

**COMPARISON OF THE EFFECTS OF REFLEXOLOGIC MASSAGE WITH STROKE MASSAGE ON ANXIETY IN PATIENTS WITH MYOCARDIAL INFARCTION**

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**Abstract**

**Background:** Today, the use of complementary medicine alongside other treatments for relaxation and balancing Hemodynamic of cardiac patients is emphasized. So this study was to compare the effects of reflexologic massage and strokes massage on anxiety in patients with acute myocardial infarction.

**Methods:** This clinical trial was done on 105 patients who were randomly selected purposively on three groups, stroke massage, reflexology massage group and control group. In the intervention groups each patient massaged in the morning and evening for 15 minutes a day, each time. In the control group other than routine care and measure of anxiety we do not massage them. In the intervention group before the massage anxiety in morning and evening Twenty minutes after the Massage, measured by Spiel Berger Anxiety questionnaire.

**Findings:** In intervention group between reflexology and stroke the anxiety was reduced with ( $P < 0.005$ ). Stroke massage reduces anxiety more than reflexive massage. In control group there are no significant differences in anxiety in morning and evening.

**Conclusion:** According to the results, strokes massage more effective than reflexology massage in reducing anxiety. So use it to reduce the anxiety of the patients in critical care wards recommended.

**Keywords:** Stroke massage, reflexology massage, anxiety, complementary therapies

**Introduction:**

Coronary artery disease is the leading cause of death in industrialized countries, which leads to significant disability and loss of productivity (1). The number of patients with coronary artery disease and mortality in Iran Like other industrialized countries, still have increasing trend, And from 46/1% in

1375 to 58% reached in 1385 (2). The incidence of coronary artery disease in every one hundred thousand is 181.4 people (3). Myocardial infarction is a major complication of coronary artery disease Due to high rates of mortality, subsequent Complications like, psychological problems and negative effects on quality of life

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particularly considered (4). Various factors such as disease and stress and stressful environments are capable to Change physiological parameters (5). In the medical world one of the most interactions between mental status and body is related to cardiovascular disease. Heart disease has a two-way communication with the push of a person's emotional, psychiatric, and psychological status (6). The cardiovascular system is sensitive systems of the body that environmental changes and different emotions such as stress, anxiety, fear, anger and happiness immediately cause changes in heart rate and its blood pressure (2). The incidence of depression and anxiety symptoms after myocardial infarction is a common psychological problem and has the negative impact on the prognosis of the disease (5 and 6). In addition, at the other hand it is as an obstacle to any efforts to improve lifestyle and enhancing quality of life (7). In a study was done on a small sample showed that, the risk of development of ischemic tissue and recurrent stroke, and ventricular tachycardia and ventricular fibrillation during hospitalization in Myocardial infarction patients with high anxiety are 4.9 times higher than patients who had lower anxiety. Now massage in many countries, the main part of the health care system is considered. Moreover, special massage therapists to work alongside doctors are busy treating patients. 83% of doctors in Western societies agree with massage as a complementary therapy. So much of them refer 71% of patients to massage professionals (9 and 10). Reflexology and stroke massage are simple and non-invasive methods that can be considered part of nursing care in intensive care units. Moreover, due to pain relief, relaxation and reduce anxiety development (11 and 12). One of the main challenges of these measures are set to enter the nursing profession, is doubts about the effectiveness

of complementary medicine among the medical community (13). In a study Razmjou et al (1390) with the aim of “the effect of reflexology on pain and anxiety in women after elective cesarean” and Gunnar Sedutier et al (2005). In order to “determine the effect of reflexology on reducing anxiety in patients undergoing coronary artery bypass graft surgery” reflexology had no effect on reducing anxiety. Teeran Emphasizes to conduct more clinical trials in the field of reflexology (14). The results of various studies on the relationship between reflexology and massage stroke contradictions could be seen. Therefore we evaluate the effect of reflexive massage in comparison to stroke massage on myocardial infarction patients.

#### **Materials and methods:**

This study is a quasi-experimental study with numbers (201302024519N4) Center clinical trial has been registered in Iran. To determine the sample size based on similar studies (9) and the formula for determining the sample size for the comparison before and after, number of samples 105 person and for each group 35 person determined. That 35 person in reflexology massage, 35 in massage strokes and 35 person In the control group. Samples were from patients hospitalized to CCU Imam Ali (AS) and Imam Reza (AS) hospitals in Kermanshah. Inclusion criteria included myocardial infarction, full consciousness, ability to communicate, lack of fractures, wounds and skin problems on-site massage. In the absence of disease or a condition of entry or refusal to accompany him to continue the work, died or release samples excluded from the study. Data collection tools include Spielberger Anxiety Questionnaire and demographic characteristics check list. Spielberger anxiety questionnaire has two scales State and trait anxiety, which in this study, scale was used to measure anxiety. Each anxiety questionnaire consists of twenty

questions. The lowest score was twenty, which means, there is no anxiety, maximum score was eighty. The validity of the Anxiety was measured in little sample and in terms of reliability, internal consistency instrument was used, to measure it alpha test was used (Krum Bach) which was equal to 0.81 (2). After obtaining permission from the authorities, research hospitals and patients and explain the procedure to them and fill out the consent form for patients, the patients were randomly divided into three groups. In the first group massage strokes was done for 11 minutes in the morning (9-11 AM) and afternoon (17 - 19PM) and the second group reflexology massage for 11 minutes in the morning (9 – 11 AM) and evening (17 - 19 PM) were performed. In the third group, except for routine care, the anxiety questionnaire used. Anxiety before the massage in the morning and twenty minutes after massage in evening measured. In the control group anxiety questionnaire was used same as other groups. The method was as stroke massage, hands warm olive oil, and the man was sitting positions. The masseur was behind the patient, and the put District of his/her palms and fingers to the patients occiput, One hand, to the lower body, parallel to the backbone, with low pressure and move the surface to reach the sacral area. The secondhand, was similarly moved, and the first hand returns to the starting point. And this trend continued during the massage. In reflexology, a reflection of the heart is in the chest of legs and bottom of the fourth finger of the left foot. With the right hand bend the toes, place thumb of left hand under the soft soles of the feet, straight down the leg fourth finger, Thumb in a circular motion, pressing gently reflection point for seven times. The patient was told to set up his/her breathing and inspirates when masseur pushes reflection point and expirates when the pressure cuts. Ethical principles was

observed in this study all patients in the study continued treatment for routine medical myocardial infarction and In addition to their usual treatment was performed massage therapy intervention Patient privacy during massage or Paravan with drawn curtains around patient. The collected data analyzed byspss (version 17). Paired t-test used to compare the mean anxiety score before and after the intervention. In each group, and absolute t-test to compare the mean anxiety among two groups to compare three groups of test (ANOVA) and  $\chi^2$ -test was used to compare qualitative characteristics groups. In all tests the significance level of 5% was considered.

### Findings:

105 patients with myocardial infarction were studied ( $60.20 \pm 12.07$ ). 70 patients (66.7%) in the intervention group and 35 person (33.3%) were in the control group. 66 people (62.9%) the samples were male and 39 person (37.1%) were female. 103 person from the samples married and 2 was single (1.9%). Significant differences have not been seen between marital status, place of birth, occupation, and education level, type of heart attack and history of smoking. It means that the three groups did not differ in terms of these variables. The results also showed the mean age, income, number of hospitalization days, number of cigarettes smoked per day. Samples and mean anxiety before the study did not show significant differences among the three groups. This means that the three groups were similar. In stroke massage we saw the significant difference between before and after massage with ( $P = 0.001$ ) and anxiety score from  $47.228 \pm 9.34$  reached the  $41.2 \pm 10.75$ . In reflexive massage we saw significant differences before and after massage in-group with ( $P = 0.046$ ). And anxiety scored reached from  $46.242 \pm 12.61$  to  $42.685 \pm 12.04$ . In the third Group there are no significant differences in morning and the

evening (Table1). In comparing the three groups, massage strokes cause of Further lowering the level of anxiety in the patient.

### Discussion:

In this study, the effect of reflexology and massage strokes on the Anxiety assessed in patients with myocardial infarction. The results of this study showed that most samples contained Moderate and moderate to high anxiety and none of them had severe anxiety. The results of this study show that stroke massage caused a significant reduction in anxiety scores. Other researchers also have found similar results in their research like Jozi et al as the effect of massage therapy of 50 patients with stroke admitted to the neurology ward and Mental ward Shariati Hospital (1388). The results were indicating positive effects of massage on decreasing anxiety level However; this difference was not statistically significant (9). Jozi uses Standard Cattell questionnaires to measure anxiety Patients in the study as a standard questionnaire, in our study we use

Spielberger anxiety questionnaire. Bazrafshan study et al (1389) the impact of slow stroke back massages on anxiety in pregnant women Nulliparous showed that Anxiety were significantly reduced after the massage strokes (17). The results of this study show that foot reflexology resulted insignificant differences in anxiety scores in patients with heart attack ( $p=0.046$ ). Mac Veykar and his colleagues study entitled "Evaluation of anxiety for reflexology" indicate that after reflexology participants, significantly reduce the anxiety of their situation but the anxiety personality has not changed (18). In another study by Quattrin and colleagues was conducted on patients undergoing chemotherapy, 11 patients in the intervention group (70 minutes) Foot reflexologic massage received And 11 patients in the control group received usual care. The results showed that the level of anxiety in the massage group compared with the control group has been significantly reduced (19).

**Table1.Meananxietyin experimental groups**

Group	Time interval		P value
	Before massage	After massage	
<i>Reflexive massage</i>	46/242±12/61	42/685±12/04	<b>0.046</b>
<i>Stroke massage</i>	47/228±9/34	41/20±10/57	<b>0.001</b>
<i>Control</i>	morning	45±1/97	<b>0.219</b>
	evening	46/40±2/28	

In a study Konikata et al (2010) measuring the effects of hand massage on Autonomic activity indices and psychological impact by doing 20 minutes of reflexology hands on 16 healthy women studied. In this study, blood pressure, pulse, salivary alpha amylase (sympathetic nerve activity) parasympathetic activity index and anxiety were measured before and after the massage.

The results showed a significant increase in parasympathetic activity index significant reduction in heart rate and anxiety observed (20). In this study, the participants stated that the positive effect of massage has continued three days later, while in the present study examined the effects of massage are not shelf life. Haji Hosseini as saying Remington suggests that massage the

nerve impulse initiated by the release of stress hormones mitigate and reduce sympathetic nerve activity, thus lowering blood pressure. Based on results of this study, the effect of reflexology on anxiety was higher in woman than in mans. In addition, in both sexes in the age group (56-65), this effect was more. The effect of massage and stroke in women in the age group (45-55) has been more evident. Thus resulting in myocardial infarction patients can reduce stress, relaxation and sensory stimulation appropriate to reduce vital signs are evident. The literature review study compared the effects of reflexology and massage strokes are not found together.

### Conclusion:

The results showed that stroke massage and reflexology are reducing anxiety in patients with myocardial infarction but the effectiveness of reflexology massage stroke is greater in reducing anxiety. Therefore, this massage is recommended in patients with heart disease. The study had limitations. Differences in terms of cultural, social, economic, and family relations existed between patients, which may affect the results. The psychological state of patients was different personal characteristics. Although it was tried by a single individual massage (physiotherapy) to be instructed colleagues on somewhat design techniques to reduce the effect of differences in implementation. However, since the technique was performed by a few colleagues together some differences of course in massage technique that may be affected as a result of the study and all these things were out of control of the researcher. It was suggested that the effect of other types of massage treatment of Hypertension, Oxygen saturation, pulse, respiration, temperature and anxiety in patients with other diseases, as well as the remaining duration shall be investigated in future research.

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