ORIGINAL ARTICLE

A Comparative Study of Dietary Patterns in the Patients with Coronary Artery Disease and Control

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ABSTRACT

The aim of current study was to determine the frequency of various dietary patterns in patient with coronary artery disease. This study showed a significant association between coronary artery disease and cholesterol and fat rich diet. It was concluded that subjects of Group A and Group B have a significant (<0.05) difference in Cholesterol, LDL, HDL and Triglyceride levels (140.3±10.6, 130.13±12.16, 40.2±15.10, 120.20±13.20), (230.11±14.26, 190.10±10.12, 30.5±1.14, 200.50±33.24) respectively. This study has proved that preventive strategies of healthy diet can decrease the incidence of coronary artery disease in general population.

Keywords: Coronary artery disease, Dietary pattern, Malnutrition.

INTRODUCTION

A diet which contain all the basic nutrients i.e. carbohydrates, proteins, fats, vitamins, minerals, dietary fibers and water in the same proportion as required to a healthy body is called balanced diet[1] . Malnutrition means deficiencies, excesses or imbalances in a person's intake. Malnutrition is a broad term which describes deviation from normal nutritional status regarding to age, gender, race and genetic makeup etc [2]. Social, cultural, environmental and biological factors are the causes of malnutrition[3].

In has seen in different studies that nutritional status is the major cause of cardiovascular problems in adult population [4]. Coronary artery disease is the narrowing or blockage of the coronary arteries, usually caused by atherosclerosis. Deposition of cholesterol and fatty material in the inner walls of the major arteries which supply blood to the heart is called atherosclerosis[5]. Due to plaques flow of the blood to the heart decreases. Plaque is made up by cholesterol and other substances in the artery.

It has observed in different studies by many researchers that high levels of cholesterol in blood is a major risk factor of formation of plaques in the arteries. Total cholesterol levels increases when there was high level of low-density lipoprotein (LDL) and low level of high-density lipoprotein (HDL) [6,14]. Number of studies stated that dietary patterns and coronary artery disease both are directly proportional to each other. It has proved in a study that rich cholesterol and saturated fat food increased the chances of coronary artery disease in population[7,13]. Smoking, High blood pressure, High cholesterol, Diabetes or insulin resistance, sedentary lifestyle are also the causes of coronary artery disease[8,12].

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MATERIALS AND METHODS

This study was conducted at Cardiology Department of Jinnah Hospital Lahore from October 2016 to March 2017. In the current study 100 individuals were selected and divided them into two groups. In Group A which is called Control 50 healthy individuals were selected while in Group B, 50 individuals with coronary artery disease were selected. Lipid profile as a biomarker was measured in these subjects. In lipid profile cholesterol, LDL, HDL and triglyceride levels were calculated. For the experimental work 5 cc blood is taken from each subject and after centrifugation their serum was used. Experimental raw data was collected by using colorimeter method and different kits were used for this purpose. The raw data was then analyzed on SPSS version 17 for windows which was used for compilation of results and statistical evaluation.

RESULTS

In this study total 100 individuals were selected, Group A has 50 normal healthy individuals and this was control group. In Group B 50 individuals were with coronary artery disease. It was seen that subjects of Group A has Cholesterol, LDL, HDL and Triglyceride levels 140.3±10.6, 130.13±12.16, 40.2±15.10, 120.20±13.20 respectively. In Group B all the patients and have coronary artery disease. Their Cholesterol, LDL, HDL and Triglyceride levels were 230.11±14.26, 190.10±10.12, 30.5±1.14, 200.50±33.24 observed. The results of current study are comparatively significant (<0.05).

Comparison between Group A and Group B:

Parameters	Individual	Cholesterol	LDL	HDL	Triglyceride
n= 100	(n)	mg/dl	mg/dl	mg/dl	mg/dl
Group A	50	140.3±10.6	130.13±12.16	40.2±15.10	120.20±13.20
Group B	50	230.11±14.26	190.10±10.12	30.5±1.14	200.50±33.24

<0.05

DISCUSSION

In this study the relationship between dietary patterns and was seen among healthy and coronary artery disease patients. The results were significant (<0.05). Cardiologists and General Physicians are mostly of the opinion that although diet is important both in Cardiovascular disease progression as well as prevention. A study stated that healthy diet such as Vegetables, Fruit and Fish, etc. have lower rate of cardiovascular disease[5,9]. Mohsin Yakub et al (2010) was described that rich cholesterol diet is very harmful for humans and it can creates chances of cardiovascular problems. Marta et al., (2015) mention in his research that cholesterol and fat rich diet are very dangerous for population it causes cardiac complications.

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