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The Effectiveness of Changing Lifestyle Education on Physical and Mental Health of Patients in Sanandaj

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Abstract

This study aimed to determine the effectiveness of changing life-style education on improving the physical and mental health of patients with cardiovascular disease. For this purpose, among patients referring to the cardiovascular clinic of Tohid Hospital in Sanandaj, in 2016,using random sampling, with available medical records, 30 subjects were selected in experimental and control groups (15 in the experimental group and 15 in the control group) and the age range was 20 and higher. For collecting data before and after training, the general health questionnaire by Goldberg and Hiller (1979) was used. The results of single-variable covariance analysis (ANCOVA) showed that there was no significant difference in lifestyle-based education on physical and mental well-being of normal people with cardiovascular disease (p>.05).

Keywords: Cardiovascular Disease, Lifestyle, Physical-Psychological Health

1. Introduction

Lifestyle is a way that people choose throughout their lives and its basis is built in the family, which is in fact influenced by culture, race, religion, economic and social status and beliefs. The World Health Organization treats lifestyle as a distinct and well-defined pattern, resulting from the interaction between personal characteristics, the interaction of social relationships, environmental conditions, and socio-economic status (Karr, 2000). Cardiovascular disease is one of the most common causes of disability and mortality. Heart disease is caused by insufficient blood and oxygenation to the heart muscle and will be the main cause of death in the year 2020 (Monirpor & Khoosfi, 2011).

Most heart attacks are caused by cramping or stenosis of coronary arteries, or in other words, atherosclerosis. This phenomenon is the formation of bulges in the interior wall of the arteries, which is caused by the sedimentation of certain substances, including cholesterol (a type of fat) inside the vain. With the accumulation of platelets on the fatty muscles, intravenous duct gradually gets tighter; ultimately, it reduces blood flow to a part of the heart muscle, which in turn can cause symptoms like chest pain during activity and even rest. In the event of complete obstruction of the coronary arteries due to excessive plaque growth or clot formation on these plaques the blood flow is destroyed in the same area of the heart, which causes death of the heart muscle or (coronary infarction). Clinical studies, laboratory research, and social studies confirm that some individual characteristics of life style increase the risk of heart attacks. These factors are called risk factors (Khazemi & Meleki, 1998). Cardiovascular disease is referred to as a group of multiple failures in which the heart, arteries, and veins lose their normal function. Cardiovascular disease is one of the most common causes of morbidity and mortality. Heart disease is caused by insufficient blood and oxygenation to the heart muscle, and will be the main cause of death for people by the year 2020 (Monirpor & Khoosfi, 2011). If the occlusion of the oxygenated bloodstream to the heart occurs only for a short time or is incomplete, the person will feel

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painful contractions known as angina pectoris. The most common symptom of coronary artery disease is angina (AHA, 1995).

The prognosis of a patient after a heart attack depends on several factors, such as the extent of vascular and muscular damage, and the conditions of the heart's ventricles. Risk factors that are important in heart disease are history of heart disease in the family, high blood pressure, smoking, obesity, diabetes, physical inactivity, stress and anger that increase blood pressure. These increase the risk of heart disease, including heart attacks (Campbell, 2001). Research has shown that in very stressful situations, individuals are acting in a way that increases the likelihood of a disease or injury. Stress in the physiological system of the body makes a lot of changes that can affect health. During stress, a clear relationship has been found between the disease and the reactivity of the immune system, cardiovascular and endocrine glands. Cardiac responsiveness involves physiological changes that result in stress in the heart and blood vessels. (Cockerham et al, 2004). Coronary heart disease is the main cause of death by 2020 (Monirpour & Khosfi, 2010). Lifestyle as an important factor has always been the focus of health education and health promotion. Generally, factors affecting health can be categorized under four factors, 16% inheritance, -10% health care, -21% of the environment and 51% Lifestyle and habits related to the health of individuals (Lara, 2003). It should be noted that 80% of heart disease can directly be attributed to risk factors such as hypertension, obesity, diabetes and smoking, which can be changed through lifestyle changes, and it is important to take into account that 70% of deaths from heart attacks can be prevented by lifestyle changes. Several factors such as anxiety and depression, social stress, conflict of hostile behavior can lead to contraction of coronary anomalies, increased coronary artery obstruction, malignant heart disorders and consequently cardiac disability. Psychosocial factors increase the risk of cardiovascular disease directly or through physiological risk factors (Harrison et al, 2006). Therefore, in view of personality traits and the undeniable role of factors such as lifestyle that every person has to follow during his adolescence, middle age and olde age, to upgrade their physical and mental health and also avoid risk factors related to the unhealthy lifestyle, therefore, this research seeks to answer the question whether Lifestyle-Based Education contributes to improving the physical and mental health of patients with cardiovascular disease?

2. Materials and Methods

This research is applied in terms of the purpose andsemi-experimental in terms of implementation with Pre-test and post-test with control group. The statistical population of this study is the patients referred to the cardiologic and cardiovascular clinic of Tohid Hospital in Sanandaj city in 2016. The statistical population of this study was 30 patients with cardiovascular disease who were selected through voluntary and available medical records. Subjects were randomly assigned to 15 subjects in the control group and 15 in the experimental group. In this research, the 28-qustion general health questionnaire by Goldberg and Hiller (1979) was used. To determine the extent of physical and mental health promotion, subjects' scores in the Goldberg and Hiller questionnaires are examined. In this way, the questionnaire is given to the control and experimental group that has been chosen completely randomly. After a clinical interview, according to the lifestyle intervention protocol, which has 6 counseling sessions, it is done on the experimental group and nothing is done for the control group. After the completion of consultation sessions, a questionnaire is conducted between the experimental and the control group and its effectiveness on the experimental group is checked against the control group. To analyze the data, descriptive statistics (mean frequency and standard deviation) and inferential statistics of covariance test were used.

3. Findings

The most frequent age group was 28-35 years old (46.7%), in the experimental and control groups, 20% were single and 80% were married. In the experimental group and control group, 7 people, 23% were male and 23 people77% were female. Most of the control group had 11 (73.3%) of the under-diploma education. Most of the control group had 6 patients (40%) who were 3 to 5 years old.

The main hypothesis: Lifestyle-based education leads to improved physical and emotional well-being of ordinary people with cardiovascular patients.

ANOVA was used to analyze the data for this hypothesis. In this analysis, the mean post test of the experimental group was compared with the mean of the control group and the pre-test scores were used as auxiliary variables.

As shown in Table 1, after adjusting the pre-test scores, there is no physical improvement between the impact of the two test groups and the difference between the two

Table 1. Results of covariance analysis. The difference between the public health test in the test group and control

Source	Sum of Squares	DF	Average Squares	StatisticsF	Sig	Eta Squared
Physical and Mental Recovery	1.849	1	1.849	.016	.900	.001
Group	29.127	1	29.127	.252	.620	.009
Error	3126.684	27	115.803	-	-	-
Total	13143.000	30	-	-	-	-

Table 2. Results of covariance analysis the variance behind the test of physical symptoms in the test group

Source	Sum of Squares	DF	Average Squares	StatisticsF	Sig	Eta Squared
Physical symptoms	109.413	1	109.413	8.550	.007	.241
Group	.320	1	.320	.025	.876	.001
Error	345.521	27	12.797	-	-	-
Total	1358.000	30	-	-	-	-

Table 3. Covariance analysis results Post-test difference between anxiety symptoms and sleep disorders in the experimental and control groups

Source	Sum of Squares	DF	Average Squares	StatisticsF	Sig	Eta Squared
Symptoms of Anxiety and Sleep Disorders	5.917	1	5.917	.384	.541	.014
Group	.378	1	.378	.025	.877	.001
Error	416.217	27	15.415	-	-	-
Total	1042.000	30	-	-	-	-

Table 4. Results of covariance analysis of the difference in posttest of social function in the experimental and control group

Source	Sum of Squares	DF	Average Squares	StatisticsF	Sig	Eta Squared
Social Function	6.049	1	6.049	.759	.391	.027
Group	.353	1	.353	.044	.835	.002
Error	215.285	27	7.974	-	-	-
Total	1748.000	30	-	-	-	-

test groups ($F_{(1 \& 27)=}$ 0/252 and Sig = 0/620). Therefore, the null assumption that the difference between the two groups is not confirmed and concluded is that the lifestyle - based training is not effective on the physical improvement of individuals with cardiovascular disease.

First sub-hypothesis: Lifestyle-based education can improve the physical symptoms of people with cardiovascular disease.

As shown in Table 2, there is no significant difference between the two experimental and control groups after adjusting the pre-test scores for improving the physical symptoms ($F_{(1 \& 27) =}$ 0/025 and Sig= 0/876).

Second sub hypothesis: Lifestyle-based education can improve the symptoms of anxiety and sleep disorders in people with cardiovascular disease.

As seen in Table 3, there is no significant difference between the two experimental and control groups after adjusting the pre-test scores for improving the symptoms of anxiety and sleep disturbancesymptoms ($F_{(1 \& 27)=}$ 0/025 and Sig= 0/877).

Table 5. Results of covariance analysis the difference behind the test of symptoms of depression in the test group

Source	Sum of Squares	DF	Average Squares	StatisticsF	Sig	Eta Squared
Symptoms of Depression in	18.786	1	18.786	2.372	.135	.081
Group	38.023	1	38.023	4.800	.037	.151
Error	213.880	27	7.921	-	-	-
Total	297.000	30	-	-	-	-

Third sub-hypothesis: Lifestyle-based education can improve the social function of people with cardiovascular disease.

As seen in Table 4, there is no significant difference between the effects of experimental and control groups after modifying the pre-test scores for improving the social function ($F_{(1 \& 27)=}$ 0/044 and Sig= 0/835).

Fourth sub-hypothesis: Lifestyle-based education leads to improved symptoms of depression in people with cardiovascular disease.

As shown in Table 5, there is a significant difference between the two groups after modifying the pre-test scores for improving the symptoms of depression ($F_{(1 \& 27)=}$4/800 and Sig= 0/037).

Fifth hypothesis: Learning based on lifestyle changes leads to improved physical health (hypertension) of people with cardiovascular disease.

Results test chi-square shows that there is no significant difference between the prevalence of blood pressure in the experimental and control groups before education based on lifestyle changes.

Table 6. Results test chi-square

	Value	DF	Meaningful two-way
chi-square	1.487	2	.475
Probability ratio	1.880	2	.391
Linear correlation	.000	1	1.000
Number	30	-	-

4. Discussion and Conclusion

Regarding the data on the variables of the two experimental and control groups in the pre-test and post-test in the research, lifestyle-based education is obtained from the physical and mental health of people with cardiovascular disease. There is no significant difference in pre-test between subjects, but there is a significant difference in post-test, and in the data analysis, the inferential interaction of the two groups in the pre-test of physical and mental improvement is not significant.As shown in Table 1, there was a difference between the two experimental and control groups ($F_{(1 \& 27)=}$ 0/252 and Sig = 0/620).

Therefore, the null-assumption based on the lack of difference between the two groups is confirmed and it is concluded that lifestyle-based education has not been effective in improving the physical and mental health of people with cardiovascular disease.

Ahmadi (2015) concluded that the lifestyle of students in clinical sciences was more depressed than the life style of clinical students, but this difference was not made between the lifestyles of basic science students. Tarkan (2008), in the study of the prevalence of depression in medical students in Zahedan, found that women's lifestyles are more depressed than men's lifestyle. Valentine (2008), concludes in a study on students in Shiraz University that the lifestyle of female students has more anxiety and depression than the life of boys. Nurbala and Fakhraei (2001) compared the symptoms of psychiatry in two groups of medical and non-medical students of Tehran University concluded that psychiatric symptoms in the lifestyle of both women's groups (especially in terms of physical complaints) were more than Men's. Kafi, Bulhari and Peyrovi (2009) concluded that country students had a worse condition regarding the subscales of anxiety and depression compared to Tehran students. However, Tehranian students had a significantly higher score in the aggressive subscale. Nasrabadi and colleagues (2010), have investigated the effect of education on the lifestyle of patients with heart disease ischemia. The results showed no significant difference between the two groups regarding blood pressure (p>.05).

According to the research, several results were obtained from physical symptoms, anxiety symptoms and sleep disorders, social function, and depression symp-

toms affecting the lifestyle of cardiovascular patients have, which indicates there are a number of differences between patients, the most important of which are age conditions, marital status, gender, educational level, and duration of illness. Acute coronary syndrome is one of the manifestations of coronary artery disease. The clinical spectrum of this disease has been varied from symptomatic ischaemia to chronic chronic angina, unstable angina, acute myocardial infarction, ischemic cardiomyopathy, and sudden cardiac death. The manifestation of this illness is physical-psychic, so patients are also stressed and anxious in addition to pain, sweating and vomiting. It is not only the inescapable result of aging and the genetic make-up of individuals, and biological, environmental, and psychological variables are involved in its etiology. According to the American Heart Association in 2020, one in every three Americans will have one or more forms of cardiovascular disease. Today, the disease has become a social problem in Iran, with its deaths accounting for 6.4 deaths per 10000 people. At the end of the second millennium, according to the World Health Organization (WHO), a major portion of the developing countries' budget is dedicated to cardiovascular disease. The rapid progress of this disease is a severe and scary psychological experience. There are fears of occupational, social, sexual and physical disabilities in patients (Braunwald, 2012). Also, about 13% of these patients report stress due to hospitalization, fear of death, cardiac surgery and generally fear of the unknown things. Which eventually after a heart attack leads to exacerbation of the disease, interference with the treatment and recurrence of admission (Woods, 2010)? These stressors have a negative effect on the quality of life of these patients by reducing their mental health. What is more important in the process of stress-related diseases than self-stress is the type of coping with a stressor. The results of some studies have shown that emotional and ineffective coping when faced with stress leads to increased stress and thus increases cardiovascular responses in patients (Strickland et al, 2008).

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