Research Journal of Medical Sciences 10 (5): 453-460, 2016
ISSN: 1815-9346

The Need Seeking and Providing Training Package to Promote Cardiovascular Patients Health Covered by Health Centers in Kangan City

[1]Ebrahim Khaledi, [2]Farkhondeh Amin Shokrav and [3]Ostovar Afshin
[1]Department of Health Education, School of Medical Sciences,
Tarbiat Modares University, Tehran, Iran
[2]School of Medical Sciences, Tarbiat Modares University,Tehran, Iran
[3]School of Medical Sciences, Bushehr University of Medical Sciences, Bushehr, Iran

Abstract: The main objective of this study was need seeking and providing training package to promote cardiovascular patients health covered by health centers in Kangan city. For this purpose, 320 patients with non-communicable who in the Kangan city health-care centers has been under care through systematic sampling were selected. This study was cross-sectional. To collect information related literature and research history library method was used and to evaluate and achieve the objectives the observation, documentation, live interviews and questionnaires were used. Statistical tests were used to analyze the data. The findings suggest that the mean age of subjects was 58 years and the age range was of patients was 30-87 years, mean of Body Mass Index (BMI) inn patients was 26/177 and overweight and obesity in women was 18/4 and 11/8%, respectively which is more compared to men and there was no significant difference sex and feeding of subjects. The results of this study indicate the importance of paying attention to teaching patients and their families to take care of themselves and reduce the consumption of fried food, red meat, moderate increase consumption of fish, eggs, fruits and vegetables in their diets, physical activity and reduce smoking.

Key words: Need-seeking, cardiovascular, risk factors, training package, health promotion

INTRODUCTION

Today due to the epidemiological passage of diseases, increasing median age of the population, changing consumption pattern, prevalence of risk behaviors, the rapid growth of urbanization and the globalization of and decreasing the size of communities, in this situation the non-communicable diseases had been regarded as a significant health problem (Hayashi *et al*., 2010). Non communicable diseases impose enormous direct and indirect costs on health system. One of the most important and deadly of these diseases is cardiovascular diseases (Alem *et al*., 2010).

International statistics indicate that the cause of 60% of the global deaths are non-communicable diseases (WHO, 2011) and it is predicted the number of deaths from non-communicable diseases from 28/1 million cases in 1990 will increase to 49/7 million deaths in year 2020 which would be accompanied with 77% increase in absolute numbers (Shahshahan and Karimi, 2002). The figure is 80% in developing countries. At the moment, the cardiovascular diseases by allocating 25-45% of deaths in the world have became the most major public health problem in the countries and is considered as the first cause of death and fifth cause leading disability (Mobasseri *et al*., 2004; Anderson *et al*., 1991). It is predicted that 33% of men and 10% of women before age 60 have suffered cardiovascular attack. Generally, heart attacks (myocardial infarction) as one the most known outcomes of cardiovascular diseases alone are responsible for 20% of deaths, so that every 30 sec someone suffers a heart attack and every minute, one person dies due to heart attack. Following myocardial infarction (heart attack), 70% of patients do not report complete recovery (Hussein, 2001).

The economic costs of cardiovascular disease are imposed on society is also beyond imagination. In the United States, the direct and indirect costs of coronary arteries diseases in 2000 has been calculated amounting to US 000/000/600/326 $. With a conservative estimation of costs of coronary arteries in Iran in year of 2000 is estimated >300/ 000/000/00 Rials especially the fact that most of these patients in developing countries are suffering from cardiovascular disease who in terms of age, are in the highest efficiency and productivity. Therefore, prevention of above heavy economic and human damages is very important and a priority (Hussein, 2001).

Corresponding Author: Ebrahim Khaledi, Department of Health Education, School of Medical Sciences,
Tarbiat Modares University, Tehran, Iran

While in the developing countries like our country the mortality from cardiovascular disease has reached from 20-25, 35-40% and this increase has been caused by machine life, reduce the amount of physical activity, weight gain, increased blood fats and other risk factors (Mohammadi *et al*., 2002).

Bushehr province which is an outcome of affiliated cities with roughly cultural congruent; results of health indicators in the Islamic Republic of Iran in year of 2009, the situation in the field of micro factors, such as obesity, high cholesterol and high fat, high blood pressure, smoking and diabetes is among the first provinces in the country, the percentage of people who have low physical activity, is 50.37% which is more than the national mean (38.97%). Also, the highest percentage of daily consumption of tobacco use in the country with 21.2% and in terms of hookah consumption this province has the worst situation among all provinces in the country. Furthermore, consumption of fruits or vegetables a day which is 68.21% that is lower than the national average (88.2%) and the percentage of people with high blood pressure was 19.58% that is more than the national average (16%) (WHO, 2011).

With regard to the above mentioned this study has been done with need-seeking aims and based on which training package to improve the health of cardiovascular patients has been prepared.

Research literature: In this part of the study, considering the indicators and dimensions of need-seeking and providing training package to improve the health of cardiovascular patients referred to health centers have been selected, first definition of disease will be discussed and in the continuing cardiovascular risk factors situation in the Bushehr province and finally need-seeking and training packages will be discussed.

The definition of disease: The heart is an organ in the chest that acts to stimulate the flow of blood through the arteries to the oxygen and nutrients reach to all the cells and organs in the body, that's why being healthy and its proper functioning is critical to human health. Cardiac muscles similar to other body's tissues required oxygen and nutrients to survive and be able to do their task. Constriction or closure of the coronary arteries is coronary is the cause of heart disease which is the most common and important heart disease and among its complications is myocardial infarction and heart injury (Akbar, 2011).

Cardiovascular disease includes coronary diseases that affect the blood supply of the heart or brain or periphery parts of body. Cardiovascular disease is responsible for more than half of all deaths occurred in middle age and one-third of all deaths in old age in most developed countries.

The coronary disease of heart is a disease in which the walls of the arteries that supply the blood of heart muscle become thicker. Atherosclerosis can limit the blood supply to the heart muscle (myocardium) and its presentation in patient may be as activity pain of chest (angina) or activity shortness of breath. The coronary heart disease also is known as ischemic heart disease (Akbar, 2011). The cerebrovascular disease includes cutting off the blood supply to a part of the brain that may lead to stroke or transient ischemic attack. At a stroke the rupture of blood vessel to the brain and releasing the blood into the brain (intracranial bleeding or hemorrhagic stroke) is occurred. The high blood pressure is the major factor of stroke leading bleeding (Akbar, 2011).

Atherosclerosis (blood vessel disease) is a progressive disease that begins in childhood and its clinical manifestations mainly reveal in adults from middle age onwards. Atherosclerosis is the most common cause of death in most countries of the world and is the main cause of disability. Despite vast improvements still one third of patients with heart failure die, that half of them within initial one hour of heart attack and prior to arrival at the hospital die and two-thirds of those who survive will never make a full recovery and not return to normal life. Within 5 years after a heart attack 23% of men and 31% of women suffer from disability again. Sudden death is another frequent manifestation of heart arteries and >50% of patients who die of sudden death, had no history of cardiac symptoms (Akbar, 2011).

The situation of risk factors of cardiovascular disease in the province: In the year of 2001, the percentage of deaths from cardiovascular disease in the Bushehr province was 27/5 which this with a 12% growth has reached 39/1% in the year of 2011. Considering the results of the surveillance system of non-communicable diseases in Bushehr province show only 4% of the population has none of the risk factors of cardiovascular disease and 96% of them are exposed to one of the risk factors for these diseases. Also, the Bushehr province in the field of micro factors such as obesity, high fat and cholesterol, high blood pressure, smoking and diabetes is among first provinces in the country. However, that tobacco smoking cessation is effective in reducing blood pressure but the average age of smoking tobacco in the Bushehr province is 19 years which is 1 year less than the national average. While the average years of tobacco use in the Bushehr province is 4 years higher than the national average which

is 13 years. Although, the province's situation in the percentage of people who smoke daily is better than the national average. Bushehr province in terms of daily intake hookah is the worst among all provinces in the country (Ali *et al*., 2009).

Need-seeking: Most of the time we have grown accustomed that without sufficient knowledge from the people needs and problems prepare plans for them and in implementing programs act authoritarian and paternalistic, as a result, applications will not have the expected success. The need-seeking is a method by which examine and identify the needs or the health and medical problems of people really and closely.

The first step in designing any program is identifying the needs. Without a true need-seeking, there is no possibility of setting the true program goals, the allocation of necessary resources and provide views and appropriate methods to meet these needs. With need-seeking it is determined that where the problem is and what part of the problem requires any type of intervention (Green and Kreuter, 2005).

Need definition: The provision of an exact and explicit definition of need isn't easy and that's why different interpretations and different may be provided from need concept:

- The need means demands and opinions of individuals: the need meaning demands and opinions of individuals; need assessment means identification of perceptions, opinions and preferences of individuals
- The need as a defect or problem: the need arises once there is a defect or problem in a given case which inherently is harmful
- The need means the lack of or necessity of something: (status, etc.). The needs are defined as something which is necessary or useful
- The need means distance or gap: the need placed in a territory in which the "real situation or being" away with "favorable or desired position" (Roger Kaufman)

In this study the definition of need is a type of gap or distance analysis. In fact, the need is the distance between the current situation and what it should be. The need may be a "felt necessity" that is the need diagnosed by the individual or a community, or a "real need", meaning the need is determined by the expert study. However, the perceived needs shall be directed to the real needs.

While needs assessment is a systematic process for setting goals, identifying the gap between the current situation and goals and finally setting priorities for action. It should be noted that the needs assessment handles the assessment of outcomes or goals and prioritization of them while need-seeking trying to find needs without measuring the knowledge and facilities. Educational need-seeking: when we want determine the different between knowledge level, skills, attitudes and desires of individuals or groups and the ideal situation, we have identified their training needs and have done educational need-seeking. In the field of health education the fundamental question is that what the community wants, what it needs and what can be done for it?

Educational package: Educational package is a set of system. In educational science literature, terms such as packages, envelopes, collections, educational systems and the like are used interchangeably to cover two separate concepts.

The first concept: A complete system of learning activities and related curriculum materials in a wide field of content or a set of concrete goals.

The second concept: A special set of educational (curriculum) materials for one part of a complete system. Learning activities or even a curriculum subject or other components of the curriculum are not yet common in Iran. It should be considered that the concept of educational package in the community and among administrators of executive (Education) and even elite of educational technology about training packages is associated more with the term kit. In fact, the kit is a subset of evolved set of educational package that represent itself more in the audiovisual equipment and the educational materials used in the classroom. Electronic sets, geological rock and fossil collection, simple set of testing devices in chemistry, a series of computer games, are the same kits used in training courses and in fact are serious and notable components of the educational packages, a set of software (strategies, patterns, functions, frameworks, guidelines, assignments, tests) and hardware (media, tools, equipment, tools, resources and materials) that using new and old technologies forms in simple and complex forms and considering learning goals and curriculum is organized.

The educational package considering its goals could be prepared for a curriculum, course or classroom. Preparation of educational package was initially proposed as a strategy for individual learning but with the increasing density of students in classrooms, their

individual was noticed with the inclusion of the different components of in educational package (Hmidreza, 2007).

MATERIALS AND METHODS

This research is a cross-sectional study which has conducted sectional and its aim is determining the training (educational) needs (need-seeking) and providing training (educational) package based on its results, to improve the health of cardiovascular patients in health centers of Kangan city affiliated Bushehr University of Medical Sciences. The statistical population for this study consisted of patients with cardiovascular (non-communicable) diseases care records in the health centers covered by Kangan city. To determine the number of samples with respect to the prevalence of risk factors for cardiovascular disease (p = 0.2) (the report of health measures of Islamic Republic of Iran in 2009) and confidence of 95% (Type 1 error) and accuracy of 5%, the required sample size was determined 300 people that given the likelihood of sample loss by 16%, 350 subjects were determined to study.

In order to achieve the research objectives; a questionnaire was formulated after reviewing the relevant literature. The general categories of this questionnaire based on the questionnaire of Ministry of Health that was conducted to study the surveillance system of risk factors for non-communicable diseases in 2008 and 2009 was used. This questionnaire was translated and adopted from the original and supplemental questionnaire of stepwise approach of the World Health Organization which with some complete selected questions and in a pilot study was tested (report book of cardiovascular (non-communicable) risk factors of Ministry of Health Status Report) also according to geographical circumstances and the social conditions of the region some changes have been done in questions. Although, the reliability and validity of general categories of the used questionnaire based on the questionnaire Ministry of Health in examining that non-communicable diseases surveillance system for the years of 2008 and 2009 but given the changes that were made in questionnaire; in this study to determine the scientific validity of used questionnaire the content validity was used. For this purpose, the questionnaire were given to two specialist physicians in cardiovascular and a nurse and a dietitian and also a health education experts in the city of Kangan to study and after receiving their feedback the necessary changes in the questionnaire were made and the final questionnaire was investigated scientifically. In this study Cronbach's alpha was used to determine the reliability of the questionnaire. Accordingly the questionnaire was carried out on 30 patients qualified for the study and internal correlation of each questionnaire using Cronbach's alpha was determined. This coefficient was 89%. Additionally, the studied patients to determine the reliability in the final sampling were not included.

Data collection method in this study was interview that was done visiting the home door by interviewer. All questionnaires after completion and remedy any possible errors were gathered and entered SPSS Software Version 19. These data using the descriptive statistics (frequency distribution tables, ratios, percentages, appropriate diagrams of mean and standard deviation) and analytical statistics (chi-square test and means comparison) were analyzed.

RESULTS AND DISCUSSION

In this study, we review the results of the statistical analysis of collected data in the study. In the inferential analysis, the appropriate tests to confirm or reject the hypothesis have been investigated.

Obesity and overweight in studied population: The above Table 1 shows a body mass index of the participants in the study for both sexes. In this study, 35/9 of subjects had overweight (men 17/5% and women 18/4%) and 18/4 of them percent were obese (6.6% of men and 11/8% women) and 2/8% of women were very obese. The mean of body mass index was 25/62 in men (SD 4/33) and 26/57 in women (SD 4/62) with and the BMI differences between two sexes is not significant ($p<0.054$).

The weight mean of the participants is 65/41 kg with a standard deviation of 12/4 (men 69/1, SD 13/08 and women 62/73, SD 11/17) and height mean is 157/96 cm with a standard deviation of 8/9 (men 163/91, SD 9/28 and women 153/68, SD 5/35) that the difference between sex, height and weight is significant ($p<0.000$).

Nutritional status of the population under study: To evaluate the nutritional behaviors of respondents, they were asked about the number of days in the previous week (the week before the interview) in which they use fruits and vegetables and white and red meat (chicken and fish) and the consumption average in one of these days.

Table 2 shows the number of days of consumption of fruit in last week that 9/7% of participants in the study have not consumed fruit last week and mean is 4/81 with standard deviation of 2/56. The mean

Table 1: The obesity condition in the study population for both sexes according to body mass index

		BMI (body mass index)									
		Thin (≥ 5/18)		Normal (5/18-9/24)		Overweight (9/2529)		Obese (9/34-30)		Very obese (35)	
Genders		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Men	134	0	0	55	17-02	57	17-08	22	6-09	0	0
Women	186	0	0	79	07-47	63	19-07	36	11-03	8	2-05
Total	320	0	0	134	09-41	120	05-37	58	18-01	8	2-05

Table 2: The relative frequency distribution of the number of fruit consumed days in the past week in the study population for both sexes

	Consumption of fruits									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	07/6	07/6	09/11	07/18	02/11	5/02	4/05	01/35	4/29	2/38
Women	7	05/6	08/11	02/17	01/8	3/08	2/02	05/43	4/50	2/48
Total	09/6	06/6	09/11	08/17	0/9	4/04	3/01	40	4/41	2/44

Table 3: The relative frequency distribution of the number of vegetable consumed days in the past week in the study population for both sexes

	Consumption of vegetables									
Variables	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	02/8	6	02/8	09/11	7/05	05/4	4/05	03/49	4/82	2/51
Women	08/10	08/4	8-01	10-08	6/05	08/4	2/07	06/51	4/80	2/60
Total	07/9	03/5	01/8	03/11	6/09	07/4	3/04	06/50	4/81	2/56

Table 4: The relative frequency distribution of the number of fish consumed days in the past week in the study population for both sexes

	Consumption of fish						
	0 day	1day	2 day	3 day	4 and more	Mean	SD
Men	07/15	07/18	06/27	01/20	09/17	2/05	1/31
Women	06/15	05/21	03/25	09/19	07/17	2/02	1/32
Total	06/15	03/20	03/26	20	08/17	2/04	1/32

Table 5: The relative frequency distribution of the number of fried food consumed days in the past week in the study population for both sexes

	Fried food consumption						
	0 day	1 day	2 day	3 day	4 and more	Mean	SD
Men	02/8	03/81	7/05	3	0	05/1	0/52
Women	06/8	08/01	8/01	02/3	0	05/1	0/54
Total	04/8	08/6	7/08	01/3	0	05/1	0/53

difference between two sexes is not significant (t-test 0/960) as well as the Chi-square test showed no relationship between vegetable consumption and sex (p= 0/972).

Table 3 shows the number of days of consumption of vegetables in last week that 9/7% of participants in the study have not consumed fruit last week and mean is 4/81 with standard deviation of 2/56. The mean difference between two sexes is not significant (t-test 0/960) as well as the Chi-square test showed no relationship between vegetable consumption and sex (p = 0/972).

Table 4 shows the number of days of consumption of vegetables in last week that 15/6% of participants in the study have not consumed fish last week and mean is 2/04 with standard deviation of 1/32. The mean difference between two sexes is not significant (t-test 0/827) as well as the Chi-square test showed no relationship between vegetable consumption and sex (p = 0/972). Chi-square test also showed no association between fish intake and sex (p = 0.776).

Table 5 shows the number of days of consumption of fried food in last week that only 8/4% of participants in the study have not consumed fried food last week. Interestingly, 64/91% of subjects have used fish in fried form an 77/95% of them have fried fish with frying oil and 9/63% with solid oil. The mean is 1/05 with standard deviation of 0/53. The mean difference between two sexes is not significant (t-test 0/909) as well as the Chi-square test showed no relationship between vegetable consumption and sex (p = 0/994).

Table 6 shows the number of days of consumption of milk and dairy in last week that 5/3% of participants in the study haven't consumed milk and dairy last week. The mean is 4/6 with standard deviation of 2/39. The mean difference between two sexes is not significant (t-test 0/289) as well as the Chi-square test showed no relationship between vegetable consumption and sex (p = 0/321).

Table 6: The relative frequency distribution of the number of milk and dairy consumed days in the past week in the study population for both sexes

	Milk and dairy consumption									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	6	6/07	02/14	02/14	9	6/07	6/07	06/36	4/43	2/39
Women	4/08	6/05	08/11	04/13	8/06	5/09	4/08	01/44	4/72	2/38
Total	5/03	6/06	08/12	08/13	8/08	6/03	5/06	09/40	06/4	2/39

Table 7: The relative frequency distribution of the number of eggs consumed days in the past week in the study population for both sexes

	Eggs consumption									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	04/13	09/14	04/16	01/35	02/14	3/07	0	2/02	2/44	1/52
Women	05/7	07/16	06/22	03/32	04/13	4/08	00/05	2/02	54/2	1/44
Total	10	0/15	20	04/33	08/13	4/04	00/03	2/02	05/2	1/47

Table 8: The relative frequency distribution of the number of poultry meat consumed days in the past week in the study population for both sexes

	Poultry meat consumption									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	02/2	04/10	05/42	06/27	09/11	4/05	00/07	0	2/52	1/09
Women	08/3	07/17	05/43	08/25	01/8	1/01	0	0	2/19	0/98
Total	01/3	07/14	01/43	06/26	07/9	2/05	00/03	0	2/33	1/04

Table 9: The relative frequency distribution of the number of red meat consumed days in the past week in the study population for both sexes

	Red meat consumption									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	04/19	41	09/26	9	2/02	1/05	0	0	1/38	01/06
Women	03/25	07/45	09/19	01/8	00/05	00/05	0	0	1/14	0/94
Total	08/22	08/43	08/22	04/8	1/03	00/09	0	0	1/24	0/99

Table 10: The relative frequency distribution of the number of fast food consumed days in the past week in the study population for both sexes

	Fast-food consumption									
Genders	0 day	1 day	2 day	3 day	4 day	5 day	6 day	7 day	Mean	SD
Men	09/61	06/21	9/07	3/07	1/05	1/05	0	0	0/65	06/1
Women	04/69	06/22	5/04	2/07	0	0	0	0	0/41	0/71
Total	03/66	02/22	7/02	3/01	00/06	00/06	0	0	0/51	0/88

This Table 7 shows the number of days of consumption of eggs in last week that 10% of participants in the study haven't consumed eggs last week. The mean is 2/5 with standard deviation of 1/47. The mean difference between two sexes is not significant (t-test 0/520) as well as the Chi-square test showed no relationship between eggs consumption and sex (p = 0/599).

This Table 8 shows the number of days of consumption of poultry meat in last week that 3/1% of participants in the study haven't consumed eggs last week. The mean is 2/33 with standard deviation of 1/04. The mean difference between two sexes is significant (t-test 0/005) as well as the Chi-square test showed no relationship between poultry meat consumption and sex (p = 0/137).

This Table 9 shows the number of days of consumption of red **meat** in last week that 22/8% of participants in the study haven't consumed eggs last week. The mean is 1/44 with standard deviation of 0/99. The mean difference between two sexes is significant (t-test 0/038) as well as the Chi-square test showed no relationship between red meat consumption and sex (p = 0/321).

This Table 10 shows the number of days of consumption of red **meat** in last week that 66/3% of participants in the study haven't consumed eggs last week. The mean is 0/51 with standard deviation of 0/88. The mean difference between two sexes is significant (t-test 0/0.15) as well as the Chi-square test showed no relationship between red meat consumption and sex (p = 0/129).

The investigation of degree of blood pressure, blood sugar and blood fat of subjects underlying study: To investigate the subjects' blood pressure, blood sugar and blood lipids was acted as below. The basis of blood fat and blood sugar levels was placed on test done during the three months prior to the interview and subjects' blood pressure was measured at the time of interview.

Table 11: Relative frequency distribution of the study population for both sexes in terms of blood pressure (mm hg)

	The mean of blood pressure			The systolic blood pressure level			
Genders	≤120	120 to <140	140 to <160	160 and more	Medication	Systolic	Diastolic
Men	03/81	04/16	07/00	05/1	1.45	119.85	75.6
Women	03/83	04/13	0	02/3	2.65	114.75	72.6
Total	05/82	07/14	03/00	05/2	2.05	117.3	74.05

Table 12: Relative frequency distribution of the study population for both sexes in terms of blood sugar (mg dL^{-1})

	The blood cholesterol levels			
Genders	Equal or <110	>110 and equal125	>125	Blood sugar levels
Men	06/89	05/4	6	89.65
Women	09/90	02/3	09/6	90.4
Total	03/90	08/3	09/5	90

Table 13: Relative frequency distribution of the study population for both sexes in terms of cholesterol (mm hg)

	The blood cholesterol levels			
Genders	≤200	>200 to <240	≥240	The mean of blood cholesterol
Men	05/57	06/30	09/11	196.4
Women	02/53	29	07/17	200.9
Total	55	07/29	03/15	198.85

Table 11 shows the blood pressure of the participants according to measurements of blood pressure during the interview that 17/5% of the subjects, their blood pressure has been >120 (mmhg). The subjects' mean systolic and diastolic blood pressure is 117 and 74 (mm hg), respectively.

Chi-square test shows that the prevalence of hypertension in different age groups has not statistically significant difference ($p = 0.188$). This is despite the fact that the frequency of blood pressure measurements in men in different age groups has statistically significant difference ($p = 0.045$) but not in women ($p = 0.141$).

Table 12 shows the blood glucose levels of the subjects according to test results done in the last three months (before the interview) which 5/9% of the subjects have had glucose (sugar) levels >125 (mg dL^{-1}). Mean blood glucose (sugar) of subjects is 90 (mg dL^{-1}).

Chi-square test shows that the frequency of blood glucose levels in different age groups has statistically significant difference ($p = 0.001$). This is despite the fact that the frequency of blood glucose levels in men in different age groups has statistically significant difference ($p = 0.001$) but not in women ($p = 0.132$).

Table 13 shows the lipid profile of subjects according to test results done in the last three months (before the interview) that 45% of the subjects have had fat content of >200 (mm hg). The mean of blood cholesterol in subjects is 198/85 (mm hg).

Prevalence of tobacco use: In order to assess the situation of those who already smoke were asked whether they at the moment consume any tobacco products, including cigarettes, pipe or hookah on a daily or non-daily basis. The consumption mean of starting age of smoking was also evaluated (Table 14).

Table 14: The relative frequency distribution of smoking in studied populations by sex

Genders	Current consumption	Past consumption	Lack of consumption
Men	04/22	05/4	73.1
Women	06/15	02/2	03/82
Total	04/18	01/3	04/78

Table 15: The mean age at starting smoking in population by sex

Genders	The mean of age	SD
Male	19.4	0.932
Female	17.2	2.08
Total	19.4	0.85

Among the study population, 18/4% currently consuming tobacco who 22/4 of them were men and 15/6% were women. There are difference statistically between the sexes and smoking and this difference is significant ($p = 0.000$).

Table 15 indicates the mean age at starting smoking by sex with a mean age of 19.4 for men and 17.2 years for women. There is no significant difference in terms of the age of onset of tobacco between men and women exist. Using the independent t-test ($p = 0.323$) indicates that it was not significant.

Physical activity: The result of physical activity: in this case the subjects were asked whether involve in sports, fitness or physical activity as it leads to a large increase in breathing or heart rate and continuing at least 10 min continuously and about the number of days in this type of activity and its duration was asked.

Table 16 indicates the mean of activity intensity in work and activity in the past week among people of both sexes participated in the study that no significant differences between two sexes is seen. In the moderate activity, there is a significant between two sexes

Table 16: The relative frequency distribution of physical activity during the past week in studied populations by sex

Genders	No activity	Light activity	Moderate activity	Intense activity
Male	02/61	07/18	8/02	09/11
Female	03/83	04/13	2/07	05/00
Total	01/74	06/15	5	03/5

Table 17: The study population mean of day and minutes of activity in the last week by sex

	The mean no. of walking	The mean of walking minutes in day last week	
Genders	days last week	Mean (min)	SD
Male	3.35	12.167	1.34
Female	3.33	13.667	1.08
Total	3.36	12.965	0.852

(p = 0.003). In the intense activity significant difference can be seen in two sexes (p = 0.003). There is no significant difference between two sexes who were without activity (p = 0.155).

The mean of minutes of walking by subjects when traveling in a typical week among men was 12.167 and among women was 13.67 min. The independent t-test showed that the mean minutes of walking in men and women has no significant difference (p = 0.878). As well as, one-way analysis of variance showed that the mean minutes of walking in different age groups aren't statistically different (p = 0.575). Also, the one-way analysis of variance showed that the mean minutes of walking in different occupational groups was not statistically different (p = 0.175). But the difference among housewives is significant (p = 0.010) (Table 17).

CONCLUSION

The findings of this study generally indicate the existence of abusive behavior in lifestyle habits in subjects underlying study particularly in the area of nutrition and physical activity and smoking.

To dealing with these bad habits the health education should to create dynamics awareness and attitude which results are improved nutritional behavior and increasing physical activity and not smoking. To internalize appropriate dietary habits and physical activity which have a large impact on prevention of cardiovascular disease, it seems that these trainings with true and specific style in school-ages practically operations should be taught to students.

RECOMMENDATIONS

- It is recommended the present study done in more samples in total city population
- It is recommended a study examine the functional behavior of detected cardiovascular patients in patients on nutritional education to be given to them
- The library study of texts and material written in cardiovascular training and match them with the culture of Iranian society

REFERENCES

Akbar, P.N., 2011. Guidelines for the Prevention and Treatment of Cardiovascular Diseases. Iranian Health Promotion Prevention Institute of Contemporary, Tehran, Iran.

Alem, A., N. Maryam and M. Reza, 2010. A review in cardiovascular diseases: A major cause of mortality in the world. Sci. Educ. Q. Developing office Sch. Health Sci. Univ. Med. Sci. Baghyatollah Fall, 37: 2-9.

Ali, D., M. Gooya and A.A. Frshid, 2009. Review Book of Risk Factors of Non-Communicable Diseases in Iran Since 2009. Voice (Seda) Publisher, Tehran, Iran,.

Anderson, K.M., P.M. Odell, P.W. Wilson and W.B. Kannel, 1991. Cardiovascular disease risk profiles. Am. Heart J., 121: 293-298.

Green L.W. and M.W. Kreuter, 2005. Health Program Planning: An Educational and Ecological Approach. McGraw-Hill, New York, USA..

Hayashi, T., M.A. Farrell, L.A. Chaput, D.A. Rocha and M. Hernandez, 2010. Lifestyle intervention, behavioral changes, and improvement in cardiovascular risk profiles in the California WISEWOMAN project. J. Women's Health, 19: 1129-1138.

Hmidreza, S.N., 2007. Guidelines for preparation of growing sprouts educational packages. Q. Teach. Aid Publ. Office, 21: 71-71.

Hussein, F., 2001. The Prevention of Cardiovascular Disease and High Blood Pressure. Publication of Modern Medicine, Tehran, Iran.

Mobasseri, M., H. Fakhrzadeh, R. Pourebrahim, M. Nouri and P. Shoushtarizadeh *et al*., 2004. Distribution of lipid disorders in the inhabitants of Tehran University of Medical Sciences. Iran. J. Diabetes Metab., 3: 53-61.

Mohammadi, M., H. Doostkami, B. Dadkhah and S. Sezavar, 2002. Survey of knowledge, attitude and practice of Ardabil citizens about risk factors of coronary artery disease, 2001. J. Ardabil Univ. Med. Sci., 2: 42-48.

Shahshahan, I. and C. Karimi, 2002. The Principles of the Prevention of Type 2 Diabetes Mellitus. Chahar-Bagh Press, Isfahan, Iran, Pages: 13- 14.

WHO, 2011. Cardiovascular diseases (CVDs), Fact sheet No. 317. World Health Organization, Geneva.