

## RESEARCH ARTICLE

### The effect of poetry therapy on the level of anxiety in patients with myocardial infarction

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#### ABSTRACT

**Background:** Myocardial infarction (MI) is the main cause of disability in developed countries. Anxiety is the most common psychological response to MI. **Aims and Objectives:** Due to the importance of the issue, this study aimed to investigate the effect of poetry therapy on the level of anxiety in patients with MI in 2016 in Bushehr city. **Materials and Methods:** In this study which is the randomized clinical trial, 60 patients with MI were selected from Bushehr heart specialist hospital by convenient sampling method in 2015. Then, the selected samples were assigned into test and control groups randomly. The data were collected by anxiety assessment inventory. Poem reading was performed for each person in test group during 4 sessions of 45 min every week. In control group, no intervention was performed. Data were analyzed by SPSS software version 18, and descriptive statistical tests (mean, standard deviation [SD], frequency, and confidence interval of 95%) and inferential statistical tests (Chi-square, Fisher's exact test, and independent *t*-test) were used. **Results:** Before the intervention, the mean and SD of anxiety score in test and control groups was  $19.83 \pm 2.39$  and  $19.93 \pm 3.07$ , respectively. The mean and SD of anxiety score after intervention in test and control groups was  $7.60 \pm 5.55$  and  $17.03 \pm 3.18$ , respectively. After the intervention, a significant statistical difference was observed between anxiety level in patients of test and control groups ( $P = 0.001$ ). The mean anxiety level before and after the intervention had a significant statistical difference in test and control groups ( $P = 0.001$ ). After the intervention, there was a significant difference between the severity of anxiety between test and control groups ( $P = 0.001$ ). **Conclusion:** Poetry therapy has an effect on the anxiety level in patients with MI. Considering the low cost and simplicity of poetry therapy method, it is recommended to use it as an uncomplicated, simple therapeutic method to control the anxiety caused by MI.

**KEY WORDS:** Poetry Therapy; Anxiety; Myocardial Infarction

#### INTRODUCTION

Myocardial infarction (MI) is the main cause of death and disability in developed countries. In the United States, about 176 million people have coronary artery diseases.<sup>[1]</sup> 8.5 million people of them will have MI and 10.2 million will have angina pectoris.

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In Iran, 2 million people have MI and every day 317 people die because of MI.<sup>[2]</sup> The age of affliction to cardiovascular diseases in Iran is 7–10 years less than it in other countries.<sup>[3]</sup> Psychosocial factors affect the development of atherosclerosis and speed up the acute heart attack and sudden death due to heart failure. Anxiety is the most common psychological response to MI. Anxiety is a negative feeling that happens in response to a risk factor with an intrinsic or extrinsic source.<sup>[4]</sup> The prevalence of anxiety among patients with cardiovascular diseases is about 70–80%.<sup>[5]</sup> The most common cause of anxiety is fear from death and being afraid of recurrent stroke.<sup>[6]</sup> Patients who have anxiety during 48 h after MI are 4.9 times more on exposure to some complications like recurrent stroke.<sup>[7]</sup> Anxiety disorders are very prevalent and at the same time they are curable.<sup>[8–10]</sup> Pharmacological and non-pharmacological methods may be used to treat anxiety.<sup>[5]</sup> Anti-anxiety drugs may have toxic effects on heart.<sup>[11]</sup> Considering the side effects of the drugs used for treatment of anxiety in patients with heart diseases that exacerbate their clinical status and also the risk of drug dependency and intolerance of these drugs for a long time and high cost of them, it is better to use non-pharmacological methods to control and cure anxiety.<sup>[12–14]</sup> These methods are inexpensive, non-invasive and without any side effect. One of the common non-pharmacological treatments is art therapy which is used for alleviation of anxiety in patients.<sup>[12,14–16]</sup> While these methods are inexpensive and practical and non-invasive, they have very benefits for the patient without any side effect.<sup>[17]</sup> One of the methods of treating anxiety in patients with heart diseases is cognitive-behavioral techniques. The main objective of these techniques is identification of negative thoughts which is an important issue in cognitive-behavioral treatments.<sup>[18]</sup> Poetry therapy is one of the art therapies that may be used. Poetry is a verbal art that is presented in form of language, and therefore, is able to communicate with the audience.<sup>[19]</sup> Poetry is one of the aspects of art that can be used as a method of art therapy in mental and physical diseases. Poetry therapy is a kind of art therapy which is used for motivating the patient to achieve treatment objectives.<sup>[20]</sup> Poetry therapy may lead to the quick improvement and promote communication and self-understanding in patients.<sup>[21]</sup> Although poem looks to be a simple combination of words, it is actually the expression of strong and sophisticated feelings.<sup>[22]</sup> There are various studies on the effect of poetry therapy in mental and physical domains studies.<sup>[20,22–27]</sup> Nurses in intensive care units are one of the most important members of the treatment team and have an important role in maintaining and protecting the mental and physical health of patients.<sup>[28]</sup> One of their main duties is assessment of verbal and non-verbal behaviors and determining the anxiety level of the patients. They may participate actively in treatment of common

psychological responses (anxiety) following coronary heart diseases.<sup>[29]</sup> Since anti-anxiety drugs have important side effects on heart and cause drug tolerance, and therefore, reduction of their effects after a short time,<sup>[30]</sup> it is better to use non-pharmacological methods to treat anxiety in these patients. Due to the importance of the issue and lower costs and reduced complications of poetry therapy, this study was conducted to assess the effect of poem reading on the anxiety status in patients with MI who have been hospitalized in Bushehr heart specialist hospital in 2016.

## MATERIALS AND METHODS

This study which is a clinical trial was aimed to assess the effect of poetry therapy on the anxiety level of patients with MI in 2016. Samples were selected by a convenient method, and then they were randomly assigned into test and control groups using Excel's random table. The study populations were 60 people of the patients hospitalized in Bushehr heart specialist hospital. To determine the sample size, considering the confidence level of 95%, test power of 80% and the proportion of patients that after intervention their moderate anxiety changes to the mild anxiety which was 60% in test group and 20% in control group, the sample size for each group calculated to be 27 people. With anticipating the attrition rate of 10%, eventually, 30 people were selected for each group. The inclusion criteria were diagnosis of coronary heart disease by a specialist and having moderate anxiety, homogeneity of samples in terms of gender and marital status and age of between 20 and 60 years old. The exclusion criteria were: (1) History of heart diseases and hospitalization in intensive care units (2) having unstable vital signs (3) history of convulsion (4) being deaf and dumb (5) having the education level of less than high school (6) history of mental diseases (7) having a non-Persian language, and (8) drug addiction. The Beck anxiety assessment inventory was given to the participants. Beck anxiety inventory is a self-reporting questionnaire with 21 questions that reflect the severity of cognitive and physical symptoms during the previous week. Each question had four answer options (0–3). Zero means without anxiety, 1 mild anxiety, 2 moderate anxiety, and 3 the severe anxiety. This questionnaire emphasizes more on the physiological aspects of anxiety that three questions of that are related to the anxious mood, three questions related to specific phobias, and the rest of the questions assess the symptoms of hyperactivity and physical tension of anxiety. The score of 0–7 shows slight anxiety or having no anxiety, 8–15 shows mild anxiety, 16–25 moderate anxiety, and 26–63 shows the severe anxiety. Kaviani *et al.* reported that internal consistency of this questionnaire is 85%, retest reliability after 1 week 71% and the correlation

of its parts is 53%. The Cornbrash's alpha coefficient has been calculated to be 90%.<sup>[31]</sup> It was a single-blind study. After getting the informed consent from patients and assuring them about confidentiality of their information, the anxiety assessment inventory was given to them. The questionnaires were filled before and after the intervention. Test and control groups were investigated separately. In control group, no intervention was performed. To prevent any bias, filling the questionnaires was done by a person who was not there at the time of intervention and had no role in that. The main intervention was performed by the main researcher while the one who filled the questionnaire was not there. Poem reading sessions were held separately for each patient 4 times per week for 45 min. Poems for each person were selected according to the congruence and emotional characteristics.<sup>[26]</sup> In other words, according to the anxiety score of patients before intervention, some poems were selected for anxious patient that could alleviate them and reduce their anxiety. Some factors were considered in choosing poems, including communication, language, poem narration, feeling and emotion, and being motivating, and having an understandable concept in terms of narration and simplicity. The poems used in these sessions were from famous poets who have influenced the literature like Khayyam,<sup>[32]</sup> and also from the recent poets such as Jalil<sup>[33]</sup> and Gheysar Aminpour.<sup>[34]</sup> Succinctness of poems, effectiveness and being exhilarating and making others hopeful were some of the characteristics of selected poems which were compiled in a booklet by literature consultants. The booklet was approved by the ethics committee. Selection of poems was according to the poem type, verbal fluency and patients' interest. During each session, researcher was asking the patient to be ready in their room and sit on a chair. If patient was unable to come out of bed, researcher was doing the intervention as patient was in bed. After asking about patient's comfort and readiness, poem reading was starting. The method was explained for patient before intervention. Researcher was reading poems 2–3 times for patient and then was asking the patient to say how much he could communicate with the poems. The patient was also asked to talk about the topics or verses that engaged his mind or about any concept of the poem. The patient was asked to select and read one of the poems from the booklet as well. In each session, some new poems were used. The method of reading poems, accent, and feeling during reading, tone of voice, the topic, and the way of communicating with patient by body language was assessed by a trained person. At the end of sessions, researcher was asking patient again to express his feeling. Then, research assistant filled the Beck anxiety assessment inventory in absence of the researcher. Researcher was trained about the method of poem reading in an accredited institute. Analysis of data

was performed by descriptive statistics (mean, standard deviation [SD], frequency, and confidence interval of 95%), inferential statistics (Chi-square, Fishers exact test, and independent *t*-test), and also non-parametric tests like Mann–Whitney U-test. To do this, SPSS software version 18 was used.<sup>[35,36]</sup>

## RESULTS

The mean and SD of age in test and control groups was  $47.47 \pm 9.82$  and  $50.53 \pm 10.85$  years, respectively, that had no significant difference according to the independent *t*-test ( $P = 0.25$ ). Based on the inclusion criteria, there was no significant difference between gender distributions in two groups as well. The number and percentage of women and men in test and control groups was 7 (23.3%) and 23 (76.7%), respectively. The least frequency of education level in both groups was in doctorate level which was 2 (6.6%) and the highest one was bachelor's degree which was 20 (66.6%). According to the result of Fishers exact test, there was no significant difference between education level of participants in test and control groups ( $P = 0.6$ ). The comparison between education level of participants in test and control groups showed that the number and percentage of people with the education level of under bachelor's degree in test group was 14 (46.7%) and in control group 17 (56.7%) and the number and percentage of people with the education level of higher than bachelor's degree in test and control groups was 16 (53.3%) and 13 (43.3%), respectively. Considering the inclusion criteria, there was no significant difference between two groups in terms of marital status. The number and percentage of married and single participants in test and control groups was 26 (86.7%) and 4 (13.3%), respectively. According to the result of independent *t*-test, there was no significant difference between the mean anxiety score in test and control groups before intervention ( $P = 0.88$ ) but according to Mann–Whitney U-test results, there was a significant difference between the mean scores of anxiety of participants in test and control group after intervention ( $P = 0.0001$ ). The mean and SD of anxiety score in test and control groups before intervention was  $19.83 \pm 2.39$  and  $19.93 \pm 3.07$ , respectively, and after intervention they become  $7.60 \pm 5.55$  and  $17.03 \pm 3.18$ , respectively [Table 1]. In test and control groups, moderate level of anxiety had the highest frequency and percentage (31, 51.7%). The number and percentage of patients with various levels of anxiety after intervention was as follows: Mild or without anxiety 27 (45%), moderate anxiety 31 (51.7%), and sever anxiety 2 (3.3%). Based on the inclusion criteria, before intervention all participants had moderate anxiety. According to the results of independent *t*-test, variations of the mean anxiety score before and after intervention have a significant difference between test and control groups ( $P = 0.0001$ ). The variation of mean score of anxiety score and its SD before and after intervention in test and control groups was  $12.23 \pm 5.71$  and  $2.90 \pm 4.62$  respectively. According to Fishers exact



test result, comparing the frequency of patients with mild or without anxiety, moderate anxiety, and sever anxiety after intervention showed that there is a significant difference between severity of anxiety in test and control groups ( $P = 0.0001$ ). The mean and percentage of patients who had no anxiety or mild anxiety after intervention in test and control groups were 23 (76.7%) and 4 (13.3%) respectively. The mean and percentage of those who had moderate and sever anxiety was 7 (23.3%) and 26 (86.7%) in test and control groups, respectively [Table 2].

**DISCUSSION**

There was no significant difference between the mean age of participants in test and control groups and this result is consistent with the results of a study conducted by Asayesh *et al.*<sup>[27]</sup> There was also no significant difference between gender of participants in test and control groups and this result is consistent with Faraji *et al.*'s study as well.<sup>[20]</sup> The test and control groups had no significant difference in terms of education level and marital status too. Poetry therapy may reduce the anxiety of patients with MI. To calculate the mean score of anxiety in patients with MI in test and control groups before and after intervention, having the same level of moderate anxiety before interventions, was a proper factor for determining the anxiety score after intervention. Based on the inclusion criteria and also according to the results of independent *t*-test, the anxiety level of patients in test and control groups had no significant difference before intervention. However, after intervention, there was a significant difference between anxiety level of patients in test and control groups. It looks that this result is due to the effect of poetry therapy on the anxiety status of patients with MI and this result is consistent with the results of studies conducted by Mohammedian *et al.*<sup>[26]</sup> and Asayesh *et al.*<sup>[27]</sup> In these researches, there was a significant difference

between the mean score of depression and social behaviors of people in test and control groups before intervention. These results were also consistent with the results of Faraji *et al.*'s study,<sup>[20]</sup> that showed the effectiveness of poem reading on elderly depression. After intervention, there was a significant difference between the frequency of patients with no anxiety or mild anxiety and those with moderate or severe anxiety which is consistent with the results of studies conducted by Jabarouti *et al.*,<sup>[23]</sup> Koolae *et al.*,<sup>[24]</sup> Faraji *et al.*,<sup>[29]</sup> Asayesh *et al.*,<sup>[27]</sup> Tegnér *et al.*,<sup>[22]</sup> and Naidu and Shabangu.<sup>[25]</sup> Comparing the frequency of patients with mild anxiety in test group with those in control group shows that poem reading has been effective on reducing the anxiety of patients with MI in test group. Comparison of the anxiety score before and after intervention in two groups showed that after intervention, there was a significant difference between anxiety scores. In test group, anxiety score has had a reduction but in control group it had no change or an increase. The remarkable variation of anxiety score in patients with MI in test group confirms the effect of poem reading on controlling the anxiety in these patients. Lack of control on anxiety may lead to the deterioration of patient's situation and using some methods like poetry therapy reduces patient's anxiety. The effect of poem on physiological and mental balance of patients may respond to various aspects of personal needs as an improving process. The proved effect of poem on immunity system and physiology of patients is an evidence of the ability of this process to be used in treatment of patients.<sup>[37]</sup> People may find out the realities of their own life by reading poem and receive positive energies from it to alleviate them.<sup>[38]</sup> Poem may reduce anxiety and promote confidence of patients. It may have a decisive therapeutic role.<sup>[39,40]</sup> One of the most important limitations of this intervention is the lack of collaboration among some patients. The researcher tried to justify patients according to the importance of the subject and the purpose of the study.

**CONCLUSION**

Poetry therapy reduces the anxiety of patients with MI and may improve their symptoms. While using drugs to treat anxiety, poetry therapy also may be used as an inexpensive and simple method. According to the findings of this study, poetry therapy may be used as a more effective method of reducing anxiety in patients with MI, effectiveness of poem reading on controlling the anxiety of patients, confirmed

**Table 1:** Comparison of the mean score of anxiety before and after intervention between test and control groups

Anxiety score	Mean±SD		P*
	Test group	Control group	
Before intervention	19.83±2.39	19.93±3.07	0.88
After intervention	7.60±5.55	17.03±3.18	0.0001

\*Mann–Whitney U-test has been used. SD: Standard deviation

**Table 2:** Comparison of the severity of anxiety between the test and control groups after the intervention

The severity of, anxiety	The test group (number/percentage)		The control group (number/percentage)		Total (number/percentage)		P
	Moderate and severe anxiety	No anxiety or mild anxiety	Moderate and severe anxiety	No anxiety or mild anxiety	Moderate and severe anxiety	No anxiety or mild anxiety	
	7 (23.3)	23 (76.7)	26 (86.7)	4 (13.3)	23 (55)	27 (45)	0.0001

\*Exact Fisher test has been used

the hypothesis of this study. Nurses may use poem reading method in cardiac care units to reduce anxiety of patients.

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