Prevalence of heart disease among non-vegetarian individuals

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ABSTRACT

Introduction: Heart disease or cardiovascular disease involves the cardiac tissue and its blood vessels associated with it, especially involvement of coronary arteries. In case of atherosclerotic lesions, the coronary artery get occluded followed by myocardial infarction occurs. The non-vegetarians have a higher risk of heart diseases comparatively to the vegetarians might be due to high blood pressure and cholesterol levels. Material and Method: A survey was conducted among 100 non-vegetarian people of age around 30-50 years old. A questionnaire was given to them to collect information about their food practice and their health conditions. Discussion: People who often eat non-veg often are more prone to get heart disease. Due to high cholesterol accumulation in blood capillary this results in atherosclerosis. Conclusion: From the present study it is strongly concluded that people those who are taking high cholesterol substance such as non-vegetarian substances are highly prone to get heart disease.

KEY WORD: Non-vegetarian, Blood pressure, Cholesterol, Atherosclerosis, Heart diseases

INTRODUCTION

Heart disease or cardiovascular disease involves the cardiac tissue and its blood vessels associated with it, especially involvement of coronary arteries. In case of atherosclerotic lesions, the coronary artery get occluded followed by myocardial infarction occurs. Heart disease includes coronary artery disease (CAD) such as angina and myocardial infarction.[¹] In 2015, 17.9 million death (32.1%) were occurred due to heart disease and about 12.3 million (25.8%) deaths were occurred in 1990.[²-³]

From this it is well understood that the incidence of heart disease were increased and it is the leading cause of death globally and it was observed in developing world.[⁴-⁵] The major risk factors of atherosclerosis are high blood pressure, smoking, diabetes mellitus, lack of exercise, obesity, high blood cholesterol, poor diet and excessive alcohol consumption, etc. High blood pressure causes about 13% of death due to heart disease, tobacco 9%, diabetes 6%, lack of exercise 6% and obesity 5%. Studies say that when compared to premenopausal women, men were highly prone to have high risk of heart disease and vice versa.[⁶-⁷] This is due to decrease in the production of oestrogen after menopause condition leads to alterations in the lipid metabolism thereby causes decrease in the HDL level and increase of LDL which results in atherogenesis in the vessels.[⁸]

Another report says that reduced intake of saturated fat may decreased the risk of cardiovascular disease and stroke.[⁹] In 2018 the world health organization estimated that transfats caused more than half million deaths per year.[¹⁰] A non vegetarian diet generally consists of high cholesterol thereby causing higher risk of heart disease.[¹¹] Based on this, the present study planned to conduct a questionnaire based survey.

MATERIALS AND METHODS

The study was a questionnaire type of survey. This questionnaire was answered by people who consume more non-veg foods. To know the prevalence of heart diseases among non-vegetarians, hundred people were selected of the age group of 30–50 years (both male and female). The questionnaire used for the study consisted
of totally 20 questions; among those, 6 questions were about general information such as age group and gender and blood pressure and diabetes and 14 questions were about specific information on consumption of non-veg foods, duration of their consumption, and whether they are aware of heart disease and type of food they prefer. The questionnaire was printed in the English language. All questions were the close-ended type. The people were also inquired whether they have chest pain, whether they will routinely check their blood pressure, and also whether they have been undergone any surgery for heart disease.

RESULT

The study was conducted on 100 non-vegetarian people of age around 30-50 years old [Figure 1] and 54% were male and 46% were female [Figure 2]. Most of them will prefer to eat non-vegetarian food more than 4 days a week (47%) [Figure 3]. In that about 45% of them eat both home and outside cooked non-vegetarian especially chicken [Figure 4]. Majority of them (57%) take non-vegetarian food for lunch in their diet and some (35%) preferred non-vegetarian food for their breakfast, lunch and meals [Figure 5]. The individuals were subjected to enquire about to know whether they aware about heart disease or not. In that around 60% of people have not heard the term coronary arterial disease and atherosclerosis [Figure 6 and 7]. Based on this survey, it was observed that 50% of people had

Figure 1: Age

Figure 2: Gender

Figure 3: Eat non-veg in a week

Figure 4: Home cooked or restaurants

Figure 5: Preference time to take non-veg

Figure 6: Coronary arterial disease
experienced chest pain/angina pectoris and 67% of people have blood pressure [Figure 8]. Around 59% of them were routinely checking their blood pressure and 84% of them have the awareness of keeping blood pressure in control might reduce the chance of occurrence heart disease. Around 60% of them have diabetes mellitus [Figure 9] and 74% of people have cholesterol [Figure 10]. In this survey, the noticeable observation was declared that around 60% of them were diagnosed with heart disease and 62% of them does not checks the lipid profile parameter routinely.

**DISCUSSION**

It is well known that the animal fat has high cholesterol level especially the red meat. The high intake of it may cause hypercholesterolemic condition leads to occurrence of metabolic disorders, which may affect any organs in the body. From this survey it was found that, many of non-vegetarians have altered lipid profile i.e. high cholesterol [Figure 10]. In general the based on level of lipid profile components such as LDL (Low Density Lipoprotein) and HDL (High Density Lipoprotein) one may be diagnosed with hypercholesterolemia or not.[12] Prolonged intake of non-vegetarian food might increases the risk of heart disease due to alteration in the lipid profile.[13] The unmonitored cholesterol level in the blood plasma may trigger factors responsible for accumulation or deposition of plaques in the blood capillaries which leads to narrowing of blood capillaries called atherosclerosis.[14] This condition resists the normal flow of blood across artery results in myocardial infarction in case of heart and stroke in case of brain. The clinical outcomes were angina pectoris in case of arterial blockage of heart, paralysis in case if brain cells damage due to stroke.[15]

The hypercholesterolemia and diabetes mellitus were co morbidities. The sustained blood sugar level causes damage to blood vessel and further complications.[16] Along with that hemodynamic change such as high blood pressure causes higher work load to the heart. If it is untreated it may lead to damages to arteries and heart. Framingham Heart Study declared that the risk factors such as age, gender, diabetes and cholesterol level, and blood pressure were involved in heart disease formations.[17] The alteration in the dietary pattern for example high intake of fiber

**CONCLUSION**

The present study have observed that the non-vegetarian food have strong association with
hypercholesterolemic condition. Thus the present study concluded that the high fat non-vegetarian foods may cause heart diseases. So the routine monitoring of lipid profile must be needed. Along with the various awareness created by governmental nongovernmental organisations, this kind of awareness can easily reach the population and it should be encouraged.

REFERENCES


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