. The multivariate analysis of variance and default tests were used to analyze the hypotheses in the inferential part.

The default test results indicate that the variances ($P=0.067$, $F=3.79$) and the covariance ($P=0.08$, $F=1.87$) of the two groups are equal.

We will continue to investigate this hypothesis: there is a significant difference between the women who suffer from migraine and the healthy women in terms of defensive mechanisms (mature, immature, neurotic).

Table 2: The overall results of MANOVA

Test's type	Value	F	Hypothesis df	Error df	P	Eta-squared
Group Pillai's Trace	0.819	69.32	3	46	0.001	0.819
Wilks' Lambda	0.181	69.32	3	46	0.001	0.819
Hotelling's Trace	4.52	69.32	3	46	0.001	0.819
Roy's Largest Root	4.52	69.32	3	46	0.001	0.819

The contents of the above table show that levels of significance in all tests allow using multivariate variance analysis. The results show that there are significant differences in the study groups in terms of the defensive mechanisms ($P<0.001$, $F=69.32$, Lambda Whelks- 0.18). The square of Eta shows that there is significant difference between the groups in terms of defensive mechanisms and the amount of this difference based on the test of Lambda Whelks is 0.81.

Table 3: The results of ANOVA output for all the of research variables

Dependent variable	Sum of squares	DF	Mean of squares	F	P	Eta
Group Mature	312.50	1	312.50	118.22	0.001	0.71
Immature	176.72	1	176.72	55.51	0.001	0.53
Neurotic	158.42	1	158.42	59.22	0.001	0.55

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As table 3 and the test of one-way ANOVA show, there is a significant difference between the two groups in all of the 3 components ($P < 0.001$). In other words, the experimental group has gotten significantly higher scores in the immature and neurotic defensive mechanisms, but the control group has gotten higher scores in the mature defensive mechanisms. The Eta value shows that the highest standardized difference value is for the mature mechanisms of the groups (0.86).

Discussion and Conclusion

The main objective of the present study was to analyze the defensive mechanisms in women who suffer from migraine and to compare them with healthy women. Based on the findings, the hypothesis of "there is a significant difference between the women who suffer from migraine and the healthy ones with regard to defensive mechanisms" was approved. The results showed that there is a significant difference between the two groups in terms of the defensive mechanisms and their components. The results are consistent with the results of the other studies (Passchier *et al.*, 1988; Heidari, 2006; Kersul and Chalder, 2001; Passchier *et al.*, 2002; Agha, 2013) regarding high immature and neurotic defensive mechanisms and low mature defensive mechanisms in women who suffer from migraine.

To explain this finding, we can say that people are faced with stressful events in their personal lives and it threatens their mental and physical health. Considering the fact that experiencing of stress is an integral part of human life, man needs to use some methods and mechanisms which result in relaxation and psychosocial stability. The defensive mechanisms play a major and an important role here. In fact the defensive mechanisms can distort and alter the emotional perception; because our attention to the fact distorts our attention away (Anderson, 1985). The results indicate that adaptive defensive mechanisms and styles are correlated with physical and mental health outcomes (Vaillant, 2000) and non-adaptive defensive mechanisms and styles are correlated with many negative factors of health (Vaillant, 1998). Passchier (2002) in his research showed that migraine headache sufferers use the immature defensive mechanisms and this causes an increase in the number of migraine attacks.

In fact, as the defenses have conceptualized as psychological mechanisms for managing the exhausting and debilitating emotions, the women who suffer from migraine are disable to adjust and manage the emotions which are related to the disease and the persons' disability causes the individuals to use the immature defensive mechanisms in dealing with problems. On the other hand, when emotional information cannot be understood and evaluated properly in cognitive processing, the structure of the individual's emotion and recognitions will not have optimum performance and thus the possibility of using immature and neurotic defensive mechanisms will be increased in the stressful conditions. Using of defensive mechanisms also reduces ability and emotional management capacity and cause to reduced psychological well-being of patients. In their study, Brody and Carson (2012) also showed that there is a significant relationship between the immature defensive mechanisms and self injury behaviors.

The use of immature and neurotic defensive mechanisms such as retreat or denial not only can't solve the problems, but also cause increase in emotional problems and negative effects on individual's health. Therefore, using immature and neurotic defensive mechanisms can cause tension, more anxiety and thereby recurrence of disease and set the scene for exacerbation of psychosomatic diseases such as migraine headache; in other words, growing of defensive mechanisms has significant effect on the overall psychological and social adaptability and subsequently on the individual's physical and medical health (Beygi, 2012). In general, since the defensive mechanisms are correlated with the physical and mental consequences (Vaillant, 2000), when individuals use the mature defensive mechanisms against bad events, their anxiety is much less than individuals who use the immature defensive mechanisms (Thompson, 2007) and they have more general health (Mohammad *et al.*, 2009). In their study on the people who suffer from migraine headache, Agha and Bazyari-e-Meimand (2013) showed that this group of patients uses more immature and neurotic defensive mechanisms.

In another explanation of this theme, we have to refer to the relationship between anxiety in one side and the relationship between the defensive mechanisms and the reduction of anxiety from another side. In other words, the anxiety feelings between people who suffer from migraine headache is very prevalent and these feelings are of the most important factors in stimulation of migraine (Kiurn *et al.*, 2011;

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Balaban *et al.*, 2011). On the other hand, it has proved that the adaptive defensive mechanisms have positive and significant relationship with the physical and mental health (Vaillant, 2000, 1998) and non-adaptive defensive mechanisms have negative and significant relationship with the mental health (Cramer, 1999; Vaillant, 1985). Some of the limitations of the present study are: 1-The sample of the study was limited to the women who referred to the neurologists and headache clinics in Tehran which has effect on the generalization of the findings. 2- The patients' features such as the level of educations, age and so on make it difficult to generalize the findings. 3- Lack of separating the type of migraine is another limitation of the study. 4- The mere use of the questionnaires to collect data is another limitation.

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