

A STUDY ABOUT THE EFFECTS OF HEALTH BEHAVIOR ON LIFE STYLE CHANGES OF THE PEOPLE AFFECTED BY CARDIOVASCULAR DISEASES

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SUMMARY

Health and happiness of the members of a society is the biggest asset of a country for social developments and economic prosperity. A person's health has several dimensions one of the most important of which is the physical health; and among the vital organs, heart plays an important role in maintaining such health. Coronary arteries diseases and the ensuing myocardial infarction are among the most common causes of death in human beings in many countries around the world including Iran.

Teaching health behaviors such as balancing the diet, having regular exercises, quitting cigarette smoking, and management of stress are among the solutions for preventing, caring, curing and returning the patient to the physical, mental and social status he/she had before being afflicted by the disease.

Methods

In a case study, 60 hospitalized patients were chosen based on random sampling and were divided into two groups- control and study- each consisting of thirty people. To gather the data, along with using reliable documents, (patients medical records) a questionnaire was given during the interviews sessions as a pre test and posttest. The questionnaire was given to the study group and it was about the plan for following up health behaviors in the four areas of nutrition, physical activity, smoking and stress before being discharged from the hospital, and a follow up plan for the second, the fourth, the sixth, and the eighth weeks after being discharged.

No interference was done to the control group. At the end of the sixteenth week, the acceptance of health behavior and the change in lifestyle by the study group were measured through a questionnaire, and the data thus obtained was analyzed-using the SPSS software~ by employing statistical descriptive methodology.

W- Results

The results of the research study showed that there was not a meaningful difference among the factors making up the lifestyle in the control and study group at the beginning of the study. However, patient training caused the acceptance of health behaviors in the three areas of nutrition, physical activity and tress, hence public health, but it did not have any positive effects on smoking.

Discussion

Training health behaviors before discharging patients from the hospital and a follow up program at his/her home will cause a change in the lifestyle of some people.

Keywords: patient training, health behavior, lifestyle change, coronary arteries disease

INTRODUCTION

All over the world, coronary arteries diseases are the main causes of death among human beings; and

myocardial infarction is one of its most dangerous complications. This disease accounts for 25% of the total deaths in developed countries. Every year about 1500,000 people are afflicted by this disease in America, and 30% of them e.g. about 500,000, die (Khalifezadeh, 1993,P3) & (Neyshaboori, 1997, P9).

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Coronary arteries diseases and the ensuing heart attacks account for the major reasons of inability to work and the limitation of activities and is the fourth common reason for absence from work, which has great individual, social and economic consequences (Jones & West, 1999, P 208). Up until 30 years ago, this disease was seen mainly in the elderly in developed and industrial countries; however, nowadays it is often seen in developing countries and in young people too. It causes inability or death in people while they are still productive both socially and economically (Mahmaee & et al 2000, P42).

In Iran, the incidence of coronary arteries diseases and the death rate it causes is on the rise in such a way that, according to the statistics, 30% to 35% of Iranians are afflicted by these diseases, and the death rate caused has increased from 20% to 25% in 1985 to 35% to 40% of the total number of deaths in the country in 1990 (Khalifezadeh, 1993, P2) & Motalkalem, 1990, P2).

Myocardial infarction is the prime reason for deaths among the people who are over 35 (Hakim & et al, 1998, P55). And every year, along with developments in technology, decrease in physical activities and social frustrations, the age at which these diseases are observed is decreasing in such a way that while this disease was common only among the elderly 35 years ago, nowadays it is seen in middle aged and even young people. According to a report by The Coronary and Artery Research Center, 35% of heart attack and brain stroke cases occur in people less than 50 (Kakim and et al, 1998, P56) and (Qarooni, 2001, P14). According to the results of a research study done in 1998, the title of which was 'The Outbreak of Coronary Arteries Diseases', the percentage of the incidence of these diseases in Isfahan was 29.1%. They account for 30% of the death toll in this city; and approximately one third of the cases of contacts to emergency services were about aches in the chest or the heart (Momeni, 2001, P11).

According to the latest statistics published by 'The Center for Research on the Heart and Vessels'. 20% of the public in our country have problems related to heart or brain vessels, and in Isfahan, 50% of death cases occur after heart attacks (Isfahan Healthy Heart Periodical, 2002, P3). The increase in the cases of coronary arteries diseases and heart attacks during

70s and 80s in western industrial countries caused the health and treatment systems and also the general public to become concerned and think of the three-part plan for preventing these diseases; therefore, we witness a 21% decrease in death toll resulted from them. A research on the causes of this reduction shows that 39.5% of the cases are medical related interventions, 54% to changes in lifestyles, and 6.5% to unknown reasons (Neyshaboori, 2000, P10). Many authorities believe that establishing and continuing health behaviors and also their practical consequences, which are embodied in individuals, is possible through training.

Training can play a role in different ways. For example, it can cause people to have a better understanding of their own conditions and health, which, in turn, can motivate them to actively participate in their life-style changing process and acquire a number of health behaviors.

Through appropriate training, patient can make logical decisions, pay more attention to his/her health and carry on self-caring process efficiently and create the real and necessary changes in his/her lifestyle (Bruner and Sood Earht, 2000, P4). Patient training program is a part of the rehabilitation program in which prevention itself is considered the third type. Being afflicted by coronary arteries diseases and the ensuing health attacks causes the person to be hospitalized in ICUs, and this creates severe tensions in him/her, makes him/her willing to accept the training phase and be ready to acquire information about his/her disease and also about the ways to recover and reduce the complications and consequences. She will become willing to accept health behaviors (Smith and Plake, 1995, P30). Displaying health behaviors causes reductions in complications and physical and mental limitations, and increases the mental capacity of the patient. The more the acceptance of health behaviors by the patient, the less the complications (Mitchel and et al, 199, P236). Establishing and continuing health behaviors is carried on through training. Training the patient can increase his/her self-awareness about the disease and make him/her willing to actively participate in the rehabilitation programs and making the best use of it (Phips and et at, 2003, P49). Among the health behaviors are proper nutrition, exercise and physical training, programmed weigh losing, paying

attention to symptoms of the disease, accepting and continuing instructions given for his/her treatment, and not smoking cigarettes (Portoperi, 2002, P14).

Heart rehabilitation program is divided into four phases: it starts from the acute onset of the disease and continues after being discharged from the hospital. In the third and the fourth phases, which are longer, the patient should create positive changes in his/her lifestyle by carrying on preventive measures including adjustment of risk factors and proper medicine treatment (Neyshaboori, 1997, P9). Lifestyle is the individual life pattern, which is, embodied his/her activities, likes and outlooks (Atashpoor, 2003, P 76). Lifestyle is one of the most important factors in health and is in fact decisions and behaviors that one uses for his/her health and which are to some extent in his/her control. About 80% of the annual death toll in the USA is related to the lifestyle of the individuals (Monshi, 1997, P 49). Individual's lifestyle is the main element for determining his/her understanding of health, and issues such as regular exercise and health nutrition are of prime importance (Sohrabi, 2002, P 4).

This research was carried on with the aim of studying the effect of teaching health behaviors on lifestyle changes in patients who have coronary arteries diseases referring to selected hospitals in Isfahan in 2003. The aims of the research are as follows: determining the average figures for lifestyle (nutrition, physical activity, cigarette smoking and stress) in the study group before and after training.

Determining the average figures for the lifestyle (nutrition, physical activity, cigarette smoking and stress) in the study and the control group before and after the test.

MATERIALS AND METHODOLOGY:

This research is an experimental study in which the effect of the independent variable of training health behavior on the lifestyle of the subjects was investigated. The population consisted mainly of all patients afflicted by coronary diseases and who had referred to ICUs and internal wards of the selected hospitals in Isfahan (Feiz, Chamran, and Alzahra hospitals). 60 patients with coronary diseases formed the sample; the subjects were selected randomly from

among the chosen population and were studied in two groups-control and study.

To choose the subjects and the necessary data, the researchers collected the samples intermittently in the morning and night shifts from different hospitals affiliated to Isfahan University of Medical Sciences. Meanwhile, health and coronary diseases specialists' confirmation was considered as a basic condition for choosing the samples and conducting the training sessions.

In this research study, the most important tool for gathering data was the questionnaire which was in two different sections; the first part consisted of demographic data which contained seven basic questions about personal information about the population being studied such as age, sex, mental status, education, job, place of residence and the support system. The second part tackled the lifestyle of the subjects, which had been prepared in four subsections of

1. Nutrition,
2. Psychology,
3. Smoking and
4. The general health questionnaire on - managing stress.

The aforementioned questionnaire was prepared using scientific articles and similar questionnaires used in the Heart and Vascular Health Plan affiliated to the government and was ratified by academy members of heart and vascular departments of Isfahan University of Medical Sciences.

The research technique employed was as follows: after taking the samples and choosing the study subjects based on the criteria for entering the study, all members of the study and control groups were interviewed and separate questionnaires were completed for them. Before being discharged, the subjects in the control group were given materials prepared by using authoritative books and materials by the researchers, which had also been confirmed by specialists in the field. The training was given during four 1.5-hour sessions in 30-minute time units taking the patients' general health in to account. Care was taken so that the training sessions would not interfere with the time medicine was being given to the patients and the treatment time of the wards, visiting

time and etc. Training was given through face-to-face contacts and also by giving the related handouts to the subjects. After the subjects were discharged, follow up programs were followed for the study group once every two weeks- in the second, the fourth, the sixth and the eighth weeks. During the sessions, training material was reviewed with the patient and his/her questions were answered. The patient him/herself or their close relatives were asked questions to make sure the items taught are observed. Finally, at the end of the sixteenth week, a posttest was administered to the study group (after performing the multiphase program) and the control group (with no interference) and the related questionnaires were completed.

The data thus obtained are presented in the frequency distribution tables and the necessary graphs have been drawn. The input of this study is mainly quantitative for the analysis of which SPSS software and descriptive and inferential statistical approaches were taken. From the descriptive statistics, frequency calculation, frequency percentage, average and standard deviation of the scores in the four sections of nutrition, physical activity, smoking and stress-general health are worth mentioning, and in the inferential statistics, dependent and independent T tests and covariance analysis were used.

RESULTS:

Since one of the most important variables of this research study was the amount of activity and exercise in the subjects, careful examination was employed. It was found that the training sessions in the study group led to an average of 12.2, compared to the average of 5.06 for the control group. Covariance analysis shows that considering the fact that the f observed at $P < .5$ levels were meaningful; therefore, it can be said that in the posttest given, there was a meaningful statistical difference in exercise and physical activities and between the two groups. And according to Eta coefficient, 7% of the individual differences in physical activity in the two groups resulted from the training rendered.

Nutrition of the subjects being studied is a variable, which is of great importance in investigating the lifestyle and health condition of the subjects. The results obtained showed that the subjects in the control group obtained 137.4 scores in the pre test.

This score was 137.9 for the control group. While in the posttest, the study group obtained a score of 131.5, and this score was 137.2 for the control group. Doing covariance analysis test with $p = .001$ indicated that as far as nutrition is concerned, the control and the study groups did not show any meaningful differences in the pretest, and according to coefficient of Eta, 44% of individual differences in nutrition in the post test was due to the training given.

As an index of health and one aspect in the lifestyle, smoking status was also investigated in the subjects afflicted by coronary arteries diseases at the beginning of the study and before any intervention, and also after the intervention at the end of the study. The average number of times cigarette was used in a day in the study group in the pre test was 4.13, and in the control one it was 3.33. In the posttest, this number was 5.20 for the study group and 3.53 for the control group.

Doing covariance analysis test indicates that f shown at $p < .01$ level is meaningful, and, therefore, the difference between the average of scores in the posttest in both groups after adjusting the pre test scores is meaningful. The last factor, which was used in investigating lifestyle, was changes in approaches to facing and managing stress, which was studied in two phases and in the two groups. Using a questionnaire in the section about mental tensions and problems, it became clear that score differences in general health in the pre test scores was meaningful, and according to the Eta coefficient, 22% of individual differences in the scores were affected by training. Also, in studying stress management approaches and mental stress in both groups, it was shown that still the difference in the average of scores for managing stress in the posttest in both groups after controlling the pre test scores was meaningful, and according to Eta coefficient, 48% of individual differences were due to the training given.

DISCUSSION:

The results of the study showed that training health behavior in nutrition, physical activities and efficient and health behaviors are effective for managing stress, but in accepting health behavior of quitting smoking, training had no effect whatsoever, which seems that various factors such as personality type,

social and occupational environment, interpersonal relationships, culture and even socio-economic issues play a role in starting the habit of smoking. Rahimiha, 2000, states that 84.3% of patients gave up smoking up to 6 months of having heart attacks. They, however, started smoking again. Wivers, 1996, believe that 'Patients afflicted by myocardial infarction should avoid associating with cigarette smokers in their workplaces, homes and parties'. Schoeller, 2000, believes that 'The acceptance of health behavior happens under the influence of several environmental, mental, economical and social factors, and 30 -60% of the patients do not follow doctors' or nurses' instructions' (Schoeller, 200, PP234-236).

Wright et al, 1999, believed that 55% of the patients with coronary arteries diseases have heart attacks and chest pain after being discharged from the hospital' (Wright et al, 2001, PP 533- and Kandelac, 1996, states that 'The likelihood of the onset of chest pain after being discharged is 99%, short breath 50%, perspiration 70% and nausea 6%. He also believes that 'Changing simple behaviors such as quitting smoking, doing regular exercise and having low-fat diet will be effective in reducing the occurrence of these symptoms' (Kandelac and et al, 1999, PP 841-845).

As for physical activities Dafo believes that 'Doing moderate exercises three times a week for 30 minutes including the time spent on warm up is effective for increasing physical capacities, hence in preventing cardio vascular diseases (Pashcodano, 1999, P 814).

Considering the results obtained, the researchers believe that teaching patients afflicted by coronary arteries diseases health behaviors is effective in accepting health behaviors and causes changes in their lifestyle. Training should always be considered as one of the most important factors for the prevention and rehabilitation of coronary arteries diseases, and systematic and defined training of the patients should be included in the job description of health and treatment staff and that appropriate texts for teaching methodologies should be presented to the society.

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