

# Efficacy of Eye Movements Desensitization and Reprocessing on the Quality of Life of the Patients with Myocardial Infarction

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Received: January 1, 2016 Accepted: January 24, 2016 Online Published: February 24, 2016

doi:10.5539/gjhs.v8n10p112

URL: <http://dx.doi.org/10.5539/gjhs.v8n10p112>

## Abstract

Myocardial infarction causes limitations in the physical activity and perturbation of quality of life. The aim of this study was to evaluate the effect of eye movements desensitization and reprocessing (EMDR) on the quality of life of these patients. This study was conducted in two groups as the before and after while the effect of eye movements desensitization and reprocessing on the quality of life of the patients with Myocardial infarction. Sampling was done based on the purposive sampling. Patients were randomly divided into two experimental and control groups (30 patients in each group). Samples were assigned through randomized allocation. In the experimental group, the EMDR method was carried out on the patients in five 90-minute sessions over a two week period. In the control group no intervention was received. Data of Quality of life, pre-treatment, post-treatment were analyzed using SPSS. The results showed that the quality of life increase in all its dimensions of the experimental group, after performing the EMDR therapy significantly ( $P=0.001$ ). Treatment what has already been stated, was effective on the quality of life in patients. Treatment team members can use this method as an effective intervention in order to improve the quality of life of their patients.

**Keywords:** quality of life, eye movement desensitization and reprocessing, MI

## 1. Introduction

Coronary heart disease is the main reason for death and disability in all societies. More than 17.6 million people in the United States have coronary heart disease, of which between 8.5 million and 10.2 million people have angina and myocardial infarction (Lloyd-Jones et al., 2010).

Cardiovascular diseases are also the first and most common cause of death in all ages and in both sexes in Iran, especially coronary artery disease, so that among the total daily 700 to 800 deaths, 317 cases occur because of the heart disease (Niakan et al., 2013; Tabei et al., 2014), while these diseases cause 40% of deaths (Liu et al., 2003). Today, due to the increased incidence of heart failure and its complications in the functional, physical, role playing, emotional well-being, and sleep disturbances in patients, another more important issue is how to spend the life after a heart attack that is another word the quality of life for this group of patients with cardiovascular diseases that it is considered more than quantity (Ahmadi et al., 2004).

The World Health Organization defines the quality of life as; people perceptions of their living situation, which is affected by the culture and value systems, in which they live. Accordingly, the goals, expectations, standards and wishes of individuals are largely influenced by the physical, mental state, the social independence and their

beliefs (Davidson et al., 2001).

The emergence of new supportive treatments to control the MI increases the number of patients who survive after a heart attack. Physicians consider the physical aspects of the disease in the acute phase while patients need not only survive but the quality of life is equally important. Complex of physical, social, and mental disabilities form the quality of life of the patients.

Myocardial infarction limits the physical activities and impairs the quality of life. In recent years researchers have considered the important role the quality of life on the treatment and care for patients with myocardial infarction (Beyranvand et al., 2011; Minkle Gulati et al., 2013; Yusuf et al., 2014).

Johansson et al. (2006) found that patients with heart failure had a lower quality of life compared to the patients with other chronic diseases such as chronic obstructive pulmonary disease, arthritis, unstable angina (Johansson et al., 2006).

EMRD is a method in which the therapist asks the patient to recall the disturbing memories in a regular program while he/she moves his/her eyes; therefore the arousal level decreases and the thoughts are organized once more. This therapeutic method has been used for different populations such as children, couples, victims of sexual assault, anxiety disorders, depression, learning disorders (Behnamoghdam et al., 2015).

Today, the quality of life is used as an important indicator of studying the impact of interventions on the various diseases. Because of the importance and influence of the physical, mental health and social well-being, chronic diseases, the concept of quality of life is particularly important for nurses (Andersson et al., 2002). This study aimed to investigate the effect of eye movement desensitization and reprocessing (EMDR) method on the quality of life in patients with acute myocardial infarction.

## 2. Material and Methods

The present study is as semi experimental research which was carried out in two groups of before and after treatment and the effect of eye movement desensitization and reprocessing (EMDR) on the quality of life of patients with myocardial infarction was assessed. In this research, 60 patients with MI were selected purposively. The patients were randomly assigned to two experimental and control groups (30 patients in each group). Samples were assigned randomly. Myocardial infarction was diagnosed by a physician; as well as the patient's hemodynamic stability, literacy, aged between 30 and 70 years without mental illness and spent at least four months after a heart attack were considered as inclusion criteria while the lack of tolerance for EMDR treatment and lack of cooperation with the therapists were also considered as the exclusion criteria. Data was collected after obtaining the written informed consent from the subjects and the official permission from the authorities. There was no obligation for the subjects to participate in the study and they were assured that all the information about them will be completely confidential.

In the experimental group intervention was started after introduction and explanation of the objectives of the research and also descriptions about EMDR method. Patients of the experimental group were individually treated in five 90-minute sessions over a two-week intervention with EMDR method. The patients completed Mc New quality of life questionnaire before and after the intervention. Every session, Mc New questionnaire was filled out before intervention. After performing EMDR therapeutic method during 90 minutes, the above questionnaire was filled out by the patients again.

In the control group, patients did not receive any special treatment by the investigator and the samples of control group had received routine care. They only completed the quality of life questionnaire in the first session and the end of the fifth session.

In order to collect data, demographic data and the Mc New quality of life questionnaires were used. The quality of life questionnaire contained 27 questions in the various physical and mental and psychosocial aspects in the patients with myocardial infarction which was the translation of Mc New quality of life questionnaire and all seven option questions were designed. The validity and reliability of the questionnaire in Persian and English language had previously been confirmed. AsadiLari achieved the reliability of the questionnaire 95% (Asadi-Lari et al., 2003). Options were calculated with a score from 1 to 7 based on the lowest and highest scores. Larry Liberty and colleagues (2003) calculated its reliability as 95 percent (Johansson et al., 2006).

After the research stages and completion of the data collection tools, SPSS18 software was used in order to analyze the data. In order to describe demographic variables and comparing data, Chi square Test (for investigating demographic characteristics of the samples), paired t-test and t-test were used.

### 3. Results

The mean age of subjects was  $50.97 \pm 8.25$  that was in the age range of 35-70 years. 50 subjects (83.3%) were men and 10 (16.7%) were women. In terms of the marital status, 58 (96.7%) of the subjects were married while the spouses of 2 patients (3.3%) were dead. The educational status of 30 patients (50%) was high school, 19 patients (31.7%) had diploma, 6 patients (10%) had associate degree and 5 (8.3%) of them had bachelor or higher degrees.

The data related to age of patients was analyzed using the chi-square test and showed that there was no statistically significant difference between the two groups ( $P > 0.05$ ).

The results of this research showed that the two groups in terms of demographic characteristics such as gender, education, marital status had no significant difference and were homogeneous using the chi-square test.

Table 1. Comparison of the dimensions of the quality of life in the experimental group and the control group before and after the intervention

Studied group	Variable	Before intervention	After intervention	Significance level
		Mean± SD	Mean± SD	
The experimental group	Quality of life in the physical domain	56.56±6.79	60.60±6.58	P=0.001
	Quality of life in the psychological dimension	60.83±3.29	71.83±4.42	P=0.001
	Quality of life in the social dimension	60.06±7.26	63.40±7.22	P=0.001
	Total Quality of life	177.45±28.59	195.83±27.42	P=0.001
The control group	Quality of life in the physical domain	56.13±6.32	56.60±6.27	P=0.075
	Quality of life in the psychological dimension	60.03±3.48	59.43±3.21	P=0.056
	Quality of life in the social dimension	59.10±7.74	56.00±12.82	P=0.148
	Total Quality of life	175.26±15.36	172.03±20.24	P=0.242

### 4. Discussion

Data of the Table 1 shows that the quality of life in the patients with myocardial infarction had increased in the experimental group, in all aspects after the implementation of the five sessions and this increase was statistically significant difference in the physical, psychological, social and total quality of life ( $P=0.001$ ). It can be achieved that EMDR method improved the quality of life of patients with myocardial infarction in the experimental group.

The above table also reveals that there was no significant difference in the quality of life in the physical, psychological, social and total pre- and post-intervention in the control group.

The results of the present research showed that the overall mean of the quality of life in the experimental group was increase compared with the control group significantly, and the patients' quality of life was better. On the other hand, the quality of life of the patients in the control group over time not only had no improvement, but also their quality of life had declined. It can be due to the significant difference in the quality of life and its dimensions in the experimental group and the effectiveness of the EMDR technique.

Rabona et al. (2006) studied the effect of EMDR treatment on the PTSD symptoms, such as sleep disorders, anxiety and poor quality of life in Brazil. The aim of the study was to determine whether EMDR treatment can improve symptoms of PTSD such as sleep disorders, anxiety and poor quality of life or not. Overall, results showed that EMDR therapy reduced the anxiety, fatigue, stress symptoms, and improves the quality of life, the quality of sleep and general well-being (Raboni et al., 2006).

Ruy and colleagues (2005) evaluated the effect of cognitive-behavioral treatment on the anxiety disorders and medication compared to the medication only, in 232 patients in two groups, while the results showed that combined treatment (cognitive-behavior therapy and medication therapy) significantly reduced anxiety the

symptoms in these patients and improved their performance and enhance the quality of life of these patients. But another group who received only medication in the same condition did not show much improvement (Roy-Byrne et al., 2005).

Behnamoghaddam et al. (2013) studied the effect of EMDR method on the anxiety level of patients with myocardial infarction. The results showed that the level of anxiety in the intervention group had statistically significant reduction compared with the control group. It can be said that the treatment of anxiety in patients with myocardial infarction will improve eventually their quality of life.

The results of a review literature (2007) showed that eye movement desensitization and reprocessing (EMDR) improved the quality of life in patients with bipolar disorder significantly and outcome of this procedure was stable after three and six months (Kauer-Sant'Anna et al., 2007).

Arabia, et al. (2011) studied the effect of eye movement desensitization and reprocessing (EMDR) treatment on the post-trauma stress disorder (PTSD) and symptoms of anxiety and depression in the survivors with life-threatening cardiac events. The results showed that EMDR was an effective treatment in order to reduce the symptoms of PTSD, depression and anxiety, which can be occurred followed by the life-threatening cardiac events. The EMDR treatment could substantially reduce the level of significance of all the variables more than the exposure therapy (Arabia et al., 2011). Therefore, in patients with cardiac events, the treatment of anxiety, depression, and the symptoms of PTSD, can improve the quality of life in all aspects of patient's life.

Results of a review literature written by Shapiro in 2014 showed that EMDR in 24 articles of clinical trials had positive effects in the treatment of the emotional trauma and other negative experiences of ordinary life. Results of this research demonstrated that this method was faster and more effective than CBT for treatment of the negative emotions and life experiences. The results of other twelve studies in this review revealed that it caused a rapid reduction of negative emotions and the disruptive experiences of life. Several papers noted that EMDR treatment method reduced and alleviated the physical complaints (Shapiro, 2014).

This method decreased the symptoms significantly faster than the behavioral and cognitive techniques and the fewer sessions are required (3 to 6 sessions). Rapid relief of the symptoms and return to the independent performance based on the information processing model, which expresses that the feelings of helplessness and despair are the results of unprocessed memories of trauma, and included experienced perceptions at the time of the incident (Barlé et al., 2015; Shapiro, 2012). On the other hand the eye movements used in EMDR seems that immediately activated the parasympathetic nervous system and led to physiological symptoms (Stickgold, 2008; Lee & Cuijpers, 2013).

## 5. Conclusion

The results of this research showed that the eye movement desensitization and reprocessing therapy was effective on the quality of life in patients with myocardial infarction and improved the quality of life of these patients. Therefore, it is recommended that the members of the treatment group use EMDR treatment as an effective intervention in order to improve the quality of life of the patients.

It is recommended that the present study be repeated in patients with myocardial infarction with larger sample sizes to validate our findings. The effectiveness of this method is also suggested to be evaluated on the quality of life of the patients with the chronic illnesses. One of the limitations of this study was that there was a little number of the female samples.

## Acknowledgments

All officials of Nursing and Midwifery department of Qazvin, department of Nursing and Midwifery of Yasuj, and participating patients, that this study would not be possible without their cooperation and assistance is sincerely appreciated.

## Ethical Issues

Ethics of this research work was approved by Qazvin ethics committee.

## Conflict of Interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

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