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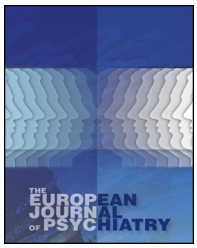

ORIGINAL ARTICLE

Comparison of the effect of eye movement desensitization reprocessing and cognitive behavioral therapy on anxiety in patients with myocardial infarction

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Abstract
Background and objectives: Anxiety is the most common response to myocardial infarction (MI). The objective of the study is to compare the effect of eye movement desensitization reprocessing (EMDR) and cognitive behavioral therapy (CBT) on anxiety in patients with myocardial infarction.
Methods: In this clinical trial, 90 eligible patients suffering from MI were selected using the convenience sampling method and randomly assigned to two intervention groups and one control group. The first intervention group attended eight 1-h EMDR sessions in a tranquil environment in a hospital. The second intervention group attended ten 90-min CBT sessions under an identical condition. The control group, on which no intervention was made, merely received prescribed medication by a physician (Oxazepam 10 mg) at 10:00 P.M. on a nightly basis. The mean anxiety was measured for all three groups before and after intervention through the Beck Anxiety Inventory (BAI). Data were analyzed using SPSS v.20, and such statistical tests and the chi-squared, analysis of variance (ANOVA), and Tukey's Honestly Significant Difference (HSD) post hoc test. *P* values are significant at $P < 0.05$.

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Results: Results pointed to a significant statistical difference between the intervention and control groups in terms of the mean anxiety score differences ($P < 0.001$).
Conclusion: Both EMDR and CBT reduced anxiety levels in patients with MI, with the former being the more effective one.

Introduction

Coronary heart diseases are conditions that occur by the hardening of coronary arteries, i.e. atherosclerosis,[1] one of which is MI, which is the leading cause of death in developed countries and Iran.[2] Anxiety is the most common response to MI, with a prevalence rate of about 70–80% in patients suffering from acute coronary syndrome.[3] It negatively impacts post-MI recovery such that patients who demonstrate anxiety during the first 48 h after MI are about 5 times more prone to complications of recurrent MIs, ischemic relapses, ventricular fibrillations and ventricular tachycardia.[4] On account of the negative impacts of anxiety on cardiovascular patients, it is vital for physicians and nurses to, first, precisely identify patients with anxiety and, then, take effective control and therapeutic measures.[5]

Cognitive behavioral techniques are among anxiety treatment methods in cardiovascular patients, one of which is the eye movement desensitization reprocessing (EMDR) method. It is a modern safe method without negative side-effects which does not rely on speech- or pharmaceutical therapy and is rather based on the rapid regular movements of the patient's eyes.[2] Gradual EMDR is more effective than pharmaceutical therapy in treating anxiety disorders; although a number of studies point to contradictory results.[6] EMDR is inexpensive compared to other methods and has been proven to have long-lasting effects without needing much time to achieve favorable results. EMDR is a psychotherapeutic technique that has been very successful in helping those suffering greatly from trauma, anxiety, fear, painful memories, post-traumatic stress, and other emotional problems.[7]

Cognitive behavioral therapy (CBT) is another method of anxiety treatment in which the patient is encouraged to regard the relation between his/her negative thoughts and feeling of anxiety as hypotheses that need to be tested and use behaviors induced from negative thoughts as criteria to determine their validity.[8]

Given the previous studies suggesting a high prevalence rate of anxiety among cardiovascular patients and on account of its adverse effects on all systems of the human body, in particular the cardiovascular system, which can cause life-threatening dysrhythmia, heart attack, and sudden cardiac arrest, it is incumbent upon all medical staff to pay attention to effective methods of treating anxiety. Therefore, the present study was conducted to compare the effect of EMDR and CBT on anxiety levels.

Methods

The present clinical trial was done on 90 myocardial infarcted patients admitted to Imam Sajjad Hospital of Yasuj, Iran, who were eligible to be included in the study. Sampling was done after the necessary license was obtained from Yasuj University of Medical Sciences' Ethics Committee (ethics code: ir.yums.rec.1395, 26) and registered in the Iranian Registry of Clinical Trials (registry number: IRCT2016052428017N2). Participants were selected through the convenience sampling method and assigned to two intervention groups and one control group using the randomized block design. The objectives of the study as well as the number of sessions were first explained to participants. Next, they completed the informed consent forms, the demographic information questionnaire as well as the BAI. The above instruments were administered to all three groups before intervention. Then, the EMDR group attended eight 45–90-min sessions, twice a week, in a quiet room in the hospital according to the existing protocol. The other intervention group also attended ten 90-min CBT sessions, twice a week, and their anxiety-related data were scored before and after intervention. The anxiety levels of the third, i.e. control, group were measured during the first and last sessions. They merely received prescribed medication by the physician (Oxazepam 10 mg) at 10:00 P.M. on a nightly basis, with no additional intervention made by the researcher.

The inclusion criteria consisted of: 1 – MI diagnosed by a cardiologist, 2 – patients who have suffered MI for more than one occasion and who have prevailed over the acute stage of the disease, 3 – patients with no history of extensive MIs, 4 – patients with stable hemodynamic status, 5 – patients with no history of seizures, 6 – patients with no history of mental disorders, 7 – patients not suffering from drug addiction, 8 – being under 60 years of age, and 9 – patients without strabismus and/or vision problems.

The exclusion criteria were: 1 – patients who could not endure the EMDR method, and 2 – lack of cooperation with the therapist.

The instruments were twofold: 1 – background (demographic) information questionnaire including information about age, sex, education, smoking history, and marital status which was developed by the researcher, and 2 – the BAI,[9] a self-report 21-item inventory designed to measure the severity of physical and cognitive symptoms of anxiety in patients during the past week. There are four answers to each item on a scale value of 0–3 indicating an incremental increase in the severity of anxiety. This inventory

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