

The Comparison of Coping Styles in Heart Patients and Healthy Individuals

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ARTICLE INFO

Article history:

Received 25 Mar 2017

Received in revised form 29 Apr 2017

Accepted 16 May 2017

Keywords:

Heart disease,

Healthy individuals,

Coping styles,

Age and sex.

ABSTRACT

Objective: The aim of the present study is to compare the coping styles in the heart patients and healthy individuals. In this study, it has been used a causal-comparative method, the case-control study which was retrospective cohort study. **Methodology:** Therefore, 60 individuals have selected randomly (30 the heart patient, 30 healthy individual) from visitors to the Imam Khomeini hospital and clinic of specialized doctors in the year 2011 by using the available sampling method and coping styles and also coping styles' tests were implemented on them. **Results:** In this study, healthy individuals have reviewed and compared in terms of age and sex, which they matched in the same conditions with patients. The research's data has analyzed systematically by multivariate variance analysis statistical methods and regression analysis. **Conclusion:** The results of the data indicate that there is no significant relationship in patients with heart disease in terms of coping styles.

1. Introduction

Investigation of psychological features and scenarios and the nature of their relationships with health and disease is a way that should be decrypted the secret. One of the very sensitive diseases to psychological features is cardio-vascular disease. According to done reviews, this disease in the Western world is more than any other disease, which causes death. To determine whether psychological factors in the etiology of these diseases has a role or not, it has done important implications for prevention and treatment. In the last few decades, it has done a vast research on the etiology of heart disease and the role of psychological factors has been reviewed such as personality characteristics, patterns of behavior, physical reaction, self-involvement, control, anxiety, depression, neuroticism, anger spilled out which indicates the heart diseases (Kneier & Temoshok, 1984). Reviews showed that people with CHD comparing of healthy individuals encounter with the issues and problems of life and stressful conditions emotionally. People with serious physical illnesses are often in a continuous challenge to keep their life quality and their well-being. Hereof the personal control is as basic features of human beings. It should be noted in the incidence of heart disease that is one of the main factors of coping, which has an important role in the disease compatibility (De Vente et al., 2003). Coping techniques, including problem solving is as the ways to deal with stress and solve difficulties of life. In order to promote the life to the most desirable level, people can learn different ways of coping with stress. The occurrence of stressful events in the lives of people with disability in problem solving skills leads to non-effective coping styles and not only the previous problems cannot be resolved, but also new problems and issues would be happened (Nahlén & Saboonchi, 2010).

The results of many researches represent permanent relationship between the number of stressful events in human's life with his emotional and physical health. Coping styles have been classified in different forms (Hallman et al., 2003).

One of the common classifications is that, coping styles have perceived as the orientation coping process towards the problem or a person's emotions, which divided to the problem solving and emotional coping strategies. In the problem-solving coping, the individuals focus directly on stressful situations for moderating stress and reaching to the goal. Thus, the problem-solving coping is the action-driven circuit. However, in the emotional coping, the individual excitement set up the associated emotional, or modes caused by the stress factors for moderating and dealing with stressful factors and reaching to the goal. The results of the various studies show that the type of used coping styles impact not only mental health, but also physical well-being of the individual. The type of individual's assessment of the situations also affects his coping way with stressful factors. Therefore, the coping styles are mediator factors between stress and physical or mental disorder. The topics, which involved in the field of psychological and physical health of people have

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DOI: <https://doi.org/10.24200/jsshr.vol5iss02pp58-64>

relationships with incentives, are documents. The individuals' explanation of everyday events and situations has a significant impact on the physical health (Gysels & Higginson, 2011).

Cardiovascular diseases are the most common causes of disability and death in adults. Heart disease is as diseases which have a great variety and in the recent years, some evidence have shown that psychological factors have relationship with cardiovascular and its progression. Heart disease is any damage to artery, which causes narrowing blood vessels and decrease blood flow to the heart muscle, which is the most important cause of sclerosis osteoarthritis on the walls of the artery (Badger, 1992). And, it is included one of the three causes of death alongside cancer and stroke in most industrial countries. Many social and psychological factors are mentioned with heart disease, which increases the risk of stricken with it, so here the psychological stressful factors have an important role in the causing or resonance and continuity of this disease. Reviews at the University of Florida showed that psychological and social variables have a significant role in a repetition of angina. It was concluded in the study that if people were constantly and for a long time suffered from anger and hostility and aggression, the probability of the occurrence of sclerosis arthritis and heart disease would be five times more (Ekman et al., 2002).

They have mentioned in their research to a negative correlation of stricken with cardiovascular disease and a tendency to chuckle in social situations and positive correlation with the level of hostility. Some evidence reported type A of heart disease-prone, which has three major features, namely the existence of emotional hostility, tendency to the anger, rage, and suppress the emotions. Among the risk factors of heart disease, the stress factor is considered as important factors and the effect of stressful factors on the psychological health depends on the characteristics of factors, cognitive evaluation strategies, and coping methods, which individuals used them in their compatibility (Rohrbaugh et al., 2002). It is known that the coping process without doubt correlates with mental health and stability. Therefore, the coping pattern with stress underlies this disease more than stress itself. It must be mentioned that individuals' physical health depends more on emotional health and mental health in the community. In recent years, it has been emphasized on the significance of the role of coping strategies and how to deal and the appropriate control the stressful events, and the style of individuals' life is how in physical and mental status (Dracup et al., 2004).

Studies indicate that efficient coping styles (the problem solving, logical, and discrete) has a positive relationship with psychological well-being and inefficient coping styles (the emotional and avoidance) has a direct relationship with physical diseases. In the context of the relationship between coping style and mental health has known as mediated coping between stress and diseases (Ahadi et al., 2014).

Some of the findings show that the problem-solving coping in controllable situations cause reduction in the symptoms of the disease. while the emotional coping in uncontrollable situations causes reduction in the disease. Emotional coping styles are as the biggest predictor of disability cardiac patients. Longitudinal studies have shown that active coping styles (problem solving) help the patient to handle his disease and add on his lifetime. Considering that the individuals would cope through the emotional and cognitive strategies, and this style may be as emotional cognitive or behavioral therapy, hence all coping styles act in the role of the continuation of the schema process (SON, 1995).

-In the research, it has been studied the role of psychosocial risky factors, namely, stress and coping ways with it and social relations quality. In terms of the results showed that patients with acute coronary heart disease encounter with life's stressful events, which have experienced the mental turmoil more than healthy individuals have, and their coping responses based on more emotional inhibition, and on the quality of their relationships causes more conflict between individuals. As well as chronic vascular patients, compared to healthy individuals in all cases had similar situation of acute vascular patients, but there was not a significant differences between the two groups in any of the factors. This survey showed that the amount of discomfort caused by stress, emotional responses in dealing with stress and conflict between individuals in their social relations has a role of determining in cause and aggravate heart vascular diseases (Lindqvist et al., 2000).

-In a study, which the purpose of the research was studying comparatively coping responses and important events of life with coronary patients, which are done on 50 coronary male and 50 non-coronary males, which shows the dealing ways' changing with stress and coping styles plays an important role in reducing risk of coronary artery disease.

-In a research, there is significant relationship between using emotional way and the perceived amount of fear. Meanwhile people who have used emotional ways to deal with their daily issues, so more amount of stress will be perceived. According to the results of the study, the female subjects use emotional styles to solve daily problems and issues.

-Quoting from a research showed that there is a significant relationship between the problem-solving skills and mental health.

-Research consistent with the previous researches' results showed that there is a significant relationship between mental health and coping strategies. In this way, if the person use more problem solving coping strategies, he would have higher mental health, and will show less symptoms of physical, anxiety, social dysfunction and depression and vice versa if each individual use more emotional coping strategy, he would have less mental health and more physical damage, anxiety and social dysfunction and depression.

-The findings of a research, have shown that the efficient coping styles (problem solving, logical and discrete) has a positive relationship with psychological well-being and inefficient coping style (emotional and avoidance) has a direct relationship with physical diseases.

-The results in the context of the coping styles relationship and mental health showed that mediating coping has known between the stress and the disease.

-It is shown that positive and negative beliefs have a positive relationship with the talent of the individual in the face of pathological concern.

-In a research done, the optimistic coping style is the most common and effective among the heart attack patients.

-Some of the findings a research show that problem solving coping in controllable situations reduces the symptoms of the disease. However, the emotional coping in non-controllable situations causes to reduce the disease.

-The results of a research show that stressful patients and worsening general health are seen more in those who use emotional coping continuously.

-The results of a study of have introduced the emotional coping as the most effective mediator of the relationships between stress and disease.

-The results of a research showed that women in comparing with men get a higher score in emotional and avoidance coping styles. In other words, men in comparison with women show inhibitions that are more emotional in stressful situations.

-The results of a research, indicate that the problem-solving ways have more correlation with some psychological characteristics, like autarchy and positive emotions.

-Concluded in a research is shown that neurotics people use more emotional and negative styles, like avoidance, because they consider the life's events not as a kind of challenge but as a threat.

-The results of a study showed that emotional coping strategies not only have no role in changing the position, but also it may lead to be longer and the persistence of the symptoms of the disease.

-Several studies, hormonally showed that people who use more negative strategies like avoidance, denial continence has more risk at coronary heart disease than people who use more positive strategies. Also in this study, heart patients only have significant differences in two styles of avoidance and continence with healthy people, and according to these findings, 13.7% of the heart patients use self-control coping style and 20% use avoidance style and in healthy people, 26% use self-controlling and 15 % use avoidance.

-The findings of some researches hormonally showed that in dealing with the psychological pressures, the directional practical reactions had divided to the attack, retreat and the psychological moderator and thus all of them can be considered as normal reactions unless they will be excesses and wastage.

-The results of the group research indicate that (2010), the individuals with high life satisfaction experience have more emotions that are positive and remember the more positive events of past and the future of themselves and others, also they have more positive assessment from their environment, and they are pleasant (Gysels & Higginson, 2011).

2. Materials and methods

2.1 Research Methodology:

This study was a casual-comparative and a kind of case-control study, which has done retrospectively. In this study, the purpose is the probability or possibility of cause and effect relationships between variables by using an accurate evaluation of the achieved results and data is based on the finding of casual variables. In this present study, it has considered that the group with two levels (patient and healthy individuals) is as the independent variable and coping styles are as the dependent variables.

Statistical Society, Sample, and Sampling Method:

The Statistical Society of this study has formed all the patients with heart diseases (woman and man), referring to Imam Khomeini Hospital and the clinic of the physicians in the city of Ardabil in the years 2010-2011, which their numbers are almost 3250 individuals. Healthy individuals' community includes staffs and caregivers of patients matched with demographic characteristics (gender). The statistical Society has recommended in casual-comparison method at least 15 individuals for each group and in the correlation method at least 30 individuals. Due to environmental factors and control of troublesome variables, the sample size has considered 60 individuals (30 individuals of heart disease and 30 healthy individuals). In the present study, the sampling method is available. In this study, it has tried that the healthy individuals who have compared and reviewed with heart patients in terms of age, sex, and occupation matched in terms of heart patients. The aim of the study has explained to these individuals.

2.2 Data Collection Methodology:

In order to collect data after coordinating, they referred to Imam Khomeini hospital in the heart sector and clinics of the related physicians to heart diseases and after doctor's diagnosis to being sick, the questionnaires were given to them, then they have been collected after filling out a questionnaire by heart patients and healthy groups. After collecting and entering data into the computer, the data was analyzed statistically.

2.3 Data Collection Tools:

Questionnaire of coping methods:

The questionnaire of coping ways consists of 65 articles, which measures eight problem solving and emotional centered methods. This octet pattern is divided into the two groups of problem solving methods (searching social supports, accountability, the planned problem solving and positive reappraisal) and emotional centered (confrontation, refrain, scape and avoid and continence). The respondents' answer to the questions of this questionnaire were selecting one of the four options «I did not use», «I somewhat used», « I often used », and "I used much». These options get scores respectively 0,1,2,3. It was reported the internal consistency coefficient 0.66 to 0.79 for each coping methods. In a study, the Cronbach's alpha coefficient has reported 0.61 to 0.79 and correlation coefficient was between the scales of this questionnaire, which has gained from 0.1 to 0.39.

2.4 Data Analysis Methodology:

In order to analyze data, they used descriptive and inferential statistics according to the available hypothesis and variables. In order to describe the data, they used descriptive statistics (average and standard deviation, etc...). In order to analyze the hypothesis of the study, they used multivariate variance analysis (MANOVA).

3. Discussion and results

Table 1. Frequency distribution and percentage of gender in healthy subjects and heart patients

		Healthy Subjects		Heart Patients	
		Frequency	Percentage	Frequency	Percentage
Gender	Man	30	50	30	50
	Woman	30	50	30	50
	Total	60	100	60	100

As it is observed in the table 1, 50% of the healthy subjects are men and 50% of healthy subjects are women. As well as 50% of heart patients are men and other 50% are women.

Table 2. Frequency distribution and the percentage of the academic status of healthy subjects and heart patients

		Healthy Subjects		Heart patients	
		Frequency	percentage	Frequency	percentage
Academic Status	High Scholl Diploma	3	10	6	20
	Diploma	5	16.66	12	40
	Associate Degree	17	56.66	8	26.66
	Bachelor	2	6.66	2	6.66
	Master's Degree and more	3	10	2	6.66
	Total	30	100	30	100

Table 3. Frequency Distribution and Percentage of Smoking in healthy Subjects and heart patients

		Healthy Subjects		Heart Patients	
		Frequency	Percentage	Frequency	Percentage
Smoking	Yes	1	3.33	8	26.66
	No	29	96.66	22	73.33
	Total	30	100	30	100

3.1 Descriptive Findings

Table 4. Frequency distribution and standard deviation of coping styles in healthy subjects and heart patients

Coping Styles	Health Subjects		Heart patients	
	Average	standard deviation	average	standard deviation
Emotional	35.53	11.02	36.10	9.15
Problem Solving	30.53	8.49	28.43	10.60

As it can be observed in table 4, the average and standard deviation of emotional coping style in healthy subjects is (11.02-35.53), in heart patients is (9.15-36.10), while the average and standard deviation in problem solving coping style of healthy subjects is (8.49- 30.53) and in heart patients is (10.60-28.43).

3.2 The Inferential Findings

1. There is a difference between coping styles in heart patients and healthy subjects.

1-1 There is a difference between emotional coping styles in heart patients and healthy subjects.

1-2 There is a difference between the problem-solving coping styles in heart patients and healthy subjects.

Table 5. Box test for the average of emotional and problem-solving coping styles

Index	Amount
Box	7.587
F	2.434
DF1	3
DF2	605520.000
Significance level	0.63

Table 5 shows that the box test is not significant. In other words, the difference is not significant between Covariance.

Table 6. The results of Levene test for coping styles

Variables	F	DF1	DF2	SIG
Emotional	0.857	1	58	0.358
Problem Solving	0.663	1	58	0.419

As it can be observed in table 6, Levene test is not significant. Based on the results, the anticipation of assumption of homogeneity variance in the above variables has confirmed in the two groups. This test was not significant for any of the variables; as a result, using parametric tests is permitted.

Table 7. Data related to the credit indexes of multivariate variance analysis test in the emotional and problem-solving coping styles of heart patients compared with healthy subjects

Test's name		Amount	F	Error of Df	Hypothesis of Df	P	Square
Model	Pillai's Trace	0.931	386.873	2	57	0.000	0.931
	Wilks' Lambda	0.069	386.873	2	57	0.000	0.931
	Hotelling's Trace	13.574	386.873	2	57	0.000	0.931
	Maximum of root error	13.574	386.873	2	57	0.000	0.931
Group	Pillai's Trace	0.34	0.016	2	57	0.368	0.034
	Wilks' Lambda	0.966	0.016	2	57	0.368	0.034
	Hotelling's Trace	0.36	0.016	2	57	0.368	0.034
	Maximum of root error	0.36	0.016	2	57	0.368	0.034

As it can be observed in table 7, the significant levels of coping styles test can allow using the multivariate variance analysis (MANOVA). These results also show that there is a significant difference among the heart patients and healthy subjects at least in terms of one of the dependent variables. ETA square shows that the difference is not significant totally between the groups with respect to the dependent variables. The amount of the difference is 34%, so the hypothesis 1 is not accepted.

Table 8: The results of significance test of multivariate variance analysis of (MANOVA) in the entire properties of the emotional coping styles

	Dependent variable	SS	DF	MS	F	P
Model	Emotional	76970.017	1	76970.017	0.047	0.000
	Problem Solving	52156.017	1	52156.017	0.716	0.000
Group	Emotional	4.817	1	4.817	0.047	0.829
	Problem Solving	66.150	1	66.150	0.716	0.401
Error	Emotional	5954.167	58	102.658		
	Problem Solving	5354.833	58	92.325		

As it can be observed in table 8, the emotional coping style: There is not a significant relationship between heart patients and healthy subjects ($P < 0.000$). Therefore, it can be concluded that the hypothesis 1-2 is not approved.

4. Conclusion

The most important step in any type of study is discussion and conclusion. In explaining these findings, it can be said that there is a close relationship between psychological factors and psychosomatic diseases. With regard to the entries listed, reviewing the ways of reducing psychological pains, this group of patients seems imperative. The aim of this present study was to examine the coping styles of heart patients and healthy subjects.

Based on the findings of the research, the following results are obtained:

First hypothesis of this study was that there is a difference between coping styles of heart patients and healthy individuals.

Based on the obtained findings, there is not a significant relationship in terms of coping styles of heart patients and healthy subjects. According to table 4, the average amount of healthy subjects in the emotional coping styles components (face-to-face protection, responsibility, problem solving and positive assessment) are more than heart patients do. So, it can be concluded that healthy subjects use the problem-solving coping styles more. While the rate of average scores of heart patients is in the emotional coping styles of circuit (being away and escape). So, it can be concluded that the heart patients coping styles (being away and escape) is more. So, it can be concluded that heart patients use the emotional coping styles more (Nahlén & Saboonchi, 2010).

The individuals who use the problem-solving coping styles are the ones that are more being sought constructive in relation to stressful conditions to reduce pressures and increase the stress management. And they try to identify the source of this stress and change or delete it, so, these findings match with the results of the literatures. The patients who use the emotional coping styles of the excitement of the circuit (being away-scape) instead of trying to adjust the emotional consequences of stressful event and they maintain emotional balance through the emotional control of stressful situations be away from the position, and instead of fighting to solve the problems, they go to another position. These results match with the findings of studies. So, it can be imagined that there is some sort of bilateral relationships between coping style and physical health (Rohrbaugh et al., 2002).

The results of the findings show that the emotional and problem-solving coping styles are significant in the vulnerability schema than the loss or illness, emotional deprivation and obedience, so it can be concluded that the schema is effective in creation of emotional and problem-solving coping styles in the heart patients (Ahadi et al., 2014).

Due to the heart disease, that is one of life threatening diseases in the modern communities. Be stricken with it causes the risk in the economic welfare because of the high cost for the care and treatment of mental and emotional problems for patients. Research on the psychological factors associated with them is essential in the emotional and mental health of patients. Therefore, by looking at this research, it should be considered that the environmental factors are in psychological creators or involvement suppliers in heart patients, including coping styles, which can promote the health of heart patients and healthy subjects.

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How to Cite this Article:

Zeighami Zh., Azarvash L., Reza Kazemi R., The Comparison of Coping Styles in Heart Patients and Healthy Individuals, Uct Journal of Social Sciences and Humanities Research 5(2) (2017) 58–64.