Effectiveness of Acceptance and Commitment Therapy on Emotional Self-Regulation and Self-Care to Coronary Artery Disease Patients

1. Simin Sayafi, 2. Nemat Sotodeh Asl*, 3. Morteza Ebrahimi Varkiyzni

1. PhD student in psychology, Semnan Azad University, Semnan, Iran. Siminsayaf@yahoo.com.
2. Corresponding author: Associate Professor, Department of Psychology, Semnan Azad University, Semnan, Iran. Sotodeh1@yahoo.com.
3. Assistant Professor, University of Medical Sciences, Qazvin. Iran.Varkiani28304@gmail.com.

Abstract

The aim of this study was to evaluate the effectiveness of acceptance and commitment-based therapy on emotional self-regulation and self-care of cardiovascular patients in Qazvin. The research method was quasi-experimental of pretest-posttest type with a control group. For this purpose, 30 women with coronary heart disease referred to cardiac treatment centers were selected by availability sampling method and randomly assigned to two experimental and control groups, each assigned to 15 people. In this study, Ibanez Self-Regulatory Questionnaire and Jaarsma Self-Care Behavior Questionnaire in patients with heart failure were used. Therapeutic interventions were performed in 8 sessions of 90 minutes on the experimental group. The results of analysis of covariance showed that there was a significant difference between the experimental and control groups in the scores of emotional self-regulation and self-care.

Keywords: Cardiovascular patients, self-regulation, self-care, acceptance and commitment-based therapy.

Introduction

Cardiovascular disease is the most common cause of death in developed and developing countries. Identifying risk factors for these diseases such as inactivity and poor diet and performing non-pharmacological interventions such as lifestyle changes and psychological training have an effect on improving these diseases (Dashti-khavidaki, et al., 2016). In cardiovascular diseases, the expression or suppression of emotions are also effective psychological factors that can contribute to the occurrence or exacerbation of the disease (Grandey, et al., 2017). On the other hand, complete health cannot be restored to patients with heart failure, but the patient's symptoms can be controlled with pharmacological and non-pharmacological interventions such as self-care (Navidian, et al., 2017). Self-care in heart failure plays an important role in quality of life and prevention of readmission (Lee, et al., 2017). One of the third wave therapies that has recently been widely used in physical and mental health problems is acceptance and commitment based therapy. In this treatment, we encourage clients to be committed to changes in their behavior, and this commitment provides the right conditions to free the person from getting stuck in thoughts and feelings (Hayes, et al., 2010). The results showed that acceptance and commitment-based therapy reduces anxiety, death and increases mental health (Mirzaeidoostan, et al., 2019). Therefore, the aim of this study was to evaluate the effectiveness of acceptance and commitment based therapy on emotional self-regulation and self-care of coronary artery patients. Accordingly, the hypotheses of this study were:

1- Acceptance and commitment-based therapy has an effect on emotional self-regulation of coronary heart patients; 2- Acceptance and commitment based treatment has an effect on self-care of coronary heart patients.

Method

The present study was a quasi-experimental study. The statistical population included all women with coronary artery disease in the age range of 30 to 75 years in Qazvin. Availability sampling method and sample size of 30 people, which was used to estimate the sample size of GPower software. The test for data analysis was analysis of covariance. The sample size for each group was 15 people, who were randomly divided into two groups. The experimental group received acceptance and commitment based treatment, but the control group was placed on a waiting list. Then the pretest was performed between the two groups and the posttest was performed after the clinical intervention. The treatment session protocol was based on Hayes and Estrosahl's Acceptance and Commitment book (2010), and the training sessions were conducted as a group for the experimental group for two months, in eight 90-minute weekly sessions. Research tools included:

Self-Regulation Scale: This scale was designed by Ibanez, which had 25 items and measures self-regulation in five areas (Ibanez, et al., 2005). The range of scores were between 25 and 125 points. Higher scores indicated higher levels of self-regulation. Cronbach's alpha coefficients from 0.68 to 0.84 confirmed the internal consistency of the scale. Cronbach's alpha coefficients in the present sample for total self-regulation was 0.94.

Self-care behavior questionnaire in patients with heart failure: This questionnaire was designed by Jaarsma with 12 items, the range of scores was between 12 and 60 points, which was a lower score means better self-care behavior. The validity of this questionnaire was confirmed by content validity method and its reliability was determined by Cronbach's alpha of 0.81 (Jaarasma, et al., 2003). In the present study, the internal consistency of the questionnaire was confirmed by Cronbach's alpha coefficient of 0.88.

findings

In the above study, 30 patients with coronary arteries were studied, all of whom were females and married (76%). Also, most respondents (47%) reported their age group between 50-62 years. Based on the table below, the results of univariate analysis of covariance by controlling the effect of pretest showed that the group had a significant effect on pretest scores that considering the ETA square, it can be said that 88.6% of the self-care changes were due to the effect of acceptance and commitment-based treatment on coronary heart disease patients. Therefore, it can be said that the effect of acceptance and commitment therapy on coronary heart disease patients has been effective.

Table 1. Summary of Univariate Covariance Outcomes the Impact of Acceptance and Commitment Therapy on Self-Care in Coronary Heart Patients

The Source of The Effect	The Sum of Squares	Degree of Freedom	Mean of Squares	F	Significance	eta^2
Pre-test	1.25	1	1.25	42.82	0.000	0.61
Group	6.16	1	6.16	210.27	0.000	0.88
Error	0.79	27	0.02			
Total variance	425.32	30				
Modified variance	7.86	29				

According to Table 2, there is a significant difference between the experimental and control groups in the component of emotional self-regulation (F = 4.16 and P <0.05). In this way, the emotional self-regulation score of the experimental group is significantly higher than the control group. The group variable explains 18.2% of the variance of emotional self-regulation. There is no significant difference between the experimental and control groups in the component of positive performance (F = 0.636 and P> 0.01). Therefore, our null hypothesis is confirmed and our main hypothesis is rejected.

There is no significant difference between the experimental and control groups in the control component (F = 1.45 and P> 0.01). Therefore, our null hypothesis is confirmed and our main hypothesis is rejected. There is a significant difference between the experimental and control groups in the component of revealing feelings and needs (F = 8.52 and P <0.05). In this way, the self-disclosure of feelings and needs score of the experimental group is significantly higher than the control group. The group variable explains 31.3% of the variance in revealing feelings and needs. There is no significant difference between the experimental and control groups in the component of determination (F = 2.56 and P> 0.01). Therefore, our null hypothesis is confirmed and our main hypothesis is rejected. There is a significant difference between the experimental and control groups in the component of welfare-seeking (F = 3.93 and P <0.05). Thus, the welfare-seeking score of the experimental group is significantly higher than the control group. The group variable explains 17.3% of the variance in revealing feelings and needs.

Table 2. Summary of Multivariate Covariance Outcomes the Effect of Acceptance and Commitment Therapy on Emotional Self-Regulation in Coronary Heart Patients

	The Source of The Effect	The Sum of Squares	Degree of Freedom	Mean of Squares	F	Significance	eta^2
Group	Emotional self-regulation	2.31	3	0.77	4.16	0.010	0.18
	Positive Performance	1.62	3	0.54	0.63	0.595	0.03
	Controllability	2.72	3	0.90	1.45	0.237	0.07
	Revealing of feelings and needs	9.87	3	3.29	8.52	0.000	0.31
	Decisiveness	3.85	3	1.28	2.56	0.064	0.12
	Welfare-seeking	3.01	3	1.00	3.91	0.013	0.17
Error	Emotional self-regulation	1. 36	56	0.18			
	Positive Performance	47.82	56	0.85			
	Controllability	34.99	56	0.62			
	Revealing of feelings and needs	21.62	56	0.38			
	Decisiveness	28.11	56	0.50			
	Welfare-seeking	14.38	56	0.25			

Discussion and conclusion

The results of the present study showed that acceptance and commitment based therapy was effective on emotional self-regulation and self-care of cardiovascular patients. Therefore, the research hypotheses were confirmed. These results were consistent with the findings of
Mirzaeidoostan (2019), Navidian (2017) and Lee (2017). Limitations of this study were included: that it had been performed only on coronary artery disease patients, so to generalize the results to other communities, caution should be observed, in addition to the limited area of the study (Qazvin province only). According to the results of this study, acceptance and commitment based therapy is one of the effective non-pharmacological therapies in the psychological management of this disease and it is necessary to be considered as an effective treatment along with Pharmacological therapies. It is also suggested that this study be performed in other psychiatric illnesses using random sampling and longer follow-up periods to evaluate the stability of the treatment effect.

Resources

Dashti-khavidaki, S. and khalili, H. (2016). *Pharmacotherapy of Cardiovascular and Respiratory*. Arjomand Pub. Tehran, 136.

Grandey, A. A. and Melloy, R. C. (2017). The state of the heart: Emotional labor as emotion regulation reviewed and revised. *Journal of Occupational Health Psychology*, 22(3): 407-422.

Hayes, S.C. and Strosahl, K.D. (2010). *A practical guide to acceptance and commitment therapy*. New York: Springer Science and Business Media Inc.

Psychological Studies
Submit Date: 2020-06-01
DOI: 10.22051/PSY.2020.31600.2248
https://psychstudies.alzahra.ac.ir/article_5214.html

Vol. 16, No. 3, Autumn 2020, Serial No.60
Accept Date: 2020-12-04

Ibanez, M.I., Ruiperez., M.A., Moya, J., Marques, M.J. and Ortet, G. (2005). A short version of the self-regulation inventory (SRI-S), *Personality and Individual Differences,* 39(6): 1055-1059.

Jaarasma, T., Stromberg, A., Marttensson, J. and Dracup, K. (2003). Development and testing of the European heart failure self-care behaviors scale. *The European Journal of Heart Failure,* 5(3):363-370

Lee, K.S., Moser, D.K., Pelter, M.M., Nesbitt, T. and Dracup, K. (2017). Self-care in rural residents with heart failure: What we are missing. *European Journal of Cardiovascular Nursing,* 16(4):326-333.

Mirzaeidoostan, Z., Zargar, Y. and zandi Payam, A. (2019). The effectiveness of acceptance and commitment therapy of death anxiety and mental health in women with HIV in Abadan city, Iran. *Journal of Psychiatry and Clinical Psychology,* 25(1): 2-13 (Text in Persian).

Navidian, A., Mobaraki, H. and Shakiba M. (2017). The effect of education through motivational interviewing compared with conventional education on self-care behaviours in heart failure patients with depression. *Patient Education and Counselling,* 27(155):46-59. Doi:10.1016/j. Pec.2017.02.023.

Sponsorship: This article had no sponsor.

Acknowledgments

We would like to express our sincere thanks to the esteemed officials of the Islamic Azad University, Semnan Branch, Pasteur Hospital in Qazvin, Qazvin Heart Clinics and all the patients who assisted the researchers in conducting this research.

5