

## Knowledge On Diet Among The Ischemic Heart Disease Patients Attending Cardiology Clinic At Teaching Hospital Jaffna

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**Abstract** - Ischemic Heart Disease (IHD) is major cause of death in worldwide. In Sri Lanka, cardiovascular diseases cover 40% of Non-communicable diseases. IHD was ranked as leading cause for the hospital deaths since year 2013 and 14.2% of total deaths in 2017. Un-healthy dietary pattern is one of the modifiable risk factor for IHD. The aim of the study is to evaluate the knowledge on diet and assess influence of sociodemographic factors on knowledge. A descriptive cross sectional study was conducted in 2019, used an interviewer administered questionnaire among 414 IHD patients. Data was analysed using SPSS 25 and chi square test was performed to find out the relationship. Majority were male (70.3%), mean age was 66.2. Among them 68.4% were having dyslipidemia. Nearly two third (67.6%) of the participants knew that un-healthy dietary pattern can cause IHD. Majority of them knew that margarine (92.3%), fried foods (76.8%) and fast foods (74.2%) can increase blood cholesterol level. However, majority of them didn't aware that Olive oil (78.5%) and Oats (59.7%) are good to consume and white bread (56%) is bad. Majority of them aware that vegetables (72%), fruits (52.2%) and legumes (51.7%) were good to take in high amount, however 64.3% of them didn't know cereal also good to take. Only 28.3% had good knowledge on diet. Family history and highest educational level ( $p < 0.05$ ) showed significant relationship with knowledge. Conducting

nutritional awareness programme for IHD may help to increase the level of knowledge.

**Keywords:** Knowledge, Diet, Ischemic Heart disease, Teaching Hospital Jaffna

### Introduction

Cardio vascular diseases take the lives of 17.9 million people every year, 31% of all global deaths. Ischemic Heart Disease (IHD) is the single largest cause of death worldwide. Highest IHD mortality rates are in Eastern Europe and central Asian countries. Greater than 85% of heart diseases occur in low and middle income countries (WHO 2018).

In Sri Lanka Cardiovascular diseases are responsible for 40% of those NCDs (Annual Health Bulletin 2017). Out of these cardiovascular diseases, Ischemic Heart Disease (IHD) has been ranked as the first leading cause for hospital deaths. It is responsible for 14.2% of total deaths in 2017. The rank as first in hospital deaths remain from year 2013. Specific death rates due to IHD are high among in the males and age between 50-69 years in 2017. Total hospital discharges in Sri Lanka due to IHD represents 56% of male and 44% of female (Annual Health Statistic 2017).

Ischemic Heart Disease (IHD) is caused by the narrowing or blockage of the arteries and vessels that provide oxygen and nutrients to the heart. Manifestations of IHD are Stable / unstable angina, Myocardial infarction,

Sudden death, Heart failure (Nutrition Division 2014).

The risk factor for IHD includes unhealthy diet, tobacco smoking, and lack of physical activity and harmful use of alcohol. Co-morbid risk factors are high blood cholesterol and Triglyceride levels, high blood pressure, diabetes mellitus, overweight and obesity. Other risk factors include poverty and low educational status, advancing age, gender and psychological factors (global atlas 2011).

According to these risk factors unhealthy diet, tobacco smoking, lack of physical activity and harmful use of alcohol are major risk factors that can be prevented. Life style modification and behavioral changes will help to slow the progression of disease condition. Healthy diet pattern can be easily followed by anyone with proper medication compliance. It will improve life expectancy and provide good outcome of the disease condition.

### **Methodology**

It was an institutional based descriptive cross sectional study was conducted from August 2018 to July 2019. Around six hundred and fifty patients were attending Cardiology clinic per month for Ischemic Heart Disease at Teaching Hospital Jaffna. Patient's age was greater than 18 years old, Patients who attending Cardiology clinic more than 6 months are included for this study. Actual sample size was 414. Systematic random sampling was used to collect data. IHD patients were identified among Cardiology clinic patients and name list was prepared with clinical number. An interviewer administered semi structured questionnaire was used to collect data. Study instrument was designed with section I for socio demographic data. Section II for knowledge on diet. Interviewer administered questionnaire was conducted during the waiting time for the physician and medical clinic pharmacy with help of batch mates. Data was analysed by using SPSS 25 statistical software. Each

correct response was scored with one mark while incorrect or don't know response were received zero mark. Predetermined cut off was used to assess the knowledge level. The score less than fifty was considered as poor knowledge, fifty to seventy five considered as average knowledge and the score above seventy five was considered as good knowledge. Chi square statistical test was used to identify the factors influence on knowledge.

### **Results and discussion**

Mean age of participants was 66.16 years. Age range of the participants was 36 to 86 years old; more than half of them (56%) were greater than 65 years old. Majority (70.3%) were male. According to the literatures male was the highly affected by IHD than females. Females have hormonal protective effect until their menopause than males. Around 70% were married, majority were Sri Lankan Tamil (98.6%) and Hindus (86%). Grade 6-10 was the highest level of education for nearly one third of the participants (31.9%). More than half of them were employed (56.3%). Most of the participants (44.9%) were earning Sri Lankan Rupees greater than 10000 for a month. Nearly three fourth of the participants (77.5%) were had no family history of IHD. Most of the participants (37.2%) were living with their wife/husband and children.

Most of them (72.7%) were following clinic for 1-10 years of duration. Nearly 35% of the participants were added as new admission within one year. Nearly 18.6% were not having co-morbidities while 1.4% having all four co-morbid diseases and nearly one third (35.7%) were having any two comorbid disease condition. Dyslipidemia (68.4%) was found as the most common comorbid disease condition among the participants. Others were having Hypertension (43.5%) and Diabetes (39.6%). A study was done in Bangladesh among cardiovascular disease participants nearly 29.3% were having Diabetes and

Hypertension were 32.4% of the participants who were in the age between 41-60 years (Abu-Sayeeff et al., 2013). According to the annual health statistics of Sri Lanka mentioned that the most affected age group with diabetes and hypertension were 50-69 years. Nearly 98% of the present study participants were above the age of 50 years. Therefore the co-morbidity in the participants was higher than Bangladesh study. More than half of the participants (56.5%) got information regarding diet from Consultant Cardiologist and 35% of the participants were getting information from general practitioner. Participants who were getting information from books (6.3%) and newspaper (18.6%) were very low. It may be non-availability of articles in books or newspaper in their mother tongue. Only 5.3% were getting information from awareness program. More than half of the participants (67.6%) gave correct answer as unhealthy dietary pattern can cause IHD while 22.0% participants were giving wrong answer as unhealthy diet pattern not cause IHD. Nearly three fourth of the participants (79%) knew that diet influence on blood cholesterol level.

The unhealthy food habit is another influencing factor on the causation of IHD among the participants. It increases the risk of IHD even when they are on treatment. A study was done by Sivajeneni et al, at cardiology clinic at THJ in 2014; concluded that 69% of participants followed an unhealthy dietary habit (Sivajeneni et al., 2014). Another study was done in 2013 in Bangladesh found that 47% were believed unhealthy diet did not cause IHD (Abu-Sayeeff et al., 2013). However in the present study, majority were known unhealthy diet can cause IHD. Majority of the participants (84.8%) knew that repeatedly heating oil for frying was not good for patients with IHD. Repeatedly heating oil can generate Trans fatty acid, it should be limited in patients with IHD. Only 8.2% of the

participants did not know about repeatedly heating oil.

Majority of the participants knew that margarine (92.3%), butter (93.4%), cheese (92.3%), egg yolk (76.6%), shell fish (71.5%), fried foods (76.8%) and fast foods (74.2%) can increase blood cholesterol level. A study was done in 2013 in Bangladesh, 78% of participants avoid fatty foods that can prevent IHD (Abu-Sayeeff et al., 2013). Another study was conducted in 1993 in England by Arthur V et al. found that 38.9% of participants knew margarines and butter can increase blood cholesterol level (Arthur V et al., 1993). In the present study most of the participants knew that. At the same time participants knew fatty fish (85%), garlic (78.7%) and spinach (78.5%) were not increase the blood cholesterol level. Garlic has been qualified with favorable cardiovascular effects. Most of the participants didn't know about almonds (75.6%). Most of the participants knew red rice (94.9%), parboiled rice (86%), whole wheat flour (64.5%), kurakkan (85.5%) and millet (83.6%) can be taken by IHD patients. Majority (74.4%) were known to limit white rice. More than half of the participants didn't know about white bread (56%) and Oats (59.7%).

More than half of the participants (59.7%) knew that sunflower oil can use in cooking. About 66.2% of participants responded as coconut was not used in cooking. Even though, coconut oil was rich in saturated fatty acids in comparison with sunflower oil (Maniyal et al., 2016). Pehowich stated that coconut oil is good for the heart because it has median chain fatty acids, which increases the High Density Lipoprotein (Pehowich, Gomes & Barnes, 2000). About 45.2% of the participants didn't know about vegetable oil. Most of the participants (82.4%) knew Gingelly oil can use. more than three fourth of participants (78.5%) didnt know about Olive oil. Majority of the participants knew that vegetables (72%), fruits (52.2%) and legumes (51.7%) were

taken as high amount. Lower coronary mortality has been observed with high levels of vegetables and fruit consumption in Finland (Knekt P et al., 1996). A study done in Italy in 2014 revealed that only half of the participants knew increase intake of fruits and vegetables among IHD patients (Lusia et al., 2014). However in the present study majority were answered correctly as increase intake of fruits and vegetables.

About 64.3% of the participants didn't know about cereal can be taken as high amount. Rastogi et.al, observed an inverse association between cereal intake and IHD risk. Only 35.5% of population knew about fish can be taken as moderate amount. Majority of the participants knew about meat (74.9%), egg (70.8%) and milk and milk products (66.9%) were taken as low amount. Moderate intake of low fat dairy products, eggs, fish, and chicken were allowed, while red meat is avoided. There was an epidemiologic data suggested an association between dairy product consumption and reduced IHD (Sigal et al., 2013). The Lyon Diet Heart Study promoted that diet with higher intakes of fruit and vegetables, moderate intake of fish, and less meat and butter had 50-70% of lower the risk of recurrence heart disease (Krish-etherton et al., 2000). Fung et al., also concluded that traditional Mediterranean dietary pattern was protective against cardio vascular disease (Fung et al., 2009).

According to the responses given by the participants total score percentage was calculated and reflected in a chart. Minimum value was 34.29 while maximum was 91.43 with overall mean percentage was 67.46 (SD=12.42).

*Table 1: Distribution of knowledge on diet among study participants (n=414)*

Knowledge on diet among IHD patients	Frequency n=414	Percentage (%)
Poor knowledge	35	8.5
Average knowledge	262	63.3
Good knowledge	117	28.3

Table 1 shows that participants' level of knowledge was classified into poor, average and good according to the pre determine cut off value. Majority of the participants (63.3%) had average knowledge, 8.5% had poor knowledge and 28.3% have good knowledge. Similar study was done in Galle by Perera ACH and Samarawickrama MB, found that 58.7% have poor knowledge on diet (Perera ACH and Samarawickrama MB, 2015). Another study was done at THJ in 2014 mentioned that most of the participants (68.6%) did not have enough knowledge regarding proper food habits for IHD (Sivajeneni et.al., 2014). In the present study most of the population has average knowledge on diet.

### Conclusion

The present study shows that more than half of the population (63.3%) had average knowledge about diet. Only 28.3% of the participants had good knowledge. Most of the participants knew that unhealthy dietary pattern can cause IHD and diet influence on blood cholesterol level. Majority were known about food items that can increase blood cholesterol level. Statistically significant relationship was found between knowledge on diet and highest educational qualifications, family history and living with socio demographic characteristics.

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