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The Study of the Effectiveness of Progressive Muscle Relaxation to Reduce Symptoms in Women with Migraine Headache

[1]Eghbal Sekhavati, [1]Mojtaba Rahimian Boogar, [3]Rouhi Afkari, [2]Somayeh Kasharafifard,
[4]Vahideh Parsaei Mehr, [5]Fatemeh Lotfi Mola and [1]Kobra Ahanijegar
[1]Larestan School of Medical Sciences, Larestan, Iran
[2]Department of Exercise Physiology, Islamic Azad University,
Larestan Branch, Larestan, Iran
[3]Infectious Diseases and Tropical Medicine Research Center,
Zahedan University of Medical Sciences, Zahedan, Iran
[4]Department of Microbiology, [5]Department of Biochemistry,
Dezful Branch, Islamic Azad University, Dezful, Iran

Abstract: Headache is one of the most common complaints in neurological clinics. Most headaches are migraines or tension headaches. Migraine is the most common kind of headache of nervous system disorders which is manifested unilateral and pulsating and restricts activities of daily living, diminished quality of life and reduce productivity. Therefore, in this study, our attention was aimed to the effectiveness of muscle relaxation to reduce symptoms in women with migraine headaches to care for patients who are recommended and therapeutic strategies for the treatment of acute attacks or need the use of preventive care procedures to minimize the symptoms and the next attack. In this pilot study the pre-test and post-test and follow-up with the control group was carried out. 22 female patients with migraine headaches by simple purposive sampling of patients that referred to hospitals affiliated to Shiraz University of Medical Sciences in 2013 and selected randomly in two groups and control. To study the variables of the questionnaire measuring pain intensity, a measure of distress of the pain, the McGill Pain Questionnaire, Questionnaire anxiety, stress and depression Lavebeyond (1995), a structured diagnostic interview and a demographic questionnaire was used. In the case group (relaxation) were divided into two groups of 5, 6 and 14 days (for each 7 days) were considered to carry out training progressive muscle relaxation techniques. Finally, the treatment protocol of progressive muscle relaxation method of Krogh and Brokok includes 60 sessions of 20-30 minutes was performed by patients within 2 months. To analyze the data, descriptive and inferential statistics such as frequency, percentage, paired t-test, t-test and ANOVA were used to determine the relationship between variables. The results showed that patients reporting Czech list presents that 86% of patients have learned and implemented relaxation techniques correctly. In this study, 59.09% of patients were in the age range 31-40 years. Other demographic characteristics of the participants were as follows: 72.72% married, 50% have social security coverage, 31.81% have a history of hospitalization in the last year, 63.63% reported that the income of the majority of the sample itself is fairly average family. And the type of medication, a majority of 40.90% of the subjects were treated with triptans drugs that 72.71% of these patients suffer from moderate to severe pain. In this study, 59.09% stress and 40.90% anxiety disorders have the highest prevalence of psychiatric disorders, respectively. Also, the findings show that progressive muscle relaxation was effective to reduce pain, distress, pain, anxiety and stress among women with migraines. In other words, significant and meaningful difference in these variables was observed in the experimental group before and after the relaxation. However, the frequency of pain attacks and depression before and after the study showed no significant difference between the two groups. This study showed that patients with migraine headache and the drug had not responded appropriately, can benefit of progressive muscle relaxation therapy to treat symptoms and disease care. Since, the client can easily learn and implement the therapy so progressive muscle relaxation method can be used as an independent non-drug therapy or in combination with drug therapy used in patients with migraine headaches and it can be prevented from consumption procedures medications and side effects of these drugs.

Corresponding Author: Mojtaba Rahimian Boogar, Larestan School of Medical Sciences, Larestan, Iran

Key words: Migraine headache, muscle relaxation, symptoms, appropriately, therapy

INTRODUCTION

Headache is one of the most common complaints in neurological clinics. Most headaches are migraines or tension headaches. These headaches can be mild or severe and persistent intervals are not too low. Severe headaches and recurring limit activities of daily living, reduce quality of life and productivity (Kurt and Kaplan, 2008). The most common type of headache is migraine which is manifested unilateral and often pulsating and usually include headache, nausea, vomiting and other symptoms of neurological dysfunction that appears to be different (Kasper and Harrison, 2005). Headache may be related to stress at the outset and periodically (anxiety) and can occur almost daily in the chronic form (Penzien *et al*., 2005). Today, according to research conducted by the International Headache Society (IHS), it seems that migraine headache which is manifested unilateral and often pulsating is a severe headache with high power to inability (Rowland, 2005). About 6/4% global prevalence of the syndrome is in men and 12-16% in women (Bradly, 2004) and totally is of 15-12% (Rowland, 2005). Overall results indicate that tension headache is most common in women. In addition to the physical effects of the disease, it causes the decreasing of the quality of life, the loss of useful time, disrupting daily activities (Solomon and Dahlof, 2000; Ornish, 2005; Morillo *et al*., 2005; Rabins *et al*., 2005). Also, the prevalence of headache in life expectancy have been reported 93% in men and 99% in women (Kernick, 2005). According to a survey carried out in Iran, headache have been recorded as the most common cause of brain and mental patients to the clinic (Nemati *et al*., 2003). In fact, according to the definition of mental disorders (Sekhavati *et al*., 2015a), Migraines are as a neurological dysfunction that which makes it difficult the person's adjustment (Sekhavati *et al*., 2015b). Migraine headache is a disorder that is often repeated and temporary changes in the diameter of blood vessels in the head. Today, headaches are considered as one of the purposes of medical research. Migraine headache is an occasional disorder that characterized by symptoms of neurologic, gastrointestinal and autonomic nervous system changes and the diagnosis is based on the same specification and associated symptoms. The results of clinical examinations such as laboratory tests are often normal. Migraine headaches can occur at any age, but is more common in adulthood and middle age (Raskin, 1997). Some of the problems associated with migraine is caused by psychiatric disorders associated with it. Cognitive disorders migraine can be determined and used in the treatment of migraine. Cognitive disorders migraine can be determined and used in the treatment of migraine. Moreover, the simultaneous occurrence of two diseases can provide evidence on the cause of both diseases (Hamelsky and Lipton, 2006). In addition to pain, migraine headache is one of the problems that including debilitating adverse which effects on all aspects of life, social functioning and family life (Raskin, 1997). On the other hand, although experts consider the role of psychological factors particularly stress and anxiety as the very important factors in the development of migraine headaches, but so far the main cause of migraine headaches is not known and this has led to this type of headache therapies be different opinions. So some researchers are focusing primarily on the treatment of medical and pharmaceutical and a group considers methods such as psychotherapy, biofeedback, muscles relaxation and so on which are more effective in the treatment of migraine headaches. Studies also indicate the importance of non-pharmacological treatment with the drug treating in the symptoms of migraine headache (Kurt and Kaplan, 2008). Non-pharmacological methods of pain control such as distraction, relaxation and skin irritation caused more pain and pain perception peace, reduce fear and anxiety and the patient can tolerate it. Another benefit is to increase the effect of analgesic drugs that reduce the amount of medication needed. In addition these methods decrease the terror, fear and anxiety of pain and create feeling of control in person and result in more comfort and improve sleep (Wong and Hockenberry, 2003). People are excited when their reaction is composed of three different components: the physiological, behavioral and cognitive component part. The relative strength of these components may vary from one person to another. But people usually experience the physiological component and a negative thought comes to mind and the physiological reaction increases and thus a vicious cycle is created (Kreck and Klark, 2010). One of the effective ways to break this vicious circle is to focus on physiological responses and learn how to control it. Thus self-regulation via relaxation training is one of the way of focusing on physiological reaction. There are relaxation methods to curb intentional physical and psychological responses to stressors in life. Simply, the use of this approach to overcome the problems that caused by stress, enable the individual to problems in treatment through the development of personal skills and thereby people learn for avoiding inappropriate reaction, change their behaviors (Rooshan and Yaaqubi, 2002). Among

non-pharmacological therapy, muscle relaxation, cognitive restructuring and hypnosis are methods that are used in the treatment of migraine (Golden, 1995). Some researchers believe that migraine pain is caused by contractions of the muscles of the head and neck and the pain causes the exacerbation of muscle tension in the area and the vicious cycle continues repeatedly. The goal-based therapies and relaxation is the relieving of muscle tension and breaking this vicious cycle (Kreck and Klark, 2010). In fact, relaxation is a reaction which is carried out by hypothalamus and reduces the peripheral nervous system and may cause an increase in parasympathetic activity (Bohachick, 1999). Kaighobadi and Asadi Noghabi in a research studied the effects of childbirth on the frequency and severity of their migraine headaches. The results showed that the mean of headache frequency and severity of headaches was higher before doing relaxation significantly. In other words, relaxation can reduce headache frequency and decrease the severity of migraine headaches (Kaighobadi, 2000). Aghamohammadian and Kamal Shanbedy showed that totally muscle relaxation techniques can reduce frequency, duration of attacks, severity and distressing of migraine pain (Hamidreza and Ali, 2007). In a study conducted in Iran by Saedi, mental and behavioral therapy in reducing migraine were studied. Evidence showed that treatment with progressive relaxation has a significance relationship with biofeedback and imagery an reduction of pressure, deal with the pain and migraine headache at all age levels and its effect may be preserved for at least one month (Saedi, 2010). On the other hand, the studies of Bandestan and colleagues represent the effectiveness of relaxation method compared with use of amitriptyline in the treatment of migraine headache (Bendtsen and Ensen, 2000). Relaxation by reducing the demand for tissue oxygenation, reduction of chemical substances such as lactic acid, the elimination of the skeletal muscle tension, reduce stress and release endorphins that affect pain (Kwekkeboom and Gretarsdottir, 2006). So many studies have been done in this area have announced the relaxation training and guided visualization as the most popular and effective useful non-drug interventions in reducing pain (Penzien *et al*., 2005). Hel royd and Benzen in their study showed that the use of a variety of relaxation techniques such as progressive relaxation and biofeedback, muscle relaxation and transcendental meditation are effective in reducing migraine headaches. They also know the muscle relaxation and expansion as the cause of protection against anxiety and chronic headaches (Holroyd *et al*., 1990). The results of studies show that biofeedback relaxation techniques along with skills in addition to reducing anxiety and pain also adds energy and social performance (Hallman *et al*., 2011). So in this regard, the study tries to evaluate the effectiveness of progressive muscle relaxation techniques to reduce symptoms in women with migraine headaches which referred to psychiatric clinic covered Shiraz University of Medical Sciences-2013. The results of this study can be used alongside drug treatments to those who research with their migraine treatment. And to some degree decreases the time to visit health centers and prohibitive cost of traditional medical treatments of this disease.

MATERIALS AND METHODS

This study was a clinical trial that was conducted in accordance with ethical standard. In terms of methodology, the study is a pre-test and post-test and follow-up with the control group which aims to determine the effectiveness of progressive muscle relaxation to reduce symptoms in women with migraine headache. The target population included all patients with migraine headache patients referred to psychiatric clinics under the 2013 Shiraz University of Medical Sciences. The minimum required sample size includes 22 patients with chronic tension-type headache which were selected based on convenience sampling; thus the researcher referred to the center of the study of patients and started the sampling and with the initial assessment if the selected person dose not include in sample for any reason so the next person was replaced. Then randomly were divided to either the experimental or control groups. Relaxation groups samples (tests) were divided into two groups of 5 and 6 and 14 days were considered (for each 7 days) for training and progressive muscle relaxation techniques. Cases on the first day include information on research and related purposes and the remaining 6 days was allocated for training and progressive muscle relaxation technique. For this purpose, an educational program designed for each group was performed in 7 steps, the steps of the program are: Recognition of muscles and muscle groups, training in the field of progressive muscle relaxation technique using explanation and practical demonstration by the researcher, answering to questions of test samples of relaxation techniques, doing the technique by researchers by using audio tape, doing the technique by patients and researchers, the difference in physical and mental feelings after relaxation and at the end of doing technique by the patients and the monitoring of researcher. Then the technique was carried out by testing samples at home for two months, once every day for 20-30 min (60 sessions) with follow-up research was conducted and completed self-report checklist. For doing the progressive muscle relaxation technique, the patient

sits in a comfortable chair or lie comfortably on kills. Then the client with guidance and listening to audio tapes makes the various muscle groups contract and relax by deep and effective breathing and makes. Patient should do this exercise until she will feel the difference between contraction and relaxation and also expresses it so she learned this technique and be able to do it alone by using the audio tape. In this technique, the large muscle groups are contracted and relaxed for this reason that the Contraction and relaxation of muscles and understanding the difference between feeling at the beginning is more tangible for the client. When client makes each of her muscles relax and contract so she will be able to release all of body easily and automatically by the way that he/she has learned and be released from anxiety, stress and any psychological and physical discomfort. The length of time that Jacobson offered in 1938 for PMRT exercises included several sessions per week for 30-60 min longer, even up to a year but Brukek and Kerug said that it is better to do PMRT for >50 sessions 20-30 min (Nichel *et al*., 2005). In this study, the progressive muscle relaxation techniques performed by using the Krogh and Brukek's method which includes 60 sessions of 20-30 min which was performed by patients within 2 months. In this study, in order to control for confounding factors, the criteria for entry into the study sample were as follows: Migraine diagnosis by a psychiatrist and neurologist based on the criteria of the International Headache Society (2004), no acute or chronic physical or mental illness, aged between 20-40 years and a minimum read and write. The exclusion criteria of the study were as follows: Substance abuse, severe neurological disorder, a history of relaxation techniques or specific exercise activity during the past six months, suffering from acute or chronic physical disorders (such as debilitating diseases of heart, lung, liver, skeletal muscle, kidney), mental or psychological disorders such as depression, impaired speech or hearing and wanting to continue working. Data collection for this study included a demographic, structured diagnostic interview, a measure of pain intensity, distress, pain measurement scale, the McGill Pain Questionnaire and a standard questionnaire of anxiety, stress and depression Lovebeyond (1995). structured diagnostic interview: the tool was used by the Canadian Medical Association diagnostic manual to identify the common migraine and classic migraine raised. Mentioned instrument has content validity and construct validity and in studies was reported 0.81 (Drumond, 1987; Kaufman, 1995). Measures scale of the intensity of pain: the pain intensity scale is a useful tool for measuring the intensity of pain that its diagnostic was approved in the studies. Rasoulzadeh Tabatabai reports the validity of this tool 0.82 and test-retest reliability 0.89 (Rasoulzadeh and Kazem, 1999). Distressing measuring scale: this scale presented by the Center for Pain Control guide Hull in 1992. Scale mentioned earlier is such as Qyasy-visual scale that measures the amount of pain and distress. The content validity of the scale is approved by psychological and psychiatric experts. In 1998 Fathi reported content validity and construct validity of the questionnaire 0.79 and 0.89 (Fathi, 1998). McGill pain questionnaire: this questionnaire is useful to assess the sensory and emotional components of pain assessment in differentiating clinical pain syndrome. Rasulzadeh Tabatabai reported the validity of the content of this questionnaire 0.88 and reliability was obtained of 0.78 (Rasoulzadeh and Kazem, 1999). Standard questionnaire anxiety, stress and depression Lovbeyond: Scale DASS-21 was introduced in 1995 and was tested in a large sample of human. This questionnaire used in the UK on a lot of people and validated (Crawford and Henry, 2003). This questionnaire was designed in Likert form and has no, low, medium and high options. Lowest score for any question is zero and the highest score of 3. Face validity and content validity of the tool approved in studies (Chinchai *et al*., 2003; Aghebati, 2005). Ghaffari and colleagues in a quasi-experimental study referred to retest reliability of 0.71 to subscales of anxiety and stress and depression reported 0.74 and 0.97. The reliability of the tool was 0.91 (Ghafari *et al*., 2008). Generally, the DASS-21 scale in Iranian studies is a norm and approved by the experts. The data collected were analyzed by using statistical software spss version 20 and the possibility of descriptive and inferential statistics were provided. However, the analysis of data, descriptive and inferential statistics such as frequency, percentage, t-test, t-test and ANOVA were used to determine the relationship between variables.

RESULTS AND DISCUSSION

The number of samples were considered 11 persons for each test and control groups. Finally, a study on 22 patients (11 cases and 11 controls) were analyzed. Demographic data and information of patient samples are given in Table 1. However, in this study, 59.09% of patients were in the age range 31-40 years. Other participants demographic characteristics include: 72.72% were married, 50% have social security coverage, 31.81% have a history of hospitalization in the last year, 63.63% of the income of the majority of the sample reported relatively modest income for their families. The type of medication, a majority of 40.90% of the subjects were treated with triptans drugs. In other words, the triptans are the specific drugs of anti-migraine that bind to serotonin receptors. These drugs are the first line

Table 1: Profile groups in terms of demographic data and information about the disease

Demographic data	Variable	Control No.	Percentage	Test No.	Percentage
Age	20-30	4	36.36	5	45.45
	31-40	7	63.63	6	54.54
Martial status	Single	2	18.18	4	36.36
	Married	9	81.81	7	63.63
Insurance status	Social security	6	54.54	54	5.45
	Health service	2	18.18	3	27.27
		1	9.09	0	0.00
	Armed forces	2	18.18	3	27.27
	Other health care	0	0.00	0	0.00
	Not				
Income	High	1	9.09	2	18.18
	Average	7	63.63	7	63.63
	Weak	3	27.27	2	18.18
History of hospitalization in the last year	Has	3	27.27	4	36.36
	Has not	8	72.72	7	63.63
Type drug	Housing compound	2	18.18	1	0.09
	NSAID drugs	3	27.27	2	18.18
	Triptans	4	36.36	5	45.45
	The combination of a triptan NSAID	2	18.18	2	18.18
	Other effective therapeutic drugs	0	0.00	1	9.09

Table 2: Headache frequency and severity of psychiatric symptoms among patients by gender

The severity of migraines/psychiatric symptoms	Condition	Number	Percentage
The severity of migraine headaches	Slight	6	27.27
	Average	9	49.90
	Severe	7	31.81
Psychiatric symptoms	Anxiety	9	40.90
	Depression	2	9.09
	Stress	13	59.09

treatment for mild to moderate migraine attacks, moderate to severe or unresponsive to conventional painkillers.

The prevalence of psychiatric symptoms among patients with migraine headaches as Table 2 shows the stress is 59.09% and anxiety disorders with 40.90% allocated the highest prevalence of psychiatric disorders. In other words, stress and anxiety are the most common psychiatric disorders which affecting by Sex and is believed to be associated with tension headaches. The findings also show that 72.71% of patients suffering from moderate to severe pain. Table 2 shows headache frequency and severity of psychiatric symptoms among patients.

Paired t test was used to calculate the amount of pain and psychiatric symptoms related to changes in the test and control groups before and after intervention (progressive muscle relaxation techniques). The results of the paired t-test calculation show that there is a statistically significant difference ($p<0.05$). In other words, these results indicate a statistically significant difference in at least one of the variables before and after the model of progressive muscle relaxation. Table 3 shows the results.

As the findings in Table 3 shows at a glance found no significant difference in pain severity, pain, distress, anxiety and stress before and after our intervention in the case. Or in other words, according to the findings of the mean and standard deviation of the components of pain and psychiatric symptoms, notice a significant difference in at least one component of pain ($df = 1$, $t = 3.11$ and $p = 0.003$), distress of the pain ($df = 1$, $t = 3.04$ and $p = 0.0001$), anxiety ($df = 1$, $t = 3.26$ and $p = 0.003$) and stress ($df = 1$, $t = 3.93$ and $p = 0.003$) after progressive muscle relaxation in our test group. Therefore, based on these findings, we can say that in this study, it is expected that the test scores of the components mentioned before and after the implementation of the method of relaxation is a big difference. Or to put it another way, it can be concluded from these findings that progressive muscle relaxation is to improve and reduce the symptoms of pain, distress, pain, anxiety and stress in patients with migraine headache. Thus assuming the study of these components confirmed and other components declined. With these conditions, it is expected that at least one of these components there is a significant difference between the two groups. The subsequent investigation was carried out. Table 4 shows the results of the independent t-test for determining changes in pain intensity between the test and control groups.

As Table shows 4-3 and according to the approved equal variances, independent t-test calculation results indicate that significant differences is between the two groups in pain intensity variable ($p<0.05$). The research

Table 3: The mean values of pain and psychiatric symptoms related to changes in the test and control groups (before and after)

Variables	Group	Time	$\bar{X}\pm SD$	df	t-values	p-values
Dimensions pain						
Pain	Calming	Before	28.21±4.570	1	3.11	0.0030
		After	23.92±5.140			
	Witness	Before	30.37±4.890	1	1.42	0.8700
		After	4.94±30.11			
Distressing of pain	Calming	Before	19.72±4.120	1	3.04	0.0001
		After	16.32±5.070			
	Witness	Before	19.14±3.940	1	1.11	0.3400
		After	18.97±3.910			
The frequency of pain attacks	Calming	Before	29.80±5.120	1	0.95	0.6300
		After	28.94±5.040			
	Witness	Before	28.85±4.690	1	1.03	0.2400
		After	28.94±4.580			
Psychiatric symptoms, anxiety	Calming	Before	5.6±12.200	1	3.26	0.0030
		After	8.9±5.6700			
	Witness	Before	11.62±5.700	1	1.03	0.1200
		After	10.48±5.110			
Depression	Calming	Before	3.30±6.110	1	0.97	0.6400
		After	3.67±5.350			
	Witness	Before	6.08±3.330	1	0.87	0.2200
		After	3.45±6.010			
	Calming	Before	15.60±6.150	1	3.93	0.0030
		After	10.11±7.620			
Stress	Witness	Before	14.86±6.230	1	0.68	0.2400
		After	13.90±6.450			

Table 4: The difference in mean changes in pain intensity between groups

Pain intensity	t-test for equality of means	The mean standard deviation of the mean	df	t-value	p-value
Given the equality of variance	-5.27	0.78	1	-6.27	0.003

Table 5: The difference in mean changes to the distress of pain between groups

Distressing of pain	t-test for equality of means	The mean standard deviation of the mean	df	t-value	p-value
Given the equality of variance	3.11	0.64	1	5.09	0.003

Table 6: The difference in mean change in anxiety between groups

Anxiety	t-test for equality of means	The mean standard deviation of the mean	df	t-value	p-value
Given the equality of variance	4.63	1.08	1	6.02	0.001

Table 7: The difference in mean changes in pain intensity between groups

Stress	t-test for equality of means	The mean standard deviation of the mean	df	t-value	p-value
Given the equality of variance	7.48	2.11	1	6.12	0.001

hypothesis confirmed and statistical hypothesis can be rejected on this component verification. In other words, from this result, it can be concluded that muscle relaxation is expected to significantly reduce the pain of migraine headaches in patients and the general reduction in pain intensity score of its components. Table 3-5 shows the results of the independent t-test to determine the amount of changes to the distress of pain between the test and control groups.

As is evident in Table 5-3 and according to the approved equal variances, independent t-test calculation results indicate that there is significant differences between the two groups in the distress of the pain variable ($p<0.05$). The research hypothesis confirmed and statistical hypothesis can be rejected on this component verification. In other words, progressive muscle relaxation is expected to significantly reduce the distress and pain of migraine headaches in patients in general reduces component score of distress of pain. Table 3-6 shows the results of the independent t-test to determine changes related to anxiety levels between the test and control groups.

As the Table 3-6 shows and according to the approved equal variances, independent t-test calculation results indicate that there is significant differences between the two groups anxiety in the variable ($p<0.05$). The research hypothesis confirmed and statistical hypothesis can be rejected on this component verification. In other words, from this result, it can be concluded that muscle relaxation is expected to significantly reduce the anxiety of patients with migraine headaches and a general decrease in the score of anxiety of psychological component. In other words, the experimental group showed a significant reduction component of the anxiety associated with migraine headache. Table 3-7 shows the results of the independent t-test to determine levels of stress-related changes between test and control groups.

According to the approval of variances equality assumption, the results of the independent t-test calculation suggests that there is a significant difference between the two stress groups in the variable ($p<0.05$). The research hypothesis confirmed and statistical hypothesis can be rejected on this component verification. In other words, it can be concluded from the results that are expected to significantly progressive muscle relaxation to reduce stress in patients with migraine headaches and generally reduces individual score in stress component. In other words, the experimental group showed a significant reduction in component stress associated with migraine headache.

This study aimed to evaluate the effectiveness of progressive muscle relaxation to reduce symptoms in women with migraine headache. Survey results indicate that patients reporting check list showed that the 86% of patients have learned and implemented the relaxation techniques correctly. As descriptive findings indicate, the two groups (test and witness) in the demographics matched and the results are presented in Table 1. However, before discussing the findings should be noted that 59.09% of the patients in this study were aged 31 to 40 years. Other demographic characteristics of the participants were as follows: 72.72% married, 50% have social security coverage, 31.81% have a history of hospitalization in the last year, 63.63% of the income of the majority of the sample reported fairly average family income. In The type of medication, a majority of 40.90% of the subjects were treated with triptans drugs that 72.71% of patients suffering from moderate to severe pain. More than half of patients with migraine use OTC drugs and patients often after their failure of a non-prescription drugs refer to their doctor. United States Headache Consortium guidelines based on expert consensus provided an overall strategy in this area. The NSAID drugs or analgesics combined with caffeine can be used as first-line therapy for mild to moderate migraine or severe migraine that has already responded to the drugs. First-line treatment of triptans for migraine acute moderate to severe or mild attacks that have not responded to non-prescription drugs are prescribed for patients (Gilmore and Michael, 2011) and significantly aligned the findings. In this study, stress is 59.09 and 40.90% anxiety disorders have the highest prevalence of psychiatric disorders. In other words, stress and anxiety are the most common psychiatric disorders that affecting by Sex and is believed to be associated with tension headaches. In other words, one of the most important influencing factors of the psychological status of patients with migraine headaches is how to cope with the disease and methods of coping with stress and anxiety caused by the disease everyday life. Patty Crowe, Bell and Hunter found that avoidance, cowardice and helplessness and stress in general are the predictors of increased risk of disease recurrence. Li Begley in 2005 showed that the use of emotion-focused strategies stress associated with mental health and more negative consequences (Lee-Baggley and Preece, 2005). Mental stress arising from adversity and the way of dealing with stress have a broad relationship with the emotional and mental health and in some cases express the status of individuals and explain the changes and the ability of individuals and individual satisfaction which is deal with the performance of multiple scenarios of life (Carver *et al*., 2005). Therefore, it is important to express that stress is as a risk factor for the development and recurrence of migraine symptoms. As finding show the difference between the average values of changes in the dimensions of pain and psychiatric symptoms in the experimental and control groups before and after, the results show that the paired t test calculated before and after the intervention in the study demonstrated a statistically significant difference in pain severity, pain, distress, anxiety and stress in the experimental group before and after the presentation of progressive muscle relaxation. Based on these findings we can say that in this study, the technique of progressive muscle relaxation after 8 weeks reduced pain intensity, distress, pain and symptoms of anxiety and stress in patients. However, the frequency of pain attacks and depression before and after the study did not show a significant difference between the two groups. In other words it can be said that for explaining these findings, by relaxation muscles reduces distress, pain, anxiety and stress in patients. These results are consistent with the findings of other studies (Huntley A, Ernst, 2000; Peck, 1997; Davidson, 1987; Lisspers *et al*., 1990 Mizener, 1988). These results are consistent with the findings of other studies. Studies show that the effect of relaxation in the recovery and relieving the symptoms of migraine headache were reported 31-63%. In a quasi-experimental study of relaxation with a 63% improvement in pain intensity, there was frequency and duration of headache (Couch *et al*., 1976). The results of Hel Royed studies in 1985 showed that, 48.7% of relaxation method has been effective in improving the symptoms of migraine headaches (Lehrer and Jurish, 1990). According to research conducted in health centers has been found not only in cases where the diagnosis of migraine but its control is faced with failure and using the relaxation techniques play a decisive role in the diagnosis, treatment and care of people with reduced pain and reduce the costs associated with treatment (Couch *et al*., 1976). Also on the study that Saedi conducted in 1389 in Iran, mental and

behavioral therapy in reducing migraine were studied. Evidence showed that relaxation, including progressive relaxation therapy, biofeedback and imagery has a significant relationship with a decrease in pressure, coping with migraine headache pain and decreasing in all age levels and the effect of it may have preserved for at least one month (Saedi, 2010).

On the other hand, it seemed that feel intense fear, anxiety and stress of patients is more due to the feeling of fear of the continuation of the disorder in life. The belief creates a vicious circle which led to migraine attacks. This vicious circle was vanished by intervention. The findings of this study showed that subjects have anxiety and stress and this finding is consistent with the findings of Sarafino (Sarafino, 1994). The findings showed that this treatment can be used to control anxiety and stress associated with migraine headache. The studies also showed that a large number of health psychology research are the methods that help people to cope with pressure. According to White, Kashima, Beray and York (2000) when people are under pressure to go through different psychological and social skills, try to reduce the pressure (White *et al*., 2000). Henry Guez and his colleagues argue in 2011 that when the skills are easy, accessible and with minimal side effects, the people welcomed them and made them better able to meet the needs and problems of their own life (54). Thus, studies in worldwide have shown that teaching the relaxation muscles to people help them to deal with anxiety and stress. Henry Guez and colleagues showed that the use of relaxation after 4 weeks, in addition to cohesion on the tracks heart rate, decreased anxiety and stress and negative mood in patients (Henriques *et al*., 2011). In general, about the effects of muscle relaxation can be said that this method reduces the physical contraction against tension (Devineni and Blanchard, 2005). In other words, the explanation of these findings can be said that non-pharmacological methods of pain such as muscle relaxation makes more concessions to reduce pain and distress due to pain intensity and frequency of attacks and the reduction of pain, reduction of fear and anxiety and it is tolerable for patients with migraine headache respectively. In this regard, Benzin and colleagues, believe that therapeutic practices, beliefs and expectations of the patient's pain may be discussed and by learning skills in stress management, dealing with pain and more effective ways to deal with problem situations improve a sense of self-pay in patients and by this way it tries to reduce the feel of their inability and not help to improve the negative mood (Holroyd and Penzien, 1990). Also, the benefits of this is to increase the effect of analgesic drugs that reduce the amount of medication.

CONCLUSION

In this study, progressive muscle relaxation method reduced significantly pain, distress, pain, anxiety and stress in women with migraine headache. Thus, this study showed that subjects with migraine headache and had not responded to the drug appropriately can benefit from progressive muscle relaxation therapy. So given that the patient can easily learn and implement the therapy, progressive muscle relaxation method can be used as an independent non-drug therapy or in combination with drug therapy in patients with migraine headache and the indiscrimination use of medications and side effects of these drugs (such as dependence, drug tolerance, drug-induced costs, etc.) can be prevented. Therefore, it is suggested that this technique uses in pain clinics and by medical teams including psychiatrists, psychologists.

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