

## Impact of Training the Coping Effective Styles with Negative Emotions on Coping Strategies of Cardiac Surgical Patients

Marzia Mohammadi Pashaki, Abbasali Mahmoudi Molaei<sup>1</sup>, Abdolali Yaghoubi<sup>2</sup>, Babak Bagheri<sup>3</sup>

<sup>1</sup> Department of Clinical Psychology, Science and Research University, Amol, Iran

<sup>2</sup> Department of Clinical Psychology, Azad University, Behshar, Iran

<sup>3</sup> Assistant Professor in Medical Sciences, Department of Medical Science, University of Mazandaran, Sari, Iran

\*Corresponding author's Email: marzieh.mohammadi1351@gmail.com

**ABSTRACT:** The main purpose of this study was to investigate effects of learning effective styles for coping with negative emotions on coping strategies of cardiac surgical patients. This research is quasi-experimentally and pre-test - post-test with control and experiment group. Population of the study is all patients with coronary heart disorder in 2013 that were candidates for bypass surgery during a 6-month period and hospital Fatemeh Zahra (SA) have been referred. for this purpose, a total of 30 candidate patients of coronary artery bypass surgery were selected by available sampling method and randomly were divided into two 15 persons groups for experimental and control groups. For the experimental group, effective coping ways (stress management, anger management, and coping with anxiety and depression) were trained individually for 7 sessions. Data before and after training was collected by the Lazarus - Folkman coping strategies questionnaire. The result of t test in investigating subscales of coping strategies in both experimental and control groups showed direct confrontation with the assumption of equality of the variances with 31 degrees of freedom, problem solving and positive re-evaluation with the non-equality of variances with degrees of freedom 15.52 and 17.10 there is a significant difference between two control and experimental groups. So we can accept that the amount of direct coping, problem solving and positive reappraisal between experimental and control groups after the training is not on the same level ( $p < 0.05$ ).

**Keywords:** Coronary Heart Disease, Stress, Coping Styles

ORIGINAL ARTICLE  
Received 10 Aug. 2014  
Accepted 20 Sep. 2014

### INTRODUCTION

Cardiovascular disease (CVD) is the most common cause of death in the world, according to the world health organization report, 41.3 percent of all deaths in 2005 is from heart disease in Iran has been caused by cardiovascular disease. Now, cardiovascular diseases is the first cause of death in people over 35 years old in Iran and to 2020 it would be the first cause of disability in the list of debilitating diseases, (Heydari et al, 2010). Since cardiovascular disease is considered as a psychosomatic disease, in investigating the effective factors in its development should be noted to a combination of biological and psychological factors (Zeynali et al, 2011). According to the process for treatment of cardiovascular disease lead to vascular surgery, the surgery itself is a threat to health. Diseases treatment, despite the fact that gives another opportunity for life with the health to patient but may be a major source for stress (Dimateo, 2011). Stress can cause unpleasant emotions such as anxiety, anger, aggression, grouch, depression and impairment in cognition (Atkinson, 2000). Research has shown that people under stress have more involved long-term wound healing and pain relief and more incidence of infections after surgery (Hashemi et al, 2010). Physical and mental erosion of stress create an incentive to help people cope in trying to reduce their stress. Stress is perceived mismatch between the requirements of the position and the individual resources and coping, in order to reduce the individual assessment from the heterogeneity so it is

called to a process to cope perceived mismatch between the requirements and the resources in a stressful situation (Sarafino, 2012). Studies have shown that most cardiovascular patients who survive after vascular surgery, improved enough, however they continue as a people remain at high risk and for full recovery and avoid recurrence of the disease should adopt a particular lifestyle that a part of it is acquisition of coping with negative emotions.

In conclusion we can say that although among the psychological factors influencing coronary artery disease, stress is considered as a major cause, but pattern coping with stress can be considered as the disease underlying, more than stress. Recently, coping styles has been suggested as a predictor of treatment outcome in heart transplant patients (Khanjani, 2009). The recent studies have been realize the type of coping strategies used by the individual, affect not just well-being of psychological but also well-being of physical why confronting is one of the variables that are widely studied within psychological well-being (Heydari Pahlavian et al, 2010).

Experts generally agree that by deal with the identified risk factors that many of which has behavioral nature, can be prevented a lot of deaths caused by cardiovascular disease (Rydlewska, 2013). Lazarus & Folkman (1984) have identified two general ways of coping: problem- focused coping and emotion-focused coping, problem-focused strategies can be focus on inside or outside. The goal of coping strategies focused on outside is changes in the environment or the behavior of others, while coping

strategies focused on the inside includes efforts which are performed to re-examine their attitudes and needs and gain new skills and responses. Focused coping on emotion is focused on the inhibition of distress (Klingeh, 2004). A third form is introduced to counter that is called avoidance-oriented coping, that is, avoidance (objective separation) of the stressors factor and denial (mental separation) of the stressor (Rezaei, 2007). The studies on coping scale have shown that the most compatible way to deal with life's challenges, taking an active and self-reliant approach, such as planning and problem solving (Klingeh, 2004).

Review of Vingerhoets et al (1996) and Williams and associates (2001) show that patients with coronary heart disease compared with healthy subjects, collide emotionally with issues and problems of life and pressures (Sogolitappeh, 2008). Siam et al (2011) in a research entitled the effectiveness of training self-care in the use of coping strategies in patients after cardiac surgery have reached the conclusion that the training self-care in heart patients after cardiac surgery can increase use of reduce the use of problem-focused coping methods and reduce use of emotion-focused coping strategies in people under trained. Also Rydlewska et al. (2013) conducted a study entitled "coping styles in patients with systolic heart failure" and patients spent coping interventions for different stressful situations and showed three coping styles of problem-oriented, emotion-focused and avoidance. The results shows that assess coping styles may be effective for training or psychotherapy programs in patients with heart failure who are experiencing psychological symptoms resulting from chronic physical ailments, (Rydlewska, 2013). Based on research conducted in this field can be realized that a lot of people with coronary heart disease have no any essential ability to deal with challenges and life problems, and the same cause to they have become vulnerable. According to the researcher in terms of the nursing profession closely related to coronary heart patients candidate for bypass surgery and also has frequently observed that patients due to illness circumstance and need to the intervention treatment actions which are lead to a life-threatening affected by stress and subsequently will experience emotionally instability and a variety of negative emotions such as anxiety, depression, and grief, and in such circumstances use the inefficient ways of coping, such as aggression, isolation and lack of cooperation in the treatment process and are likely to develop complications during and after surgery (including postoperative infections, cardiac arrhythmias and mental disorders) and on the other hand the coronary heart disease has a rapid progression, the researchers believe according to the evidence, ways to control and prevention in this context have the weakness and failure and training skills to cope with negative emotions can affect the psychological dimension of

coronary heart disease, which prompted this researcher to study effectiveness of training styles coping with negative emotions on coping strategies of heart surgery patients.

## **MATERIAL AND METHODS**

### **Population, sample and sampling method**

Considering that the aim of this study was to evaluate the impact of training styles for coping with negative emotions on coping strategies of cardiac surgical patients, so the quasi-experimental method with pre-test and post-test planning and control group were used. Population of the study included all patients with heart coronary disorder in 2013 who were candidates for bypass surgery and have been referred to Hazrat Fatemeh Zahra (SA) hospital of Sari to perform open-heart surgery by cardiologists. In this study, the available sampling method was used to select participants. Sample volume according to population of coronary artery bypass surgery candidates during the period of the research (6-months,), 30 patients are determined based on their willingness to cooperation in the study and according to the criteria of: a) detection of coronary artery disease, which was confirmed by coronary angiography. People who their involved in vascular lesions was higher than 80%. b) patients who with view of heart surgeon, surgery was considered as the treatment of choice and these patients, did not respond to none of the other methods such as angioplasty or medication treat. c) the patients participated in the study with informed willing and consent. Firstly, subjects were randomly divided into control and experimental groups. Then, experiment group were influenced by skills training of anger management, stress management, fear and anxiety controlling, while the control group did not receive any education. After 7 individually training sessions, test of coping styles Lazarus was carried out for both the experiment and control groups.

### **Research tools and methods of data collection**

In this study, Lazarus' coping styles questionnaire was used. Lazarus' coping strategies scale is a 66 items test that has made based on the list of coping strategies (Lazarus & Folkman, 1980) by Lazarus and Folkman (1985) and evaluates a wide range of thoughts and actions that people use in the face of internal and external stress conditions. This test has two main coping styles of emotion-focused with four subscales (direct coping, distancing, self-control and escape and avoidance) and the problem-focused with four subscales (Seeking support, acceptance, planned problem solving and positive reappraisal) that was codified based on the Likert's range of 3 degrees. Cronbach's alpha of the test is

estimated  $\alpha = 0.87$  on a sample of 750 middle-aged couples. Correlation determination method of this questionnaire with Lionel's stress questionnaire was used to check validity of the test that the results show coping strategies questionnaire has high convergence validity (Mousavi and Taghavi, 2007).

**Findings of the research**

**Research Hypothesis:** Learning the effective styles of coping with negative emotions affect coping strategies of cardiac surgical patients. To test the hypothesis, the coping performance of cardiac surgical patients in form of pretest and posttest of coping strategies of patients were evaluated using T-test. Application of T- test requires a set of circumstances such as normality of groups and equality of variances. Hence to ensure normality of test groups Kolmogorov – Smirnov's (K- S) test was used and its value for different subscales of Lazarvas's coping strategies is reported in Table 1.

**Table 1.** Kolmogorov – Smirnov's Test for coping strategies variable of patients

Variables	K- S	Sig.
Direct confrontation	0.832	0.793
Distance	1.121	0.162
Self-controlling	0.799	0.545
Seeking social support	0.732	0.657
Responsibility	0.865	0.443
Escape - avoidance	0.779	0.578
planned problem solving	0.758	0.614
Positive reappraisal	0.993	0.277
General coping strategies	0.532	0.940

The results of Table 1 shows at the level of test 0.05 normality assumption for all dependent variables (post-test) are observed for test and control groups and conditions of use T test is available. Summary of T-test result of post-test and pre-test scores between the two groups with regard to research hypothesis is reported in the following tables.

According to the results reported in Table 2 it can be said that grade level of direct confrontation, distancing, self-control, seeking social support, accepting responsibility, escape - avoidance, planned problem solving, positive reappraisal and general coping strategies has not changed in the control group before and after education.

T-test results in Table 3 that reports comparison of Lazarvas' subscales of coping strategies in both control and experimental group after training, indicates a direct confrontation with the assumption of equality of the variances with 31 degrees of freedom, problem solving and positive re-evaluation with the non-equality of variances with degrees of freedom 15.52 and 17.10 there is a significant difference between two control and experimental groups. So we can accept that the amount of direct coping, problem solving and positive reappraisal between experimental and control groups after the training is not on the same level ( $P < 0.05$ ). Also the results indicate that in the coping strategies of distancing, self-controlling, seeking support, accepting responsibility, escape - avoidance and general coping strategies after training in both experimental and control groups was not observed any significant different ( $P > 0.05$ ).

**Table 2.** Comparison of Lazarus's coping strategies subscales in both experimental and control groups before training

Variable	Group	Number	Average	Standard deviation	t-value	Degrees of freedom	Sig.
Direct confrontation	Control	12	6.75	4.01	-0.878	25	0.388
	Experiment	15	8.20	4.45	-	-	-
Distance	Control	16	8.75	2.72	0.304	29	0.763
	Experiment	15	8.47	2.45	-	-	-
Self- controlling	Control	14	11.5	3.94	1.176	29	0.249
	Experiment	17	10.05	2.89	-	-	-
Seeking support	Control	16	11.81	4.02	0.246	30	0.808
	Experiment	16	11.5	3.11	-	-	-
Responsibility	Control	13	7.23	2.42	0.704	25	0.488
	Experiment	14	6.43	1.91	-	-	-
Escape - avoidance	Control	14	7.86	2.93	-0.960	28	0.060
	Experiment	16	10.07	3.19	-	-	-
Problem	Control	14	10	4.17	-0.374	28	0.711
	Experiment	16	10.5	3.14	-	-	-
Positive reappraisal	Control	16	13.44	3.72	2.307	30	0.028
	Experiment	16	11	2.00	-	-	-
General Strategies	Control	10	75.60	20.30	-0.563	19	0.580
	Experiment	11	79.82	13.71	-	-	-

**Table 3.** Comparison of Lazarus' coping strategies subscales in both of control and experimental group after training

Variable	Group	Number	Average	Standard deviation	t-value	Degrees of freedom	Sig.
Direct confrontation	Control	16	7.0	4.12	-2.12	31	0.042
	Experiment	17	10.06	4.16	-	-	-
Distance	Control	14	9.00	3.66	-0.292	21.56	0.773
	Experiment	15	9.33	2.29	-	-	-
Self- controlling	Control	16	11.56	2.80	1.60	31	0.121
	Experiment	17	10.06	2.61	-	-	-
Seeking support	Control	16	12.19	4.30	-2.017	21.63	0.056
	Experiment	17	14.59	2.12	-	-	-
Responsibility	Control	16	6.75	0.82	0.269	23.22	0.790
	Experiment	15	0.53	0.51	-	-	-
Escape - avoidance	Control	13	7.92	3.86	-1.34	27	0.190
	Experiment	16	9.75	3.45	-	-	-
Problem	Control	12	10.92	4.01	-2.161	26	0.045
	Experiment	16	13.75	2.46	-	-	-
Positive reappraisal	Control	12	14.92	4.40	2.36	15.52	0.032
	Experiment	16	11.63	2.31	-	-	-
General Strategies	Control	11	83.54	25.50	-0.286	13.47	0.779
	Experiment	14	85.93	12.00	-	-	-

**DISCUSSION AND CONCLUSION**

Findings of this study suggest that interventions in form of teaching the effective styles of coping with negative emotions in cardiac surgical patients has been able to differ coping strategies while such change was not observed in the control group. The research hypothesis was approved based on that training the effective styles of coping with negative emotions influence coping strategies of cardiac surgical patients. These findings are consistent with the results of Siam et al. (2011), Sogolitape et al. (2008), Rydlewska et al. (2013). The research showed that self-care training in cardiac patients after cardiac surgery can increase the use of problem-focused coping ways and reduce the use of emotion-focused coping strategies in the trained people (Siam et al., 2011), training the life skills (anger management, training assertiveness and relaxation) has been influence to increase the assertiveness and reduction anger of heart patients after coronary artery bypass grafting (Sogolitape, 2008) and the use of emotion-focused styles had been associated with a high risk of depression and coping styles assessment for training programs or psychotherapy are effective in patients with heart failure experiencing psychological symptoms resulting from chronic physical illness (Rydlewska, 2013). Actually coping responses are described as emotional, cognitive and behavioral attempts to compliance with the environment and the efforts for the prevention of negative consequences of stressful conditions, so if these coping efforts with the stress be effective, competent and adaptive, the stress is considered less stressful. If coping style be

inconsistent and inadequate not only does not control stress but also this reaction will be the source of pressure and can aggravate conditions (Rydlewska, 2013).

Finally we can conclude that different psychological programs such as life skills training can change in lifestyle and reform behavioral system and psychological in patients with heart disease can steps in order to promote healing of patients and reduce risk factors for coronary heart disease and even could dramatically help prevent disease in people. So learning how to manage a disease can increases patients' optimistic about the future and hence reduces the sense of vulnerability in the future and medical staff and health organizations can have an effective protection role. Finally, given the increasing rate of coronary heart disease and that society now suffers from a diverse psychological- social stress, the researcher suggests that teaching coping strategies as the primary prevention should be taught in schools at various levels.

**REFERENCES**

Atkinson, R. A; Atkinson, R. S; Smith, A. A; Bam, D. G; Hoksma, S. N. (2000). Field of psychology (translated by Baraheni et al). Tehran: Roshd.

Dimateo, A. R. (2011). Health Psychology. (Translated by Kaviani etal). Tehran: Salamat

Heidary, P. (1999). Synopsis of cardiac surgery. Tehran: Azar mehr.

Heydari Pahlavian, A; Qarakhani, M; Mahjoub, H. (2010). Comparing the experienced stress and coping strategies in patients with coronary disease and normal subjects. Scientific Journal of

- Medical Sciences and Health Services University of Hamedan, 17 (3).
- Hashemi, T; Mahmoud Aliloo, M; Fakhimi Hassan Zadegan, V. (2010). The teaching effect of immunization against stress and vital signs (low blood pressure and high blood pressure) in patients undergoing cardiac surgery. *Journal of Psychology, University of Tabriz*, 5 (17).
- Klingeh, k. A. (2004). *Life skills: techniques to deal with anxiety, depression, loneliness, shyness failure* (translated by Mohammad Khani). Tehran: Spande Honar.
- Khanjani, Z; Faroughi, P; Yaghoubi, A. (2009). Psychological risk factors in heart disease: an analysis of the role of personality and coping styles on heart disease. *Medical Journal Medical Sciences of Tabriz University*, 3(3): 34-30.
- Mousavi, M. H; Taghavi, M. R. (2007). The assessment impact of stress and coping strategies on mental health. *Medical Sciences University of Hormozgan*, 11(1): 83-90
- Rezai, A; Malek Pour, M; Arizi, H. M. (2009). Investigate effect of life skills training on stress and coping styles of adolescents of family-like. *Scientific-research Magazine of University of Shahed*, 16 (34).
- Rydlewska, A; krzysztofica, J; Libergal, J; Rybac A; Rydlewki, J; Bnnasiak et al. (2013). Coping Styles in Patients Systolic Heart Failure. *Prezegl Lek*, 70(1): 15.
- Zeynali, Sh; Ashrafian, P; Beirami, M; (2011). comparative study of personality factors and mental health status in patients and normal subjects. *Urmia Medical Journal*, 22(5): 438-432
- Sarafino, A. P. (2012). *Health Psychology*. Translated by: Abhari et al supervised by Elahe Mirzaei. Tehran: Roshd
- Sogolitappeh, F; Babapour Kheiroddin, G; Mahmoud Aliloo, M; Beirami, M; Hashemi, T. (2008). The impact of life skills training (anger management, assertive training, and relaxation) on rising dared and reducing anger on heart patients after coronary artery bypass grafting. *Scientific - Research Journal, Psychology of University of Tabriz*, 3 (9).
- Siam, Sh; Heidarnia, A; Tavfian, S. (2011). The impact of self-care training in the use of coping strategies in patients after cardiac surgery. *Journal of Isfahan Medical School*, 29 (135).