

The Reduction in Anxiety and Depression by Education of Patients with Myocardial Infarction

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Background: The myocardial infarction is the interruption of blood circulation heart that causes its cells to die. This deprives the heart muscle of blood and oxygen, and causes chest pain and pressure sensation. Hypertension and other risk factors like high cholesterol, cigarette smoking, and physical inactivity, can lead to coronary heart diseases with symptoms of depression and anxiety that predict subsequent mortality. The purpose of this study was to determine the effect of education on anxiety and depression in patients with myocardial infarction in selected hospitals of Urmia hospitals in 2009.

Methods: This study was a quasi-experimental study that comprised 124 patients selected randomly and divided into two groups. The experimental group was educated by a face to face training and educational booklet. Control group did not receive any intervention. The level of anxiety and depression was evaluated by using HADS questionnaire at 3 intervals .After 48 hours of admission, discharge day and 2 months after discharge.

Results: The findings suggest that MI patients worried about their social role, interpersonal relations and personal health, which can exacerbate symptoms and complicate their future care. There was no significant difference between control and experimental groups before the intervention, But after the intervention, anxiety and depression in the experimental group was significantly less than control group ($P<0.05$).

Conclusion: Considering the beneficial effect of intervention on reducing anxiety and depression in such patients, the patient's education should be one of the health care goals. Most researches may also be required to confirm the results in other groups of patients.

Keywords: Education, Anxiety and Depression, Myocardial Infarction

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Introduction

It is obvious that psychosocial factors, such as depression and anxiety have undesirable effects on prognosis of myocardial infarction (MI), and may be as barriers to improve the patients' health-related quality of life. Their symptoms are common, both in the general population and in patients.¹

WHO estimates that in developing countries, coronary artery diseases including MI have been recognized as a major public health problem.²

High levels of stress increase the possibility of myocardial ischemia and dysrhythmias, decrease memories of patients and his or her quality of life³

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and causing a variety of different concerns during and following their hospitalization. Such drawbacks are prevalent in patients with MI and are predictive of subsequent mortality.^{4,5}

Some results suggested that 15–20% of MI patients have major, and a similar proportion have minor depression.⁶

In developing countries, MI was recognized as a major public health concern⁷, which was also consistent with the results of studies carried out in Iran.⁸

The aim of this study was to determine the effect of education on anxiety and depression in patients with MI in selected hospitals of Urmia University of Medical Sciences, Iran in 2009.

Patients and Methods

This study was a quasi-experimental study that

compared the effect of education on anxiety and depression in patients with MI in the selected hospitals of Medical Sciences Urmia. The present study comprised 124 patients selected randomly and divided into two groups of control and test subjects. They received face to face training and provided with corresponding educational booklet and questionnaire. The questionnaire was filled out anonymously and included demographic variables such as age and gender. The educational level, hospitalization period and the relevant clinical variables were summarized descriptively to characterize the study population. The diagnosis of MI was made on clinical grounds by a board certified cardiologists and all patients had to take MI medications and receive due medical care. Educational program of patients consisted of information relating to dietary regimen, sexual relationship, exercises, administered drugs, weight changes, laboratory results study and relaxation methods after discharge by an illustrated pamphlet that educated by a nurse during patient hospitalization.

Levels of anxiety and depression in patients were evaluated using the HADS questionnaire scale 48 hours after admission, at the end of hospitalization and two months after discharge.

The Hospital Anxiety and Depression Scale (HADS) questionnaire scale was shown to be reliable and valid in evaluating anxiety and depression⁹ and consisted of 14 items carrying equal weights in relation to depression and anxiety study in patients that scored from 0 to 3, and sum of them ranges from 0 to 21 for each item. It has an ability to assess the items without investigating somatic symptoms.

Patients with severe respiratory failure, hemodynamic instability and neurological conditions with cognitive involvement or dementia were excluded from the study. In addition, patients were excluded if diagnosed with delirium or any psychiatric disorders that caused changes in awareness or in formal thought processes. If the patients had reading difficulties, the data gatherer offered assistance, and encouraged them to choose answers based on symptoms they had experienced

Using repeated analysis of variance, no significant difference was found between the intervention and control groups. The current study was approved by the Ethics Committee of Urmia University of Medical Sciences and was consistent with the terms of the Helsinki Declaration. Statistical analyses were performed to determine potentially significant associations between the groups under study and a p value less than 0.05 was considered

significant. SPSS for Windows version 13.0 was used for all analyses.

Results

The sample (n=124) consisted primarily of middle-aged patients (mean=55 years, SD=2.6) and were predominantly females (53.3%). The majority was married (93.3%) and lived with their families (73.0%). The annual income of 80.0% of the patients was below 3000 dollars, and 40.0% had less than high school education. For statistical comparisons, the level of education and annual income variables were dichotomized. The education varied from less than high school and high school level or greater dollars and 78.5% of patients were sick from 0-3 years.

High levels of anxiety symptoms, as measured by HADS, in a general population, had been reported in the beginning of hospitalization.

Our study found anxiety symptoms in AMI patients 3 months after discharge, but its level was less in persons who were educated (P<0.05).

Stress was significantly and positively correlated with age and gender and marriage status in two groups (P=0.003), but negatively related to income, and re-hospitalization for cardiac events. There was no significant difference between control and the patients groups before the intervention, but, anxiety and depression in the experimental group was significantly less than controls after the intervention at the discharge time and 3 months after the end of hospitalization (P<0.05).

The findings suggest that MI patients worried about their social role, interpersonal relationship and personal health, which can exacerbate symptoms and complicate their future care.

Discussion

Patients after MI suffer from symptoms of depression and anxiety with rates ranging from 17% to 37% and 24% to 31%, respectively. In addition, such symptoms adversely affected patient's quality of life with increasing cardiac morbidity and possibly associated with an increased risk of recurrent cardiac events.¹⁰

The present study examined the relationship between depression and anxiety during hospitalization and mortality 12 months after MI.

Depression can exacerbate the situation of MI patients; one study in Canada, revealed that major depression predicted cardiac mortality 6 months after acute MI independently of the severity of infarction and anxiety also was as a predictor of recurrent cardiac events.¹¹

Table2: Comparison of Anxiety and depression in Experimental and Control Groups in Three Intervals

Anxiety and depression compared in two groups		Mean±SD	P-value
Comparison of Anxiety and Depression 48 Hours After Admission	Case	13.6±3.5	0.71
	Control	14.46±1.34	
Comparison of Anxiety and Depression During Discharge	Case	9.5±2.5	0.003
	Control	12.7±4.9	
Comparison of Anxiety and Depression Two Months Later	Case	6.7±4.2	0.05
	Control	11.4±2.0	

Another study showed that depression and anxiety may reduce quality of life in patient and his or her family.¹²

Symptoms of depression and anxiety measured during hospitalization 2 to 15 days after MI did not predict 12-month mortality.

Our findings confirmed the studies which showed a positive association between depression, anxiety, and complications after MI and a correlation between disease severity and depression and anxiety.¹³

In another recent study, depression and anxiety were not significantly related to cardiac impairment¹⁴. As in the present study, depression and anxiety were not related to mortality in the time of study, either at 6 or 18 months. In this study, patients worried about their social role, interpersonal relations and personal health, but the result of another study indicated that such concerns do not constitute a risk factor for a disease.¹⁵

Our study showed that depression and anxiety levels in patients with MI decreased significantly in the patients group compared with those of the control subjects after one and two months of patient's education sessions. This was confirmed by the results of another study reported from Iran.¹⁶

Nursing practice implications

The study showed the difficulties that patients experience during hospitalization and in the early discharge period after MI. Nurses should discover

patients' needs for psychological support and for educating patients and their families during and after hospitalization. The effective psychological intervention is achieved by identifying patients' needs, worries and concerns which are then addressed by counseling and teaching.

The emphasis is placed on written instructions on weight reduction, regular exercise and recommendations to change unhealthy lifestyle. Their worry about their social role, interpersonal relations and personal health must be considered to prevent exacerbation of symptoms and complication of their future care.⁶

Further study using longitudinal design and larger samples is needed to assess stress levels and unexpected problems arising at different points in time which may reveal various concerns at different phases of the patient's recovery process. Economic burden of anxiety and depression in MI patients impose undesirable consequences, the root cause of which must be found by appropriate investigations.

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