



---

---

**THE EFFECTS OF MASSAGE THERAPY ON THE MENTAL & PHYSICAL INDEXES  
AMONG WOMEN WITH MIGRAINE**

**<sup>1</sup>SIMIN MOEINALDINI, <sup>2</sup>ROUHOLLAH ARAB MOKHTARI, <sup>3</sup>ALIREZA  
RABIEEZADEH, <sup>4</sup>SEDIGHEH ALIZADEH**

<sup>1</sup>The physical Education & Sports Science Teacher in Ahwaz Education, Ahwaz, Iran

<sup>2</sup>Scientific Panel, Iran Shahr Branch, Islamic Azad University, Iran Shahr, Iran

<sup>3</sup>Persian Gulf University, Faculty Of Humanities, Bushehr 75169, Iran

<sup>4</sup>The physical Education & Sports Science Teacher in IranShahr Education, Iran Shahr, Iran

**\*Corresponding Author: E Mail: [arabmokhtari1359@yahoo.com](mailto:arabmokhtari1359@yahoo.com)**

**ABSTRACT**

Migraine is a kind of headache that caused to make neurological symptoms, autonomic nervous system problems & psychological disorders. This disease is one the most debilitating neurological diseases. Migraine therapy needs to the balance progress that it is included medication & non-drug treatment. The goal of this research is studied on the effects of 14 weeks message on physical & mental indexes among women who suffer from migraine.

**Methodology:** there are 30 persons (20 persons of them was in controlled group & 10 persons in tested group) among women with classic & current migraine that matched & selected them by Headache International Society (HIS) by complaining headache to central clinic of headache in Ahwaz & randomly placed in the two groups; controlled group (15 persons) & tested group (15 persons). They don't have any limitation in term of age, after one session of introducing the paints with goals of program; take them written consent to participate in research. The massage therapy was done in the 3 sessions in a week; each session was 45 minutes in 2 months. The level of self-sufficiency against pain & the patients' life quality were evaluated after & before of massage therapy by pain self-sufficiency scale & HIT-6 (Headache impact test-6) questionnaire. The data was used variance analysis for repetitive data. The p-value is considered as  $P \leq 0.05$ .

**Findings:** there was significant change between anxiety & life quality variables & other variables although showed improvement but didn't have any significant changes.

**Conclusion:** the program & planning of massage therapy can be effective for mental & physical dimensions. This non-invasive, low cost complementary to medical intervention can be considered & used & supported by centers of migraine patients.

**Keywords:** Massage therapy, migraine

## INTRODUCTION

The migraine word is derived from Greek that means half skull or half head (3). Migraine is a kind of headache that caused to make neurological symptoms, autonomic nervous system problems & psychological disorders (1). This disease is one the most debilitating neurological diseases (2). The amount of spread of migraine was 5-10 percents in men (in the world) & 15 percents among women (1). The migraine usually begins in the second or third decade of life (1). Although the effects of prophylactic drugs increase, non-drug treatment has most important effects in effective treatment & migraine society (5). The migraine therapy needs balance progress that that it is included medication & non-drug treatment (2).

Today one of the attractive discussions was specified the patients' massage & touch methods (3). Massage means as conscious manipulation of soft tissues (muscle, fat, connective tissue & skin) for therapeutic purposes & also enhanced scientific evidence on the health benefits of massage (1),

whereas, the researches, which they are about migraine treatment & relative disease such as stress, are limited but there are group of evidences that they are based on effects of massage physiological on migraine. For example massage affects on the different stress indexes & causes to change sympathetic activity to the parasympathetic activity & by creating the realisation causes to decrease the dependent status to stress such as; motivation. The findings showed that the decreasing physiological reaction to stress (that the beginner of migraine attacks. Also the message can control the migraine by affect on pain. Muscle tension causes anemia, resistance tensile & pain in receptors, which results in increased stiffness & pain is localized. Massage causes to reduce the muscle tensions by skin reduction adhesion, fibrosis & increase blood & lymph flow also massage helps to improve the sleep quality (9). Massage is considered as the method of behavioural techniques (5). Self motivation and planning based on the potential of these

patients is important. One of the interventions that are considered can be responsible this role is massage as therapy. There were few researches in about massage & it therapy effects on patients that showed the positive effects on mental & physical dimensions of them. So the goal of this recent research is the effects of doing 8 weeks message therapy on migraine patients.

### **Self-sufficiency in the face of pain**

Self-sufficiency in the face of pain means as creating the coping responses, positive and active efforts for prevent & management the pain & increasing the tolerance in the face of pain. Also it is related to the feeling of effectiveness & ability in doing some everyday life despite of pain & persons' attitudes than self (25).

### **Life quality**

Although there is not exact definition in about life quality, but it seems as the groups of physical, practical, social & mental aspects, which they must be considered in life quality evaluation (26).

### **Massage effects & benefits**

Massage has been undoubtedly demonstrated a useful and important modality in treatment (54). So there is not any demonstration (for therapists) in accurate methods that massage can create physiological changes & how them can be resisted damage & also

improvement the healthy & enhanced the sport activities (54 & 55). During the 50 years, there are spread studies in about the effects of massage that their results were ambiguous, un-clear & contradictory (54 & 55). Some of theories in about the massage therapy are supported (53 & 54). Part of the problem is that most of authors & researchers pointed to the last researches in 1940 & 1950 decades. Not only are some of these kinds of investigations not efficient for proof or rejection the theories of massage therapy, but also technology already makes questionable authenticity of such investigations (56). Other problem is that proofing the findings of an investigation to other ones, is so difficult. This case is because of used spread techniques domain of massage & also the differences during of times & schedule of massages in related to types of activity (54 & 55).

Abu-Salameh, et al (2014) studied on the effects of fast on migraine & found that it caused to intensification migraine & patients need to the recommendations in about decreasing the water of body & take the caffeine in this month (62).

Albert & Colin (2012) surveyed on the level of effects of massage therapy on mental index on persons with tension headache. In that research measured the patients' mental

indexes in three weeks massage by using Beck Depression Inventory, anxiety inventory & understanding stress. The period time of research was three weeks. The results showed that the significant changes in indexes after 6 weeks (63).

Iwazasky (2009) did a testing research for surveying on the effects of massage on the level of stress & fatigue among mothers who cared of children admitted to the hospital & reported that their worried in their children's healthy were too high & these caused to tensions & fatigue. Following to massage to decrease mothers' worried & stress that it was justified their fatigue (64).

Dittrich, et al (2008) studied on the effects of aerobic exercises on headache & psychological variables on migraine patients. This intervention can decrease the intense of migraine significantly. Also decrease the depression (65)

Nestoriue, et al (2008) evaluated the evidences of effectiveness of biofeedback on two common types of migraine headaches & tension headaches. The results showed the average to high effects for biofeedback in elders with migraine & tension headache. The effects of treatment in 14 months were stable. The frequency headache was variable that showed the highest improvement. Other significant effects were in about efficiency,

the sings of anxiety, depression & using drugs. Biofeedback was more effective than lists of controlled group while biofeedback was significant effects for tension headache than medication and therapy relaxation (66).

More than 90 studies were done on the effects of massage therapy in medical & practical status in different ages in Miami Massage Research Center University. Improve growth in preterm infants, reduce pain, decrease the production of harmful antibodies & increase lung function in asthma & increases glucose in diabetic, increase immune function, increasing knowledge and practice, many of these effects that showed indirectly relation by reducing stress hormone (50). The documents review shows that despite increasing demands on complementary & alternative therapies such as massage therapy in patients with migraine, the lack of these studies is evident both inside & outside the country.

Hamedanizadeh, et al (2007) did a study "the effects Orem self-care program on headache indexes in migraine patients" & the results showed that there was significant reduction in headache indexes; intense of attacks, the number of attack, the duration & time of attacks (57).

Agha Mohammadian, et al (2007) surveyed on the effects of muscle relaxation and cognitive released under alert hypnosis case in six women with common migraine. The findings showed that therapy methods just could decrease the frequency, duration of attacks & distress of migraine, significantly. The most reduction intense of distress was reported due to pain. Also the level of depression & anxiety with headache reduced among all of subjects (58).

SajadiNejhad, et al (2008) researched on the effects of groups of cognitive-behavioral therapy & the feeling disability due to headache among migraine patients & the results showed that cognitive-behavioral therapy group caused to decreasing disability due to headache & depression (21).

Kermanshahi, et al (2009) did semi-experienced study in comparison the intensity & duration of headache among acupressure & placebo groups after intervention. The results showed that there was no significant difference among the mean of headache intense & duration in placebo & acupressure groups.

## **METHOD**

The recent research is semi-experienced. This research is practical regarding to the time duration in type of cross-section & in term of using obtained results. The

population included all women suffered from migraine in headache center in Ahwaz , the sample volume included women with classic && current migraine that matched & selected them by Headache International Society (HIS) by complaining headache to central clinic of headache in Ahwaz & randomly placed in the two groups; controlled group (15 persons) & tested group (15 persons). For data collecting was used questionnaire for patients.

Obtained data was used deductive statistic & variance analysis methods with repeated measurement for surveying the different among means in dual groups in before & after doing research. All statistic analysis was done by spss 21 software, the p-value is considered as  $P \leq 0.05$ .

## **FINDINGS & RESULTS OF RESEARCH**

The results of descriptive surveying of demographics data of subjects was in table (1). The statistics are reported for each variables; mean, standard deviation, median & the criteria of descriptive data are; A) homology between mean & median B) place the domain of changes in 4 to 6 times more than standard deviation C) less than 2 times the standard error of the tilt and strain, D) the reasonableness of the size of the minimum and maximum scores. Regarding to above criteria, there is no basic problems in data

distribution of data & their nature are demonstrated. Moreover, the characteristics of demographic of experienced & controlled groups are compared each other by dependent t-table in table (1). So, in at all, can be considered two groups of witness & controlled in terms of homogeneity demography because the p-value of demographic characteristics is obtained more than 0.05.

**Self-sufficiency changes against pain**

Eight weeks massage therapy affects on the self-sufficiency against pain in migraine patients.

Table (2) showed the results of subjects' intra-group effects of statistic analysis. The first row of table 2 shows that when the results of groups' average in pre-test

compared with post-test, the differences are significant F (P=0.005, 1). Table (2) showed that intra-group interaction changes (line slope changes) is not significant F (1 & 28) & p=0.109). In the other words, when the scores changes of each group is considered as categorized data, the p-value is not increased & cannot considered intra-groups' changes difference significantly.

Table (3) showed that the differences between different groups is significant during two testing times F (1 & 28) p=0.000). Note that in the analysis of variance for repeated measures, among a group of pre and post-test to compare the mean will be taken.

**Table (1): total statistic data related to subjects' demographic characteristics**

	group	Mean +/- SD	Median	Max-Min	Tilt +/-SE	Strain +/- SE	t	p-value
Age (years)	Experienced	34.6+/- 8.65	35.5	22-56	0.8836+/- 0.59	1.54+/-2.07	-0.45	0.66
	Controlled	36.6+/- 11.64	36.5	22-57	0.449+/- 0.68	-0.47+/- 1.33		
Duration of disease	Experienced	7.48+/- 5.14	5.5	2-21	1.595+/- 0.59	2.795+/- 1.15	-0.13	0.89
	Controlled	7.70+/- 4.67	7.5	1-13	-0.189+/- 0.68	-1.334+/- 1.34		

SD= Standard Deviation, SE= Standard Error, Max=Maximum, Min=Minimum

**Table (2): The effects of intra-group analysis by establishing sphericity condition in self-sufficiency variable against pain**

Resource	Total squares	Freedom rate	Mean of squares	F	P-value
Testing time	895.438	1	895.438	9.561	0.005
Interaction of testing time	331.771	1	331.771	2.786	0.109
Error	2830.229	28	93.192		

**Table (3): Hypothesis testing the effect of changes between groups in self-sufficiency in the face of pain**

	Total squares	Freedom rate	Mean of squares	F	P-value
Rupture place	45718.867	1	5718.867	197.808	0.000
Group	340.200	1	440.200	1.472	0.238
Error	5084.229	28	331.127		

**Life quality changes**

In this part surveyed on hypothesis that whether eight weeks massage therapy affect on the migraine patients' life quality changes. Table (4) shows the results of static analysis effects of subjects' intra-group. The first row in table (4) shows that group scores average

are compared in pre & post test & the differences are significant  $F(1&28) p=0.00$ . Table (5) showed that there are significant differences in intra-groups during the testing times  $F(1&28) p=0.000$ . Note that in the analysis of variance for repeated measures, for comparison was taken mean of pre-test & post-test between groups.

Table (4): Analysis of the effects of intra-group set up sphericity condition in life quality variable

Resource	Total squares	Freedom rate	Mean of squares	F	P-value
Testing time	862.682	1	862.682	325.17	0.00
Interaction of testing time in groups	763.220	1	863.220	669.5	0.028
Error	05.872	28	739.39		

Table (5): Hypothesis testing the effect of changes between groups in quality of life

	Total squares	Freedom rate	Mean of squares	F	P-value
Rupture place	1679800.001	1	167980	1712.907	0.000
Group	380.001	1	380.001	3.875	0.062
Error	98.067	28	98.067		

**DISCUSSION & CONCLUSION**

**There is significant difference between two groups' life quality before & after therapy intervention.**

According to the findings of this research is significant in life quality after & before massage therapy among experienced-group. They are same as findings in some researches such as; John, et al (2008), cranial therapy for migraines, Emma, et al (2009), the study on the effect of cycling on migraines & Strejen, et al (2009), the effects of massage therapy on cancer patients' life quality & Sang, et al (2009), the preventive effect of acupuncture on quality of life

inmigraine patients without aura. Yeganehkhah, et al (2007) surveyed on 102 persons in two groups intervention & controlled groups randomly. For data collection was used demographic characteristic forms & Spielberg questionnaire. Intervention research sick (M. S. B. S) on 5 consecutive days for 5 minutes. Anxiety scores showed significant differences between the two nodes. Because of pain chronic disease in migraine patients, different aspects of patients' life are influenced & the overall life quality will be decline. In at all, caused to the patient feel negative sufficiency, cognitive errors are

formed in person & create the negative ability in person.

The following are the main reasons for improving the life quality in migraine patients can be considered:

- 1- Come out the home & come in the happy place that caused to the patients don't believe the feel of sick
- 2- Having communication with others caused to improvement patients' social function (doing group activity)
- 3- Achieving to relative mental calm that are the consequences of massage therapy & finally, decreasing fatigue can be effective in subjects' life improvement.

**There is significant difference between self-sufficiency in the face of pain among two groups before & after of therapy intervention**

The amount of self-sufficiency in the face of pain don't show any significant changes among experienced group, before & after of massage therapy. In the migraine patients with pain intensified, the patients' control will decrease & her self-sufficiency than pain controlled believes will be damage too more. Her self-concept and self-esteem still weak, and this created a negative mood & increased anxiety. Regarding to the most of researches in about massage therapy was in headache

indexes improvement which included frequency & numbers of migraine attacks also can be resulted that massage therapy caused to improve her control & then caused to increase the self-sufficiency in the face of pain.

**CONCLUSION**

Regarding to the results of recent research seems that participate in massage therapy & relaxation sessions to improvement patients' mental & physical status can be considered as a complementary treatment to reduce complications in migraine patients.

**REFERENCES**

- 1- Akbayark T, Citak I et al(2001). Manual therapy and pain change in patients with migraine - an open pilot Study. *Advances in Physiotherapy*. 3: 49-54.
- 2- Ravishankar K.(2010). Migraine – The new understanding. *Suplement of JAPI*.58: 30-33
- 3- Jahandideh, H (2010), everything about migraine, *new journal medicine*, 300 No 15, 474, June
- 4- Farnam, A, Arfae, A, ShafieKandjani, A, et al (2008), surveying on the relation between depression & feeling pain in patients with migraine
- 5- Lawler SH, Cameron L (2006). A Randomized, Controlled Trial of

- Massage Therapy as a Treatment for Migraine. *Ann Behav Med.* 32(1): 50-59
- 6-** SajadiNejhd, M, Mohammadi, N, Taghavi, M, Ashjaezadeh, N (2008), the effects of therapy group of migraine & tension headache patients, *Clinical Psychiatry & Psychology*, No 3, Course 2
- 7-** Afshar, H, Masaeli, N, ShayeganNejhad, et al (2007), study on migraine score & comparison with witness group, *ArmaghanDanesh*, Course 12, No 4. 9-16
- 8-** Nikolas MK (2006).the pain self-efficiency questionnaire: Taking pain into account. *Eur J Pain* .11(2)153-63..
- 9-** Rampello A, Franceschini M et al(2007). Effect of aerobic training on walking capacity and maximal exercise tolerance in patients with multiple sclerosis: A Randomized Crossover Controlled Study. *Physical Therapy*; 87:545-555.
- 10-** Wilmshurst M, Morrison L, Walsh, K.(2006).Relation of atria shunts to migraine in patients with ischemic stroke and peripherialemboli. *Am J. card..*,98(6):831-833.
- 11-** NahavandiNejhad, S (2006), train thescientific methods of massage therapy, Faculty of Rehabilitation Sciences, Isfahan University of Medical Sciences.
- 12-** Archer P(2007). Therapeutic massage in athletics. *Lippincott Williams & Wilkins Publication.*
- 13-** Olsen A.S (2009). A review of complementary and alternative medicine(CAM) by people with multiple sclerosis. *Occup. Ther. Int.* 16(1): 57-70.
- 14-** Hamedani, F, MahmudzadehZarandi, F, Ebadi, et al (2010). The effects of Orem self-care program on headache indexes among migraine patients, *Kosar journal medicine*, course 5, No 7, P 155-161
- 15-** Agha Mohammadian, H, Kamal, Shabandi, H (2007), the effects of muscle relaxation & cognitive reconstruction under hypnotist on women with migraine single case, *Iranian Journal of Psychiatry and Psychology*, No 2, P 182-188
- 16-** Kemanshahi, S, Sadrizadeh, Nafisi, Sh (2009), the effect of acupressure to relieve migraine headache. *Journal of Medical Sciences*, 13<sup>th</sup> year, No 4, 290-298

- 
- 17- Abu-Salameh I, Plakht Y, Ifergane G (2014). Migraine exacerbation during Ramada fasting. *Journal of headache and pain*. 11(6): 513-17
- 18- Morask A, Chandler K. (2012). Changes in psychological Parameters in Patients with Tension-Type Headache following massage therapy: A PILOT STUDY. *Manipulation Therapy* 11 (2):86-94.
- 19- Putzki N, et al (2009). Quality of life in 1000 patients with early relapsing-remitting multiple sclerosis; *Journal of Neurology* 16(6):713-20.
- 20- Dittrich, SM, Guanter, V, Franz T G et al. (2008). Aerobic exercise with relaxation influence on pain and psychological well-being in female migraine patients. *Clinical journal of sport medicine*. 18,363-67.
- 21- Nestoriuc, Y, Martin, A, Reif, W (2008). Biofeedback treatment for headache disorder: A comprehensive efficacy review. *Applied psychophysiology and biofeedback*, 33,125-140.
- 22- Dittrich, SM, Guanter, V, Franz T G, Bartscher, M, Holzner, B & Koop, M. (2008). Aerobic exercise with relaxation influence on pain and psychological well-being in female migraine patients. *Clinical journal of sport medicine*. 18,363-67.