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Effectiveness Of Self-Instructional Module On Knowledge Regarding Lifestyle Modification To Maintain A Healthy Heart Among Cad Patients Admitted In Selected Hospital Of The City

Mr. Nikhil Rohidas Tumbare[1], Mrs. Pallavi Shekhar Kolapkar[*2], Mr. Rahul Chimaji Bhusal[3], Ms. Rajkannya Prabhakar Korde[4], Mr. Dattatray Namdev Vetal[5]

[1]M.Sc. Nursing (Medical Surgical Nursing, CVTN), Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahilyanagar.

[*2]Asso. Professor, HOD (Nursing Foundation), Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahilyanagar.

[3]M.Sc. Nursing (Medical Surgical Nursing, CVTN), Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahilyanagar.

[4]M.Sc. Nursing (Medical Surgical Nursing, CVTN), Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahilyanagar.

[5]M.Sc. Nursing student (Medical Surgical Nursing, CVTN), Dr. Vithalrao Vikhe Patil Foundation's College of Nursing, Ahilyanagar.

***Corresponding author:**

Mrs. Pallavi S. Kolapkar

Email ID: pallavi.mangrule22@gmail.com

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ABSTRACT

Introduction: Cardiovascular disease is a main cause of mortality and disability in spite of extensive hard work to manage cardiac risk factors in the course of diet, exercise, and medications (Roger, et al 2012). Cardiovascular disease (CVD) comprises all diseases of the circulatory system, cerebro- vascular disease, hypertension, peripheral arterial disease, rheumatic heart disease, congenital disease, heart failure, deep vein thrombosis and pulmonary embolism and coronary heart disease (Go, et al, 2014). Coronary artery disease (CAD), as well referred to as coronary heart disease (CHD), is the tapering of the small blood vessels that deliver blood and oxygen to the heart (United States National Library of Medicine, 2016). Coronary artery disease (CAD) incorporates acute myocardial infarction, other acute ischemic heart disease, angina pectoris, atherosclerotic cardiovascular disease, and all other types of chronic ischemic coronary heart disease

Objectives: The objective of this study was to evaluate the effectiveness self instructional module on knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital. 1. To assess the knowledge regarding knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital. **2.** To assess effectiveness of self instructional module on knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital. **3.** To find association between pre-test knowledge score with their selected demographic variables.

Methods: Quasi experimental one group pre test post test design was used to assess " effectiveness self instructional module on knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital " is the main goal of the current study. Sample size was 100 CAD patient admitted in selected hospital by using nonprobability purposive sampling technique.

Results: The study reveals that majority 62% of the participants had poor knowledge in pretest and in post test 72% had average knowledge. Result shows that self instructional module is effective in improving knowledge regarding lifestyle modification to maintain health heart among CAD patient. difference of level of knowledge regarding lifestyle modification to maintain health heart among CAD patient post test and pre test mean score found **17.38** and **10** respectively and paired t test value was found to be **15.43** which is significant at the level of 0.05. The findings revealed that their was significant association between Knowledge score and socio demographic variables like Age and awareness about lifestyle modification.

Conclusion: The findings of the present study indicated regarding effectiveness of Self Instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that the CAD patient had good knowledge in posttest. it shows that Self Instructional Module is effective in improving knowledge regarding lifestyle modification to maintain health heart among CAD patient**.**

1. INTRODUCTION

"Those who cannot change their minds cannot change anything".

George Bernard Shaw

Health is defined as a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity. This definition of health highlights the importance of understanding health and disease burden within the personal, social, and cultural context specific to the patient who are all affected by CVD[1]

Cardiovascular disease is a main cause of mortality and disability in spite of extensive hard work to manage cardiac risk factors in the course of diet, exercise, and medications (Roger, et al 2012). Cardiovascular disease (CVD) comprises all diseases of the circulatory system, cerebro-vascular disease, hypertension, peripheral arterial disease, rheumatic heart disease, congenital disease, heart failure, deep vein thrombosis and pulmonary embolism and coronary heart disease (Go, et al, 2014). Coronary artery disease (CAD), as well referred to as coronary heart disease (CHD), is the tapering of the small blood vessels that deliver blood and oxygen to the heart (United States National Library of Medicine, 2016). Coronary artery disease (CAD) incorporates acute myocardial infarction, other acute ischemic heart disease, angina pectoris, atherosclerotic cardiovascular disease, and all other types of chronic ischemic coronary heart disease[2]

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels, including coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, deep vein thrombosis and pulmonary embolism. There are many Disease coming under the cardiovascular disorder Hypertension, myocardial infarction, coronary artery disease, rheumatic heart disease, arrhythmias, stroke and congenital cardiovascular defects. Lifestyle modifications consist of five components: adoption of Dietary Approach to Stop Hypertension plans (DASH), low sodium diet, engage in physical activity, moderate alcohol consumption and cease smoking. Even though most people choose therapeutic drugs, the adherence to pharmacological and non-pharmacological treatment should be equally considered. Hypertension (HTN), High Blood Pressure (HBP), is common problems which affects 1.13 billion people worldwide. It is commonly termed as silent killer disease. Lifestyle modifications consist of five components: adoption of Dietary Approach to Stop Hypertension plans (DASH), low sodium diet, engage in physical activity, moderate alcohol consumption and cease smoking.[3]

Everyone should lead a conscious lifestyle that prevents disease, as individual lifestyle is central to the development of chronic diseases. Living healthy lifestyle means taking responsibility for own among the diseases, CAD has become an epidemic and chronic, increasing the number of deaths among the younger age group thus affecting the productivity of economy.[4]

A healthy lifestyle is a combination of healthy eating and regular exercises. It is documented that in India, 50% of deaths occurring due to 'coronary heart disease' are preventable. Adopting a healthy lifestyle can prevent the disease of heart and arteries.[5]

There is need to educate people and arise awareness of the importance of taking health in the hands. India is the burden of acute coronary syndrome in the world. An Indian multicentre study analysed data from 4081 subjects reported that Acute Coronary Syndrome occurred at mean age 56.6±12 years in men and 61.8±10 years in females.[6]

In India, incidence of coronary heart disease is more in metropolitan cities. Because of high mental stress and less physical work, the incidence of coronary heart disease is more prevalent in high socioeconomic groups.[7]

It is documented that in India, 50% of deaths occurring due to coronary heart disease are preventable. Adopting a healthy lifestyle can prevent the disease of heart and arteries. Nurses as health professionals can play an important role in creating awareness among public about the diseases and their prevention.[8]

Hypertension or Blood pressure is the force that blood exerts on the vessel wall which varies continuously in arteries due to the intermittent nature of the pump (heart) and elastic recoil of the arterial wall. Being largely asymptomatic with patients experiencing very few signs and symptoms initially, hypertension is known as a "silent" killer and classified as primary (90-95% of all cases) when there are no obvious underlying medical causes or secondary (5 10% of all cases) when caused by other conditions that affect organs like the kidneys, heart or tissues and organ systems like the arteries and endocrine system. A normal blood pressure is below 120/70 with the upper number being the highest arterial pressure when the heart beats and fills the arteries (systolic) and the lower being the lowest arterial pressure in the arteries when the heart relaxes (diastolic). Hypertension when left uncontrolled often takes a toll on vital organs throughout the body leading to heart attacks or strokes.[9]

Heart diseases can be prevented through healthy diet, regular physical activity and avoiding tobacco smoke. Individuals can reduce their risk of heart diseases by engaging in regular physical activity, avoiding tobacco use, choosing a diet rich in fruit and vegetables and avoiding foods that are high in fat, sugar and salt, and maintaining a healthy body weight and avoiding the harmful use of alcohol. Patients with heart diseases had to be motivated towards the lifestyle modifications which is very well possible when they are educated about the benefits. Here the nurses and health care team can play the vital role only if

they are all equipped with various aspects of lifestyle modifications. Various epidemiologic Studies provide insights into the population burden of heart failure, its prognosis and modifiable risk factors that promote it. In the general population CHF is chiefly the end stage of hypertensive, coronary and valvular cardiovascular disease. It is a major and growing problem in most affluent countries because of aging populations of increased size, and the prolongation of the lives of cardiac patients by modern therapy5. Healthy lifestyles are an important facet of cardiovascular risk management. Unfortunately many individuals fail to engage with lifestyle change programmes. There are many factors that patients report as influencing their decisions about initiating lifestyle change. This is challenging for health care professionals who may lack the skills and time to address a broad range of barriers to lifestyle behaviour. Guidance on which factors to focus on during lifestyle consultations may assist healthcare professionals to hone their skills and knowledge leading to more productive patient interactions with ultimately better uptake of lifestyle behaviour change. The aim of our study was to clarify which influences reported by patients predict uptake and completion of formal lifestyle change programmes.[10]

2. NEED OF THE STUDY

Heart diseases are the number one cause of death globally. More people die annually from heart diseases than from any other cause. An estimated 17.3 million people died from heart diseases in 2008, representing 30% of all global deaths. Of these deaths, an estimated 7.3 million were due to coronary heart disease and 6.2 million were due to stroke. Low- and middle-income countries are disproportionally affected and happened almost equally in men and women. The number of people who die from cardiac diseases will increase to reach 23.3. million by 2030. Most cardiovascular diseases can be prevented by modifying life style and avoiding risk factors such as tobacco use, unhealthy diet and obesity, physical inactivity, high blood pressure, diabetes and raised lipids4. Heart failure is a major public health issue, with a prevalence of over 23 million worldwide, and rising. About 5.1 million people in the United States have heart failure.[11]

Cardiovascular disease is becoming a chronic, major health problem and an epidemic in India; has the highest burden of acute coronary syndromes in the world. [12]

The estimated prevalence of CAD in India is currently about 3% in rural areas and 8% to 10% in urban zones. The CHD rate in India is expected to rise in parallel with the increase in life expectancy secondary to increases in per capita income and declining infant mortality rate (IMR). The average life expectancy has increased from 41 years in 1951 to 61 years in 1991 and is projected to reach 72 years by 2030, which could lead to large increases in CHD prevalence. CAD is becoming chronic causing increasing number of deaths among the younger age group affecting the productivity of economy.[13]

Although CAD is a fatal disease with no known cure, it is also highly predictable, preventable, and treatable with the existing knowledge. Nurses act as educators, counsellors, and advocates. Nurse researcher have greater role in teaching and educating the public especially on preventive aspects. Rather than emphasizing illness care, nursing's focus has shifted to health promotion and disease prevention in recent years. More attention to healthy lifestyle practices earlier in the life span can greatly improve health and reduce health care costs, significantly impacting the quality of life of young people as they advance in age. Nurses have been actively involved in the delivery of these key strategies. Media campaigns and the use of new communication technologies have been successful in increasing knowledge and changing behavior among the adolescents.[14]

A thorough review of literature on CAD identified a wide gap (lacuna) between the CAD risk factors assessment and prevention of risk factors. There were countless studies conducted all over the world regarding prevalence and risk factor assessment of CAD. But there were very minimal interventional studies conducted to prevent such a dreadful disease. Urgent action is required. Unless the children/ adolescents are educated, and be aware of the risk factors it would be highly impossible to control the rise of heart diseases especially in the developing country like India. There is no research found regarding assessing knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients. Hence, this study is undertaken with a foresight of prevention at an early age.[15]

3. BACKGROUND OF THE STUDY

India has the largest burden of acute coronary syndromes in the world. There are a few factors that seem to contribute to the rapid spread of Coronary artery disease in India. In recent times this transition to adulthood due to life expectancy, the combination of both common risk factors such as high blood pressure, diabetes, hypercholestroleaemia, smoking etc. are due to urban growth and western "acquaintance" between Indians and non-Indians. Common risk factors such as hyperinsulinemia, insulin resistance, lipoprotein-A genetically modified genes. The intensity of this situation is underscored by recent estimates from the WHO and the Indian Medical Research Council (ICMR) that predict that India will become the world's MI capital by 2020.[16]

An Indian multicentre study that analyzed data from 4081 studies reported that Acute Coronary Syndromes occurred in 56.6 ± 12-year-old men and 61.8 ± 10-year-old women. In India Coronary Heart Disease cases are very common in big cities. Due to high stress and low physical activity, cases of Coronary Heart Disease are more common in higher social and economic groups. Judging by the variety of studies conducted on people in urban and rural areas of India the average

population of 25/1000 in a group of 40 years and older appears to be the most common age group.[17]

Research Problem Statement -

"Effectiveness of self-instructional module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients admitted in selected hospital of the city."

Primary Research Question:-

Will the self-instructional module be effective to improve knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients?

Objectives:-

Primary Objective

1. To assess the knowledge on lifestyle modification to maintain a healthy heart in CAD patients.

Secondary Objective

1. To evaluate the effectiveness of self-instructional module on knowledge regarding lifestyle modification to maintain a healthy heart by comparing mean pre- and post-test knowledge score.
2. To find the association between pre-test knowledge score regarding the life style modification for maintaining healthy heart among CAD patients with selected demographic variables.

Hypothesis:-

All Hypotheses will be tested at 0.05 levels significant Primary Hypothesis

1. H0- There is no effect of self-instructional module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients (P>0.05)
2. H1 – The mean post-test knowledge score regarding the life style modification for maintaining healthy heart among CAD patients will be significantly higher than the pre-test knowledge score. (P>0.05)

Other Hypothesis:

1. H2– There will be significant association between the knowledge score regarding the life style modification for maintaining healthy heart among the CAD patients and their selected demographic variables. (P>0.05)
2. H02 – There is no significant association between the knowledge score regarding the life style modification for maintaining healthy heart among the CAD patients and their selected demographic variables. (P>0.05)

4. CONCEPTUAL FRAMEWORK

A Conceptual Framework is a group of concepts and a set of population that spells out the relationship between them conceptual framework plays several inter related roles in the progression of science the overall purpose is to make scientific findings meaningful and generalizable. It is a device that helps to stimulate research and the extension of knowledge by providing both direction and impetus. The present study was aimed at determining the knowledge of CAD patients regarding lifestyle modification to maintain healthy heart and evaluating the effectiveness of self-instructional module.

The conceptual framework of the study is general system theory. It was derived from Ludwig Van Bertalanffy (1968) as cited by Christensen J Paula and Kenny W Janet (1995). The science of wholeness and its purpose is to unify scientific thinking across the discipline and which provide framework for analysing the system. The system has a specific purpose or goal and uses the process to achieve the knowledge regarding lifestyle modification to maintain a healthy heart.

Input:

Refers to any form of information that enters in the system through its boundary in this study input refers to Age ,gender, educational, occupation ,religion, marital status, type of family, income, duration, type of diet, habit, medical diagnosis.

Throughput:

Refers to process whereby the system transforms create and organizes output. In this study throughput refers to the assessment of knowledge regarding lifestyle modification to maintain a healthy heart. among CAD patient admitted in selected hospital of the city and reassessing the knowledge regarding lifestyle modification to maintain a healthy heart.

Output:

Refers to energy, Information or matter that transferred to the environment output. This study refers to the evaluation of knowledge among CAD patients admitted in selected hospital of the city regarding lifestyle modification to maintain a healthy heart.

Feedback:

Refers to environmental responses of the system feedback may be negative or positive. The favourable outcome is adequate Knowledge on lifestyle modification to maintain a healthy heart after self-instructional module. The unfavourable outcome is inadequate knowledge and moderately adequate knowledge on lifestyle modification to maintain a healthy heart even after administration of self-instructional module.

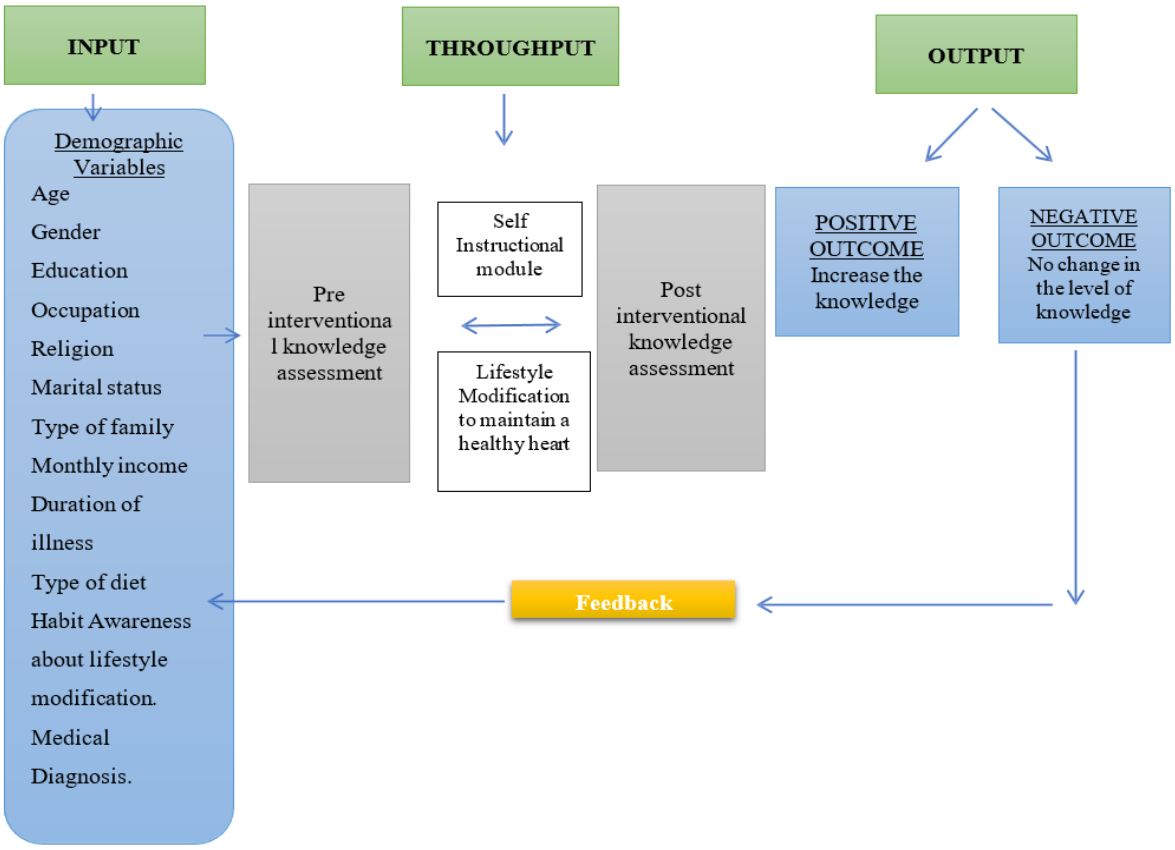

Fig.1 CONCEPTUAL FRAMEWORK BASED ON SYSTEM THEORY BY BERTALAFFY J.K. KENNY (1969)

5. REVIEW OF LITERATURE

The Review Of Literature Was Organized Under The Following Sections:

1. Literature related to Studies related to risk factors and prevention of CAD.
2. Literature related to lifestyle modification of patient with CAD.
3. Literature related to knowledge of CAD patients on lifestyle modification to maintain a healthy heart among CAD patients.
4. Effectiveness of self-instructional module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients.

Literature related to Studies related to risk factors and prevention of CAD.

Dr. Nitin Soni (2024) Study to Evaluate the Effectiveness of Structured Teaching Programme Regarding Lifestyle Modification for Prevention of Myocardial Infarction among Diabetes Mellitus Patients in Selected Hospital at Lucknow. In the study, pretest results showed that 55.5% of diabetes mellitus patients had insufficient knowledge about lifestyle modifications for preventing myocardial infarction (MI). Only 5% were well informed, while 40% had moderate knowledge. The highest mean percentage (58.13%) was related to lifestyle changes for MI prevention, whereas overall concepts (47.6%), clinical aspects, diagnosis, and management of MI (43.75%), and MI etiology (43.66%) scored the lowest. The overall pretest knowledge score was 51.66% with a standard deviation of 3.9.Post-intervention, 25% of respondents had intermediate knowledge, 75% had appropriate knowledge, and no one had insufficient knowledge. The "t" value of 28.22, significant at the 0.01 level, confirmed a significant improvement in knowledge. Additionally, the chi-square analysis at the 0.05 level

showed a significant relationship between post-test knowledge scores and demographic variables like income, education, and religion, but not with age, gender, or lifestyle factors. This highlights the effectiveness of the STP in enhancing knowledge and its relevance to specific demographic factors.[18]

Mohan B (2022) A Study to Evaluate the Efficacy of Self Instructional Module on Knowledge Regarding Diet, Exercise and Lifestyle Modification for Preventive and Curative Modalities of Hypertension among Nursing Officer. Collected data was analysed by using descriptive and inferential statistics in terms of frequencies, percentage, mean, standarddeviatio n and 't' test and chi-squared test. The study findings on pre-test knowledge score were 32(80%) of nursing officer had an average knowledge, none of them had good knowledge, and 08(20%) poor knowledge. In post-test knowledge scores 12(30%) of nursing officers had good knowledge, 28(70%) of them had average knowledge and none of them had poor knowledge. Comparison of pre-test and post-test results revealed that the mean pre-test score was 18.05 and SD was3.91where as the mean post-test scores was 24.95 and SD 3.02. The calculated two tailed 't' value was (9.65) which was higher than the table value (2.02) which was highly non- significant at the level 0.05. Hence the null hypothesis was rejected and research hypothesis accepted. Conclusion: The results clearly indicated that the self-instructional module was effective in enhancing the knowledge of nursing officers.[19]

Gnana Leonarld Das (2018) Effectiveness of a Self-Instructional Module on Lifestyle Changes to Prevent Heart Disease. Cardio Vascular Diseases (CVDs) are the number one cause of death globally: more people die annually from CVDs than from any other causes. The purpose of this study was to evaluate the effectiveness of Self Instructional Module (SIM) on knowledge regarding lifestyle changes to prevent heart diseases. A quantitative, pre experimental, one group pretest posttest design was selected for the study. The participants were 70 Information Technology (IT) professionals from selected IT companies in Bangalore. A non-probability convenience sampling technique was used to select the samples for the study. A structured knowledge questionnaire was used to collect data from the participants. The data obtained was analyzed using both descriptive and inferential statistics. In the pretest 17.1% of the respondents had inadequate knowledge, 54.3% had moderately adequate knowledge and 28.6% had adequate knowledge. In the post test all subjects (100%) had adequate knowledge. The 't' test value was

16.31 which was found to be significant ($p<.05$) SIM was found to be effective in imparting knowledge regarding lifestyle changes to prevent heart diseases.[20]

Jenna Brinks (2017) conducted a study on Lifestyle Modification in Secondary Prevention Despite significant advances in medical technology and pharmacology, cardiovascular disease (CVD) remains a major contributor to health care expenses and the leading cause of death in the United States. Patients with established CVD and their health care providers are challenged with achieving cardiovascular risk reduction to decrease the likelihood of recurrent cardiovascular events. This "secondary prevention" can be achieved, in part, through adherence to prescribed pharmacotherapies that favorably modify major coronary risk factors (ie, hypertension, hypercholesterolemia, diabetes, and obesity). However, lifestyle modification can also be helpful in this regard, providing independent and additive benefits to the associated reductions in cardiovascular morbidity and mortality. Accordingly, physicians and other health care providers should routinely counsel their coronary patients to engage in structured exercise and increased lifestyle physical activity, consume a heart-healthy diet, quit smoking and avoid second and smoke, and purposefully address psychosocial stressors that may elevate cardiovascular risk. These lifestyle interventions, either as an adjunct to medication therapy or independently in those patients where medications may be poorly tolerated, cost prohibitive, or ineffective, can significantly decrease cardiovascular mortality and the risk of recurrent cardiac events.[21]

Leopold Ndemnge Aminde (2018) Primary and secondary prevention interventions for cardiovascular disease in low-income and middle-income countries: a systematic review of economic evaluations. he majority were modelled evaluations, and there was significant heterogeneity in methods. Primary prevention studies dominated secondary prevention. Most of the economic evaluations were performed for pharmacological interventions focusing on blood pressure, cholesterol lowering and antiplatelet aggregants. The greatest majority were cost-effective. Compared to individual-based interventions, population-based interventions were few and mostly targeted reduction in sodium intake and tobacco control strategies. These were very cost-effective with many being cost-saving. This evidence synthesis provides a contemporary update on interventions that offer good value for money in LMICs. Population-based interventions especially those targeting reduction in salt intake and tobacco control are very cost-effective in LMICs with potential to generate economic gains that can be reinvested to improve health and/or other sectors. While this evidence is relevant for policy across these regions, decision makers should additionally take into account other multi-sectoral perspectives, including considerations in budget impact, fairness, affordability and implementation while setting priorities for resource allocation.[22]

iterature related to lifestyle modification of patient with CAD.

Pramila Gaudel (2021) Effects of a lifestyle-related risk factor modification intervention on lifestyle changes among patients with coronary artery disease in Nepal. A randomized controlled study was conducted in Nepal. A total of 224 CAD patients (112 in each study group) were included at baseline, and 196 patients (98 in each group) completed the one-month follow-up. Patients in the intervention group (IG) received nurse-led intervention in addition to the usual care. Face-to face and

telephone interview was conducted using standard questionnaires to collect data on lifestyle- related risk factors; smoking, alcohol consumption, diet, body mass index, stress, adherence to medical therapy, and physical activity. General linear model repeated measure analysis was used to analyse the effects of the intervention. Result of the study states that Based on self-reported data we found significant improvement in lifestyle-related risk factor habits in the IG compared with the usual care group with respect to diet ($p < 0.001$), physical activity ($p < 0.001$), medication adherence ($p < 0.001$) and stress ($p < 0.001$) at one-month follow-up.[23]

Roya Amini (2021) Conducted a study on The effect of self-management intervention program on the lifestyle of post myocardial infarction patients. This quasi-experimental study was conducted on 92 hospitalized MI patients in Hamadan province in 2016. Convenience sampling method was used for selecting the participants. The patients were selected and assigned to experimental and control groups. The main parameters (diet, blood pressure, waist circumference, and body mass index [BMI]) were measured at the baseline and 8 weeks after discharge. Domestic PA was the only parameter measured 8 weeks after their discharge. A self-management intervention was adopted for the experimental group. The data were analyzed using paired and independent-sample t-tests with SPSS software version The comparison of the scores obtained for diet, blood pressure, waist circumference, and BMI in post-MI patients revealed no statistically significant difference between the two groups at the beginning of the study ($P > 0.05$). Following the intervention, the experimental group had a significantly higher mean score for diet and domestic PA (walking program from 1st week to 8 weeks), compared to the control group ($P < 0.001$); however, the intervention had no significant effect on BMI, waist circumference, and systolic and diastolic pressure ($P > 0.05$). The findings indicated that the program had an impact on some risk factors. Therefore, it is recommended to use self-management support in MI patients during the discharge process to improve their lifestyle.[24]

Jenna Brinks (2017) Lifestyle Modification in Secondary Prevention Patients with established CVD and their health care providers are challenged with achieving cardiovascular risk reduction to decrease the likelihood of recurrent cardiovascular events. This "secondary prevention" can be achieved, in part, through adherence to prescribed pharmacotherapies that favorably modify major coronary risk factors (ie, hypertension, hypercholesterolemia, diabetes, and obesity). However, lifestyle modification can also be helpful in this regard, providing independent and additive benefits to the associated reductions in cardiovascular morbidity and mortality. Accordingly, physicians and other health care providers should routinely counsel their coronary patients to engage in structured exercise and increased lifestyle physical activity, consume a heart- healthy diet, quit smoking and avoid second hand smoke, and purposefully address psychosocial stressors that may elevate cardiovascular risk. These lifestyle interventions, either as an adjunct to medication therapy or independently in those patients where medications may be poorly tolerated, cost prohibitive, or ineffective, can significantly decrease cardiovascular mortality and the risk of recurrent cardiac events.[25]

Ali Dehghani, (2015) conducted a study on Influence of Comprehensive Life Style Intervention in Patients of CHDThere was a significant reduction in hypertension, tobacco, and lack of physical activity at three and at six months ($p<0.03$) when compared to the baseline in the study group. However, there was no significant reduction in obesity at three months ($p=0.148$) while the reduction in obesity was significant at six months ($p=0.0005$) in the study group as compared to the control group. The lipid profile reduced significantly at six months but there was no statistically significant reduction in diabetes at six months in the study group as compared to the control group ($p=0.419$).[26]

Pramila Gaudel (2019) Lifestyle-related risk factors among patients with coronary artery disease in Nepal. A cross-sectional study was conducted among CAD patients (n = 224) admitted to a national heart centre in Nepal. Data on dietary habits, smoking, alcohol consumption, stress, physical activity, overweight or obesity and adherence to medication were collected using standard questionnaires. The numbers of risk factors were categorised into three groups (1-2 = low, 3 = medium, 4-7 = high). Data analysis was performed by cross-tabulation and multinomial logistic regression. Prevalence odds ratios (POR) and their 95% confidence intervals (CIs) were used as the measure of the associations. The prevalence of risk factors among patients varied from 23% to 97%, with stress being the most prevalent, and current alcohol consumption the least. The majority of study patients had multiple lifestyle-related risk factors. Male patients (POR for medium vs. low 2.83; 95% CI 1.3, 6.18) and patients with high incomes (POR for high vs. low 2.53; 95% CI 1.10, 5.83) had higher odds of being in the medium- and high-risk group, respectively.[27]

Literature related to knowledge of CAD patients on lifestyle modification to maintain a healthy heart among CAD patients.

Vaibhav Sonawane (2023) conducted a study on Effectiveness of Information Pamphlet on Knowledge Regarding Myocardial Infarction among Adults. The quantitative research approach and Quazi experimental with pre-test, post-test control group design was used. 120 samples were selected by non-probability purposive sampling technique. 60 samples inexperimental group and 60 samples in control group.Data collected through structured questionary. Experimental group received information pamphlet regarding Myocardial Infarction. Majority of adults (33.33%)experimental group and (73.33%) control group were from 18 to 25 years of age group. Maximum adults (53.33%) experimental group,(55%) control group were female. Among all majority (35%) experimental group (50%) control group complete higher secondary education. Majority of sample (50%) experimental group and (70%) control group were working. Maximum (76.67%)

experimental group and (98.33%) control group did not have any family history of heart ailment/disease/illness. Majority of adult samples (36.67%) experimental group and (70%) control group did not aware about Myocardial Infarction. Effectiveness of information pamphlets on knowledge regarding Myocardial Infarction among adults in experimental group is analysed by paired t-test the value of t calculated is 20.68. The p value is <0.0001. So, result is significant at p <0.05 level of significace.[28]

Deepak Raj (2023) A Study to Assess the Knowledge Regarding Lifestyle Modifications Among the Cardiac Patients in NMCH, Jamuhar, Sasaram, Rohtas (Bihar), The Cross sectional research is conducted using group of Cardiac patient in NMCH Jamuhar, Sasaram, Rohtas , Bihar from 6/02/2023 to 11/02/2023. A self-structured questionnaire tool was used to assess the knowledge regarding lifestyle modification among 60 Cardiac Patients adopting Convenient sampling technique. There are 60 cardiac patients sample, (23.33%) patient have good knowledge, (53.34%) patient have average knowledge, and (23.33%) patient have poor knowledge. This shows that these variables had influenced knowledge in this study. No association was found. The present study was aimed at assessing the knowledge regarding lifestyle modifications among the cardiac patients in NMCH, Jamuhar, Sasaram, Rohtas (Bihar)''.The relevant data was collected statistically based on objectives of the study. There are 60 cardiac patients sample, (23.33%) patient have good knowledge, (53.34%) patient have average knowledge, and (23.33%) patient have poor knowledge. This shows that these variables had influenced knowledge in this study.[29]

Taye Kebede (2022) Knowledge, attitude and practices of lifestyle modification and associated factors among hypertensive patients. The overall sampled hypertensive patients as compared to the planned sample size was 95.5% (n = 387), out of which 53.5% (n = 207) was male patients. The mean age was 50 years with a standard deviation of 14.4. The study revealed that 67.7% [95% CI (65.32%, 70.08%)] were knowledgeable; and 54.0% [95% CI (51.34%, 56.6%)]

were reported to have favorable attitude towards lifestyle modification. Regarding their practices, 38% [95% CI (19.91%, 57.49%] of the respondents had good practices. Their monthly income [AOR = 2.39, 95% CI (1.12, 5.11)] and duration on-treatment follow up since diagnosed with hypertension [AOR = 4.39, 95% CI (1.20, 16.03)] were independently associated with knowledge. Concerning their damned practices, age [AOR = 7.71, 95% CI (2.4, 24.8)] and knowledge [AOR = 3.94, 95% CI (2.01, 7.72)] were independently associated with the practices.[30]

Roya Amini (2022) Effect of Health-related Lifestyle Self-management Program on Quality of Life of Patients with Ischaemic Heart Disease: A Quasi-experimental Studyhe present quasi- experimental study was conducted on 92 patients using convenience sampling method. Data collection was performed using the demographic and the MacNew QOL questionnaires. All the participants completed the questionnaires in two sessions (at the onset of the study and after eight weeks). In the case group, a lifestyle self-management program was executed along with the daily records; while the regular trainings were performed in the control group. Analysis of the obtained data was performed using Statistical Package for Social Sciences (SPSS) version 16.0, Kolmogorov- Smirnov test, Chi-square test, Fisher's test, Independent t-test, paired t-test, and descriptive tests. Results: There was no significant difference between the two groups in terms of the demographic variables including age, gender, education, occupation, and marital status. Based on the results, before the intervention, the two groups had no significant difference in terms of the mean scores of the QOL (p>0.05); while, comparing the groups after the intervention indicated significant differences in the scores of QOL as well as in three fields emotional, physical, and social fields (p0.05), but difference of the same score in the test group before and after the intervention was statistically significant [31]

Emad ahmed (2013) assess the risk factors and knowledge on modification of lifestyle among patients who have experienced acute myocardial infarction. A structured questionnaire was used to collect data. They were 31 (79.5%) males and 8 (20.5%) females, the majority of patients (46.2%) under the scope of this study was above the age of 50 years, 87.2% of them was married and 12.8% was divorced. the main risk factors that affect the patients in Taif region, KSA were the presence of hypertension (59%) , diabetes (35.9%), consuming a highly deep fried food (76.9%) , lack of regular exercise (89.7%) and nervous mode (79.5%). the mean knowledge score of patients recruited in this study was either low (51%) or medium score (29%), and little percentage was either high (14%) or very high (6%) knowledge score.It is recommended to encourage health care providers especially nurses and physicians to teach their patients about disease process, risk factors, and preventive measures during providing either medical or nursing care.[32]

Omar Saeed, Vineet Gupta et al (2009) conducted cross sectional study at (AIIMS) Delhi to assess knowledge of modifiable risk factors of Coronary Atherosclerotic heart disease (CASHD) among a sample in India. Participants (n=217) was given standardized questionnaires to assess their knowledge. The risk factor specially included were smoking, hypertension, elevated cholesterol levels, diabetes mellitus and obesity. Identifying 3 or less risk factors was regarded as a poor knowledge level, 20 whereas identifying 4 or more risk factors was regarded as a good knowledge level. The mean age of participants was 35, of which 82% were males. Overall, a majority of participants lacked the predefined food level of knowledge pertaining to modifiable risk factors of CASHD. Specifically, only 41.1% of the participants had a "good level" of knowledge versus 58.6% showing a "Poor knowledge". The study suggests that public awareness of risk factors for CASHD is essential. Educational interventions are needed to make the Indian public aware of modifiable risk factors for

CASHD and specifically should target individuals who do not exercise, currently smoke, and have less formal education to be optimally effective as a preventive measure.[33]

Effectiveness of self-instructional module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients.

Peter jasper youtham (2022) A study to assess the effectiveness of a self-instructional module on knowledge regarding life style modification for maintaining healthy heart among cardiac patients in selected hospital at indore. In This Pre Experimental Design, Sample Consisted of 120 cardiac patients Selected by Non Probability Purposive Sampling Technique. Self-Structure Questionnaire Tools Was Used For Assessing The Knowledge Of cardiac patients Pre Test Was Conducted By Using The Same Structured Questionnaire And After 30 Days Post Test Was Conducted Using The Same Structured Questionnaire For Assessing The a self-instructional module on knowledge regarding life style modification for maintaining healthy heart among cardiac patients Mean Percentage Of The Knowledge Score Of Post Test Mean 27.23 Was Higher Than Mean Pre Test 12.28 The 'T' Value For Total Pre Test And Post Test Was 29.91 The Data Was Analyzed In Terms Of Descriptive And Inferential Statistics.[34]

Pramila Gaudel (2022) Effects of intervention on lifestyle changes among coronary artery disease patients A pre- test post-test control group design was conducted in a single clinical centre in Nepal. A total of 224 eligible patients were randomly assigned to either the usual care group or the intervention group at baseline. The lifestyle intervention consisted of a brief counselling session supplemented with informational leaflets. Standard questionnaires were used to collect self- reported data from patients on multiple life style behaviours: diet, physical activity, adherence to medication, stress, body mass index, smoking and alcohol consumption. General linear model repeated measure analysis was used to estimate the effect of intervention. A statistically significant effect of study group- by- time interaction for diet, adherence to medication, physical activity, and perceived stress was found at 6- month follow- up. Overall, greater improvement in lifestyle habits was found in the interven tion group compared with the control group at 6- month follow- up[35]

Rosy shrestha (2020) effectiveness of nurses-led cardiac rehabilitation program among coronary artery disease patients attending a teaching hospital, bharatpur One group pre-test post-test design was used. Total 85 CAD patients were selected for pre and post-test, baseline information was collected using consecutive sampling technique. The education intervention on CR was developed in Nepali language and distributed to each respondent after pre-test in separate room of OPD of Chitwan medical college and teaching hospital, Bharatpur. After one month of education intervention program, post-test was conducted with same subjects using face to face interview questionnaire using CADE-Q. Data was analyzed using Wilcoxon Rang signed test. f all 85 respondents, median difference between pre-test was 17 (IQR=14-22) and post-test was 39 (IQR=32-44) which was statistically significant (p=<0.00) The nurse-led educational intervention programme considerably improved the knowledge on Cardiac Rehabilitation among CAD patients. Hence, it is strongly recommended that nurses should be involved in establishing and organizing cardiac rehabilitation programs at each tertiary level hospital in Nepal.[36]

Justin V Sebastian (2019) conducted a study on study to assess the effectiveness of self- instructional module on knowledge regarding life style modification of patient with heart failure among staff nurses in selected hospital Mangalore The mean post-test knowledge score 25.88, (86.27%) was higher than the mean pre-test knowledge score 12.88 (42.91%). The mean percentage knowledge score of pre-test was maximum in the area of Section - A Anatomy and physiology of Heart (53.2%) and minimum in the area of Section-C Life style modification of patient with heart failure (39.81%) and the mean percentage knowledge score of post-test was also maximum in the area of Section - C Life style modification of patient with heart failure (86.72%) and less in the area of Section- A Anatomy and physiology of Heart (85.6%). The mean difference between post-test and pre-test knowledge score was highly significant. There was no significant association of pre- test knowledge score with selected demographic variables such as age ($\chi 2$=0.57), gender ($\chi 2$=0.025), professional qualification ($\chi 2$=3.78), years of experience ($\chi 2$=5.104), area of experience ($\chi 2$=2.329) and in-service education attended ($\chi 2$=0.126) at 0.05 level of significance.[37]

Timila Manandhar (2019) conducted a study on A Study to Evaluate the Effectiveness of Self Instructional Module on Knowledge Regarding Prevention of Coronary Artery Disease among Middle Aged Women in Selected Urban Area. A pre experimental research design was conducted on 60 middle aged women using purposive sampling. A structured knowledge questionnaire was used to collect the data. The data was analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypothesis of the study. The level of significance was set at

0.05 levels. The mean pretest knowledge score was 30.3% (SD of ± 12.9) whereas the mean post- test knowledge score was 87.8% (SD of ± 9.0). A significant association was found between the socio demographic variables such as age, menopause, dietary pattern, non-vegetarian preferred and sleeps pattern and the mean pretest knowledge scores of middle aged women on prevention of coronary artery disease ($\chi 2$ value 15.61, 6.53, 5.44, 9.24, 7.59 at $p < 0.05$). The findings concluded that self-instructional module was effective in enhancing the knowledge of middle aged women regarding the prevention of coronary artery disease.[38]

Justin V Sebastian (2019) Study to assess the effectiveness of self-instructional module on knowledge regarding life style modification of patient with heart failure among staff nurses in selected hospital mangalore The mean post-test knowledge score 25.88 (86.27%) was higher than the mean pre-test knowledge score 12.88 (42.91%). The mean percentage knowledge score of pre-test was maximum in the area of Section - A Anatomy and physiology of Heart (53.2%) and minimum in the area of Section-C Life style modification of patient with heart failure (39.81%) and the mean percentage knowledge score of post-test was also maximum in the area of Section - C Life style modification of patient with heart failure (86.72%) and less in the area of Section- A Anatomy and physiology of Heart (85.6%). The mean difference between post-test and pre-test knowledge score was highly significant. There was no significant association of pre-test knowledge score with selected demographic variables such as age ($\chi2$=0.57), gender ($\chi2$=0.025), professional qualification ($\chi2$=3.78), years of experience ($\chi2$=5.104), area of experience ($\chi2$=2.329) and in-service education attended ($\chi2$=0.126) at 0.05 level of significance.[39]

Manal Hamed Mahmoud (2018) Effect of Lifestyle Modification Intervention on Health Status of Coronary Artery Disease Patients. The current study conducted at the coronary care unit and cardiology out-patient clinics of Benha University Hospital, Benha City. Subjects: Purposive sample of 92 coronary artery disease patients (study and control) were included in the study. Tools: Two tools used in this study 1) Interview questionnaire. 2) Health status questionnaire. Result shows that Significant percentage of the study participants from both groups were adhered to unhealthy life-style practices as smoking, eating salty and fatty foods, drinking tea and coffee as well as they didn't practice exercises and recreational activities. After lifestyle modification intervention, there were significant statistical differences between the two groups favoring the study group regarding all aspects of health status; physical function, bodily pain, social function, role limitation due to physical or emotional problems and mental health (P<0.05) This study concluded that life style modification intervention for coronary artery disease patients is effective and useful for enhancing their health status. This study recommended that coronary artery patients` education should be held in permanent approach, because it is a crucial part of their treatment.[40]

Kornelia Kotseva (2019) Lifestyle and impact on cardiovascular risk factor control in coronary patients across 27 countries: Results from the European Society of Cardiology A total of 8261 patients (females 26%) were interviewed. Nineteen per cent smoked and 55% of them were persistent smokers, 38% were obese (body mass index ≥30 kg/m^2), 59% were centrally obese (waist circumference: men ≥102 cm; women ≥88 cm) while 66% were physically active <30 min 5 times/week. Forty-two per cent had a blood pressure ≥140/90 mmHg (≥140/85 if diabetic), 71% had low-density lipoprotein cholesterol ≥1.8 mmol/L (≥70 mg/dL) and 29% reported having diabetes. Cardioprotective medication was: anti-platelets 93%, beta-blockers 81%, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers 75% and statins 80%.A large majority of coronary patients have unhealthy lifestyles in terms of smoking, diet and sedentary behaviour, which adversely impacts major cardiovascular risk factors. A majority did not achieve their blood pressure, low-density lipoprotein cholesterol and glucose targets. Cardiovascular prevention requires modern preventive cardiology programmes delivered by interdisciplinary teams of healthcare professionals addressing all aspects of lifestyle and risk factor management, in order to reduce the risk of recurrent cardiovascular events.[41]

Barbara Riegel (2024) Self-Care for the Prevention and Management of Cardiovascular Disease and Stroke. —Self-care is defined as a naturalistic decision-making process addressing both the prevention and management of chronic illness, with core elements of self-care maintenance, self-care monitoring, and self-care management. In this scientific statement, we describe the importance of self-care in the American Heart Association mission and vision of building healthier lives, free of cardiovascular diseases and stroke. The evidence supporting specific self-care behaviors such as diet and exercise, barriers to self-care, and the effectiveness of self-care in improving outcomes is reviewed, as is the evidence supporting various individual, family-based, and community-based approaches to improving self-care. Although there are many nuances to the relationships between self-care and outcomes, there is strong evidence that self-care is effective in achieving the goals of the treatment plan and cannot be ignored. As such, greater emphasis should be placed on self-care in evidence-based guidelines.[42]

Gunjan K Ghodeshwar (2023) Impact of Lifestyle Modifications on Cardiovascular Health Cardiovascular diseases (CVDs) remain a leading cause of morbidity and mortality worldwide. Lifestyle modifications have gained increasing recognition as key interventions in preventing and managing CVDs. This narrative review aims to provide a thorough assessment of the impact of lifestyle modifications on cardiovascular health. The review encompasses various aspects, including diet, physical activity, smoking cessation, stress management, and weight management. Additionally, the review explores the underlying mechanisms by which lifestyle modifications influence cardiovascular health and highlights the evidence from clinical trials, observational studies, and meta-analyses. The findings of this review emphasize the importance of lifestyle modifications in reducing the risk factors associated with CVDs and improving cardiovascular outcomes.[43]

Sarah T Ahmed (2018) Premature Coronary Heart Disease in South Asians: Burden and Determinants South Asians have demonstrated a higher burden of premature CAD (PCAD) compared with other ethnicities. These findings are not limited to non-immigrant South Asians but have also been found in immigrant South Asians settled around the world. In this article, we first discuss studies evaluating PCAD among South Asians residing in South Asia and among South Asian immigrants in other countries. We then discuss several traditional risk factors that could explain PCAD in South Asians (diabetes, hypertension, dietary factors, obesity) and lipoprotein- associated risk (low HDL-C levels, higher triglycerides, and elevated apolipoprotein B levels). We then discuss several emerging areas of research among South Asians including the role of

dysfunctional HDL, elevated lipoprotein(a), genetics, and epigenetics. Although various risk markers and risk factors of CAD have been identified in South Asians, how they impact therapy is not well-known. PCAD is prevalent in the South Asian population. Large-scale studies are needed to identify how this information can be rationally utilized for early identification of risk among South Asians, and how currently available therapies can mitigate this increased risk[44].

Monica Aggarwal (2018) Lifestyle Modifications for Preventing and Treating Heart Failure. Continued improvement in medical and device therapy for heart failure (HF) has led to better survival with this disease. Longer survival and increasing numbers of unhealthy lifestyle factors and behaviors leading to occurrence of HF at younger ages are both contributors to an increase in the overall prevalence of HF. Clinicians treating this complex disease tend to focus on pharmacological and device therapies, but often fail to capitalize on the significant opportunities to prevent or treat HF through lifestyle modification. Herein, the authors review the evidence behind weight management, exercise, nutrition, dietary composition, supplements, and mindfulness and their potential to influence the epidemiology, pathophysiology, etiology, and management of stage A HF.[45]

Sanju Bhattarai (2017) Cardiovascular disease trends in Nepal - An analysis of global burden of disease data 2017 Cardiovascular diseases (CVDs) are the leading cause of disease burden globally, disproportionately affecting low and middle-income countries. The continued scarcity of literature on CVDs burden in Nepal has thwarted efforts to develop population-specific prevention and management strategies. This article reports the burden of CVDs in Nepal including, prevalence, incidence, and disability basis as well as trends over the past two decades by age and gender. We used the Institute of Health Metrics and Evaluation's Global Burden of Diseases database on cardiovascular disease from Nepal to describe the most recent data available (2017) and trends by age, gender and year from 1990 to 2017. Data are presented as percentages or as rates per 100,000 population. In 2017, CVDs contributed to 26·9% of total deaths and 12·8% of total DALYs in Nepal. Ischemic heart disease was the predominant CVDs, contributing 16·4% to total deaths and 7·5% to total DALYs. Cardiovascular disease incidence and mortality rates have increased from 1990 to 2017, with the burden greater among males and among older age groups. The leading risk factors for CVDs were determined to be high systolic blood pressure, high low density lipoprotein cholesterol, smoking, air pollution, a diet low in whole grains, and a diet low in fruit. CVDs are a major public health problem in Nepal contributing to the high DALYs with unacceptable numbers of premature deaths. There is an urgent need to address the increasing burden of CVDs and their associated risk factors, particularly high blood pressure, body mass index and unhealthy diet.[46]

Harvinder S Dod (2010) Effect of intensive lifestyle changes on endothelial function and on inflammatory markers of atherosclerosis Intensive lifestyle changes have been shown to regress atherosclerosis, improve cardiovascular risk profiles, and decrease angina pectoris and cardiac events. We evaluated the influence of the Multisite Cardiac Lifestyle Intervention Program, an ongoing health insurance-covered lifestyle intervention conducted at our site, on endothelial function and inflammatory markers of atherosclerosis in this pilot study. Twenty-seven participants with coronary artery disease (CAD) and/or risk factors for CAD (nonsmokers,14 men; mean age 56 years) were enrolled in the experimental group and asked to make changes in diet (10% calories from fat, plant based), engage in moderate exercise (3 hours/week), and practice stress management (1 hour/day). Twenty historically (age, gender, CAD, and CAD risk factors) matched participants were enrolled in the control group with usual standard of care. At baseline endothelium-dependent brachial artery flow-mediated dilatation (FMD) was performed in the 2 groups. Serum markers of inflammation, endothelial dysfunction, and angiogenesis were performed only in the experimental group. After 12 weeks, FMD had improved in the experimental group from a baseline of 4.23 + or - 0.13 to 4.65 + or - 0.15 mm, whereas in the control group it decreased from 4.62 + or - 0.16 to 4.48 + or - 0.17 mm. Changes were significantly different in favour of the experimental group ($p < 0.0001$). Also, significant decreases occurred in C-reactive protein (from 2.07 + or - 0.57 to 1.6 + or - 0.43 mg/L, $p = 0.03$) and interleukin-6 (from 2.52 + or - 0.62 to 1.23 + or - 0.3 pg/ml, $p = 0.02$) after 12 weeks. Significant improvement in FMD, C-reactive protein, and interleukin-6 with intensive lifestyle changes in the experimental group suggests > or = 1 potential mechanism underlying the clinical benefits seen in previous trials.[47]

J A Iestra (2005) Effect size estimates of lifestyle and dietary changes on all-cause mortality in coronary artery disease patients: a systematic review Prospective cohort studies and randomized controlled trials of patients with established CAD were included if they reported all-causes mortality and had at least 6 months of follow-up. The effect estimates of smoking cessation (relative risk [RR], 0.64; 95% CI, 0.58 to 0.71), increased physical activity (RR, 0.76; 95% CI, 0.59 to 0.98), and moderate alcohol use (RR, 0.80; 95% CI, 0.78 to 0.83) were studied most extensively. For the 6 dietary goals, data were too limited to provide reliable effect size estimates. Combinations of dietary changes were associated with reduced mortality (RR, 0.56; 95% CI, 0.42 to 0.74). Effect estimates of combined dietary changes look promising. Future studies should confirm these findings andassess the contribution of the individual dietary factors.[48]

Wilhelmina Ijzelenberg (2012) The effect of a comprehensive lifestyle intervention on cardiovascular risk factors in pharmacologically treated patients with stable cardiovascular disease compared to usual care: a randomised controlled trial. A single centre, two arm, parallel group randomised controlled trial was performed. Patients with stable established CVD and at least one lifestyle-related risk factor were recruited from the vascular and cardiology outpatient departments of the university hospital. Blocked randomisation was used to allocate patients to the intervention (n = 71) or control group (n =

75) using an on-site computer system combined with allocations in computer-generated tables of random numbers kept in a locked computer file. The intervention group received the comprehensive lifestyle intervention offered in a specialised outpatient clinic in addition to usual care. The control group continued to receive usual care. Outcome measures were the lifestyle-related cardiovascular risk factors: smoking, physical activity, physical fitness, diet, blood pressure, plasma total/HDL/LDL cholesterol concentrations, BMI, waist circumference, and changes in medication. The intervention led to increased physical activity/fitness levels and an improved cardiovascular risk factor profile (reduced BMI and waist circumference). In this setting, cardiovascular risk management for blood pressure and lipid levels by prophylactic treatment for CVD in usual care was already close to optimal as reflected in baseline levels. There was no significant improvement in any other risk factor.[49]

6. RESERCH METHODOLOGY

RESEARCH APPROACH

A quantitative research approach was adopted to assess the Effectiveness of Self Instructional Module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients admitted in selected hospital of the city.

RESEARCH DESIGN

In this study, a quasi-experimental one group pretest post-test research design was used to assess the Effectiveness of self instructional module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients admitted in selected hospital of the city.

Table 1:- Representation of Research Design

Sample	Pretest	Intervention	Post-test
Adolescents	Administration of structured knowledge questionnaire **Day -1**	Self Instructional Module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients. **Day -1**	Administrationof structured knowledge questionnaire **Day-7**
E	**01**	**X**	**02**

Key:-

- **E**: - Study group.
- **O1**: -Pre-test assessment of knowledge questionnaire**.**
- **X: -** Self Instructional Module on knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients.
- **O2**: - Post-test assessment of knowledge questionnaire.

7. RESEARCH VARIABLES

Attributes or characteristics that can have more than one value, such as height or weight. In others words, variables are qualities, quantities, properties or characteristic of people, things or situations that change or vary.[51]

Independent variable: The presumed cause is referred to as the independent variable and the presumed effect is referred the dependent variable. In this study independent variable is Self Instructional Module.

Dependent variable: the dependent variable usually is the variable that the researcher is interested in understanding, explaining, or predicting. The dependent variable is the outcome of research.

- In this present study dependent variable is knowledge regarding lifestyle modification to maintain a healthy heart among CAD patients.

Extraneous Variables:

Extraneous variable are the factors that are not the part of the study but may affect the measurement of the study variables, they commonly known as extraneous variables.

In this study extraneous variable is Age in years, Gender, Education, type of family, Income and Religion, type of Diet, Habits, Medical diagnosis

SETTING OF THE STUDY

Setting is the physical location and conditions in which data collection takes place in the study. The study was conducted at selected hospital.

POPULATION

Population is the total number of people who meet the criteria, the researcher has established for a study, from which the subjects will be selected and to whom the findings will be generalized.[52]

In this study, the population included CAD patient admitted in selected hospital.

Targeted population-

The population for the study are CAD patient

Accessible population-

CAD patient admitted in selected hospital and those who are eligible for the study at the time of actual data collection.

SAMPLE

In the present study, the sample included CAD patient .

SAMPLE SIZE

$$n = \frac{z^2 p(1-P)}{d^2}$$

- formula used

Where: -

- n = Sample size
- Z = Z statistics for a level of Significance.
- P = Prevalence
- d^2 = Square value of the precision internal around the sample estimate.

$$n = \frac{8.94 \times 14.33 \times 3.00}{?^2} \qquad n = \frac{384}{4}$$

n = 96.8 , by adding 5% attrition rate i.e 96 +4 samples = 100 samples.

So, total 100 samples will be included in the study.

SAMPLING TECHNIQUE

Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made. In order to achieve the objectives of the study, the investigator adopted a Non probability purposive technique to select the sample from a selected hospital.

In this study, a total of 100 CAD Patient were selected for the study by using purposive sampling techniques.

8. SAMPLE SELECTION CRITERIA

a) Inclusion criteria

1. The patients with the CAD who are admitted in selected hospitals.
2. The patients with the CAD who are able to read and understand Marathi OR English.
3. CAD patients who are willing to participate in the study.
4. CAD patients who are available during the period of collecting data.

b) Exclusion criteria

1. The patients with cardiac diseases other than the CAD

DEVELOPMENT AND DESCRIPTION OF THE TOOL

The data collection tools consisted of two sections.

Section A: Consisted of Demographic data consisting of is Age in years, Gender, Education, type of family, Income and Religion, type of Diet, Habits, Medical diagnosis

Section: B –Structured knowledge questionnaire regarding lifestyle modification to maintain a healthy heart among CAD patients admitted in selected hospital of the city.

It consisted of knowledge questionnaire which included the below mentioned subheadings.

- **Part 1-** Questionnaire based on general knowledge related to heart disease.
- **Part 2-** Questionnaire based on general information about lifestyle.
- **Part 3-** Questionnaire based on patient knowledge regarding dietary modification and weight loss.
- **Part 4-** Questionnaire based on Patient knowledge regarding exercise and stress management
- **Part 5:** Questionnaire based on Patient knowledge regarding habit

Table 2:- Scoring key regarding knowledge questionnaire.

	Score	Level of knowledge
	0-10	Poor
	11-20	Average
	21-30	Good

9. RELIABILITY

In order to test the reliability of the tool knowledge questionnaire were administered to ten samples other than the study sample. The reliability of the tool was estimated by using the Split half method. This method involves splitting the samples into two halves and correlating scores on the two halves of the test and the correlation is found by using Spearman's Correlation formula.

$$r = \frac{\sum(X-\overline{X})(Y-\overline{Y})}{\sqrt{\sum(X-\overline{X})^2}\sqrt{(Y-\overline{Y})^2}}$$

Where, $\overline{X}$ = mean of X variable
$\overline{Y}$ = mean of Y variable

The ' r ' value of the tool was **0.7** for knowledge questionnaire The 'r ' value indicates that the tool was reliable.

9.1 PLAN FOR DATA COLLECTION PROCEDURE AND DATA ANALYSIS

The main study was conducted from selected hospital. The official permission was taken from the Medical Superintendent of selected hospital.

- Informed consent was taken from participants.
- The purpose of the study was explained to the participants.
- Demographic Questionnaire was given to participants to write their responses.
- 100 CAD patient were evaluated based on information on their demographics and knowledge regarding lifestyle modification to maintain a healthy heart among CAD

The investigator provided information by using Self instructional module regarding lifestyle modification to maintain a healthy heart among CAD patients

Procedure for data collection- After obtaining permission from the Medical Superintendent of selected hospital. The investigator proceeded with the data collection. Data collection was done on 1 December 2023. A Purposive sampling technique was used to select the sample. The sample will be selected from selected hospital of city. Each participant's Nurse

has explained in detail about the study and informed consent will be obtained. The participants were assured confidentiality of the data collected. Data will be collected through a structured questionnaire. The pre-test of 15 minutes will be administered individually regarding lifestyle modification to maintain a healthy heart. CAD patient were provided Self instructional Module for 30 minutes. Post-test will be conducted to know the Effectiveness of Self instructional Module followed by the intervention given The samples were divided into two groups

2 Srno	3 Group	4 Morning
5 1	6 A	7 8:30 am to 9:00 am
8 2	9 B	10 9:30 am to 10 am

PLAN FOR DATA ANALYSIS

The data was presented in the form of graphs, tables, diagrams, and figures. Data were analysed by computing Mean, Standard Deviation, 'p' value and paired 't-test.

I. Descriptive Statistics:

1. Frequency and the percentage were used to analyze the demographic data of CAD patient of selected hospital.
2. Mean, mean percentage, Standard Deviation were used to analyze the pre and post-test effect of knowledge among CAD patient of selected hospital.

II. Inferential Statistics:

1. The statistical significance of the effectiveness of the pamphlet was analyzed by using paired t-test.
2. Chi-square test was used to find out the association between the knowledge among CAD patient with their selected demographic variables.

ANALYSIS AND INTER PRETATION

ORGANIZATION AND PRESENTATION OF DATA

The analysis of data was organized and finalized according to the plan for data analysis and presented in the form of tables and figures. The analyzed data are presented under the following sections:

Section A: Socio-demographic variable of CAD patient

Section B: To assess knowledge regarding lifestyle modification to maintain health heart among CAD patient admitted in selected hospital of the city.

Section C: To assess the effectiveness of Self Instructional Module on Knowledge regarding lifestyle modification to maintain health heart among CAD patient admitted in selected hospital of the city

Section D: To find out the association between knowledge regarding lifestyle modification to maintain health heart among CAD patient with their selected socio demographic variables.

Section A: Frequency and percentage Distribution of Socio demographic variable of CAD patient Age

Table No-3 n-100

	Age group	**Frequency**	**Percentage**
	26-35 yr	44	44%
	35-45yr	20	20%
	46-55 yr	14	14%

	56-65 yr	10	10%
	65 yr &above	12	12%

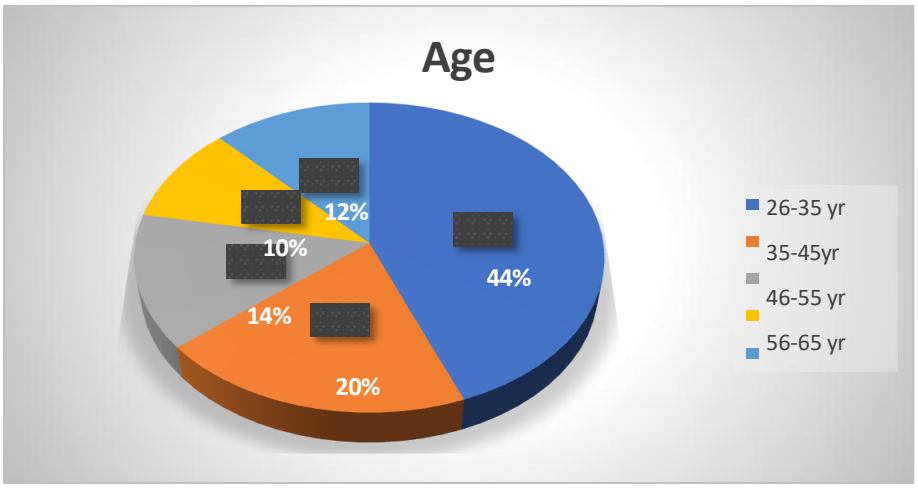

Fig No: 2 Pie diagram showing percentage wise distribution of age

The data presented in the above fig 2 and table no 2 shows the percentage wise distribution of CAD patient according to their age , the majority of findings (44%) were in the age of 26-35 years, 20% were in the age group of 35-45 years and 14% of them were in the age group of 46- 55 years. Hence it can be interpreted that majority of the participants were in the age of 26-35

Gender

Table No-4 n-100

Sr.No	Gender	Frequency	Percentage
1	Male	46	46%
2	Female	54	54%

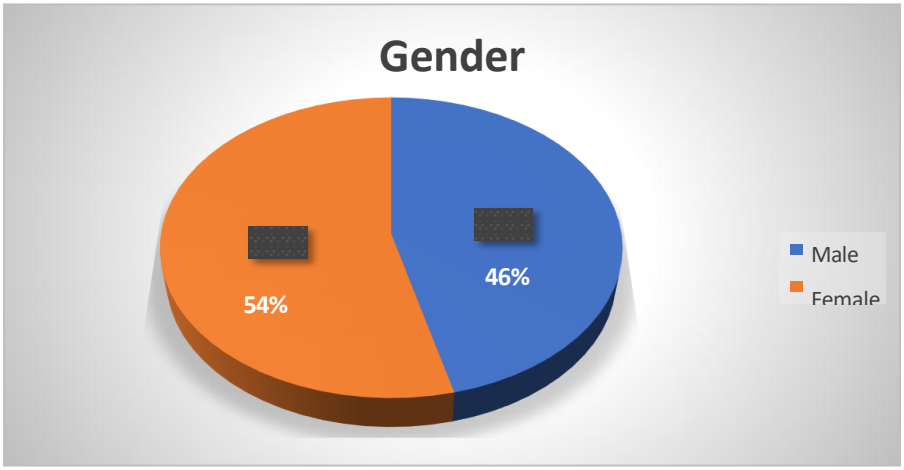

Fig No: 3 Pie diagram showing percentage wise distribution of gender

The data presented in the table no 3 and fig no 3 shows the percentage wise distribution of participants according to their gender, the result depicts that the 54% were female and 46% were male.

Education

Table No-5 n-100

Sr.no	Education	Frequency	Percentage
1	Illiterate	16	16%
2	Primary education	21	21%
3	Secondary	38	38%
	graduation	14	14%
	post graduate & above	11	11%

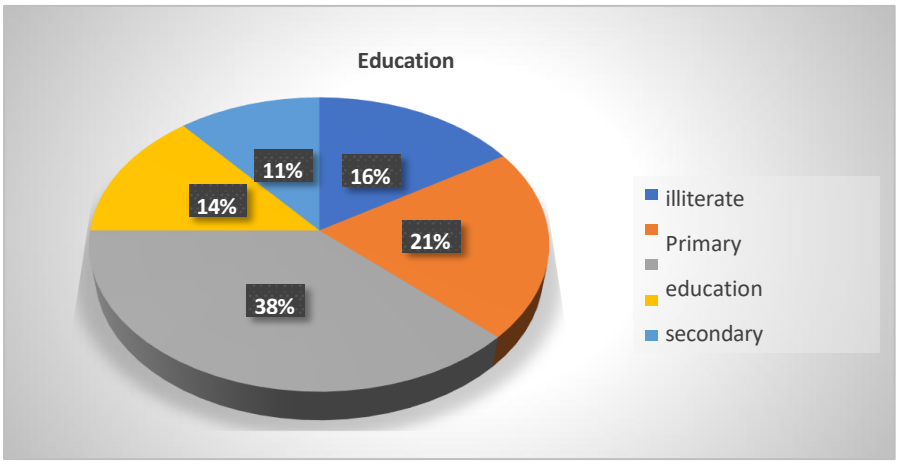

Fig No: 4 Pie diagram showing percentage wise distribution of Education

The data presented in the above table no 4 and fig no 4 shows the distribution of Education majority of findings i.e 38% participants had secondary education , 21% had primary education , 14% were graduate ,11% were postgraduate and above .Hence it can be interpreted that majority of the participants had primary education.

Occupation

Table No-6 n-100

Sr.no	Occupation	Frequency	Percentage
1	Government employee	25	25%
2	Private employee	20	20%
3	Business	25	25%
4	Daily wages	30	30%

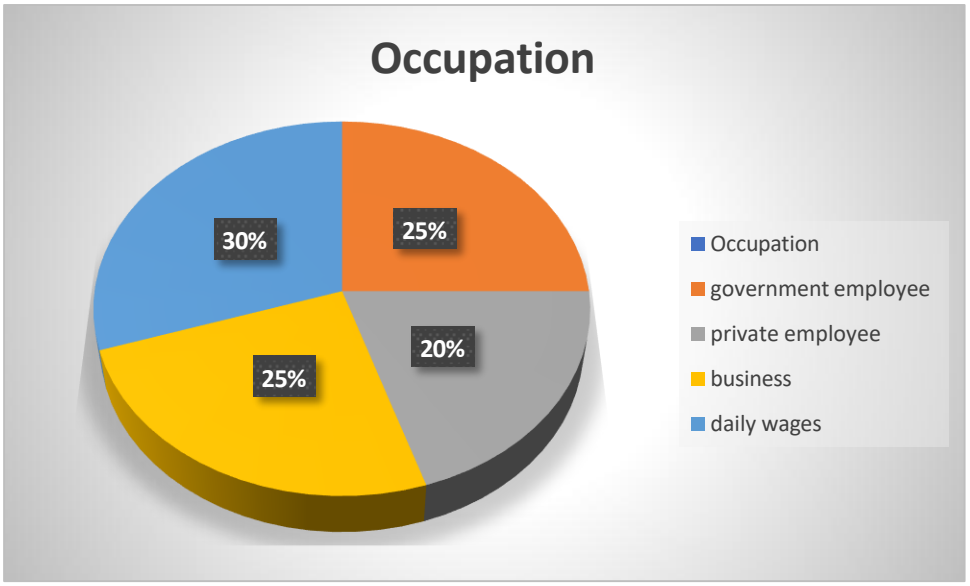

Fig No: 5 Pie diagram showing percentage wise distribution of Occupation

The data presented in the above table no 5 and fig no.5 shows the percentagewise distribution of Occupation , majority of findings shows that 30% occupation was daily wages , 25% were businessman, 25% were government employee and 20% were private employee. Hence it can be interpreted that majority of the participants occupation was daily wages.

Religion

Table No-7n-100

Sr.no	Religion	Frequency	Percentage
1	Hindu	65	65%
2	Christian	11	11%
3	Muslim	7	7%
4	Any other	17	17%

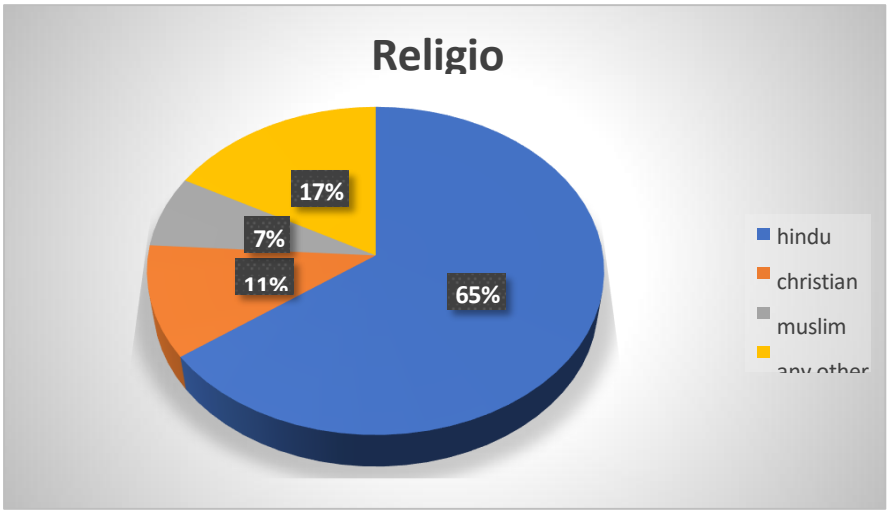

Fig No: 6 Pie diagram showing percentage wise distribution of religion

The data presented in the above table no 6 and fig 6 shows the percentagewise distribution religion , majority of findings shows that about 65 % participants were Hindus , 17% were any other religion , 11% were Christian and 7% were Muslim .Hence it can be interpreted that majority of the participants were Hindus.

Marital Status

Table No-8 n-100

Sr.no	Marital Status	Frequency	Percentage
1	Married	18	18%
2	Unmarried	26	26%
3	Widow	0	0%
4	Divorced	56%	56%

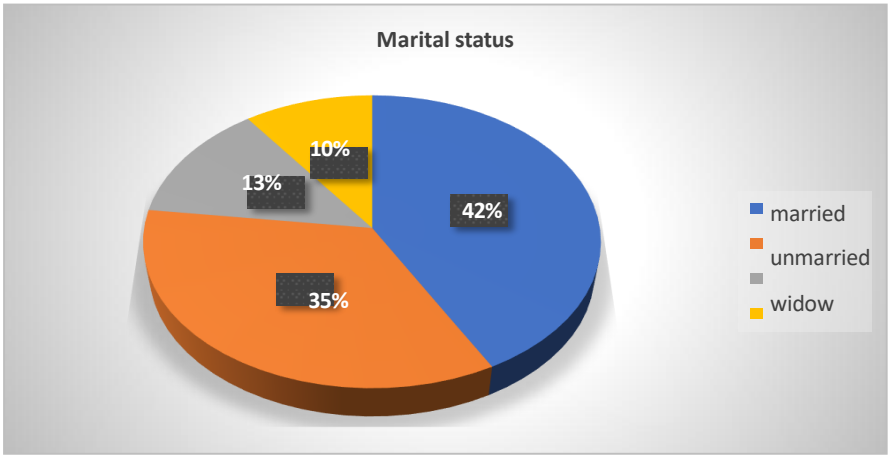

Fig No: 7 Pie diagram showing percentage wise distribution of Marital status

The data presented in above table no 7 and fig no 7 shows the distribution of marital status the findings reveal that majority of 42% participants were married , 35 % were unmarried & 13 % were widow and 10% were divorced .Hence it can be interpreted that majority of the participants married.

Family Monthly Income

Table No-9 n-100

Sr.no	Family Monthly Income	Frequency	Percentage
1	Less than 5000 Rs	34	34%
2	Rs.5000-10000	30	30%
3	Rs. 10000-20000	30	30%
4	More than Rs.20000	6	6%

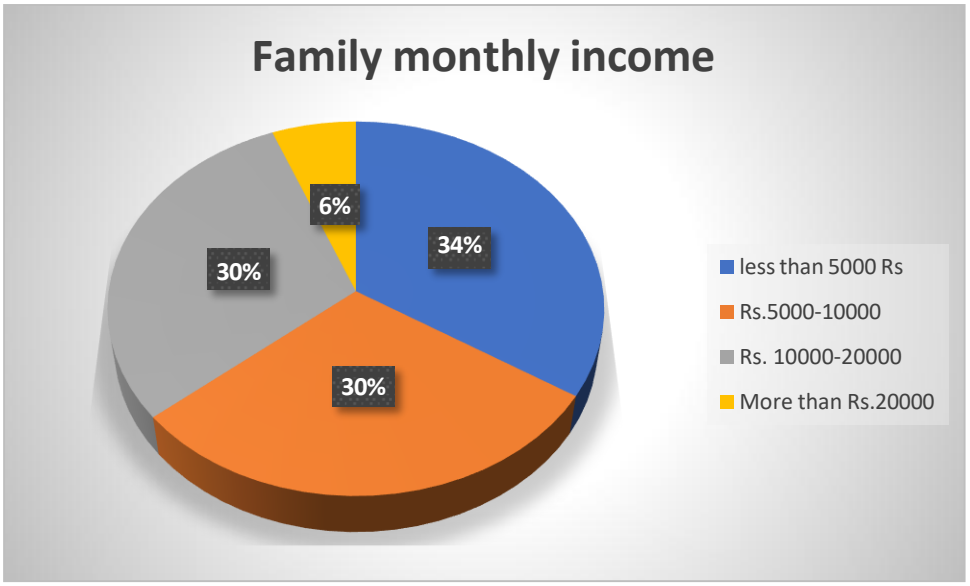

Fig No: 8 Pie diagram showing percentage wise distribution of family monthly income

The data presented in the above table no 8 and fig no 8 depicts the distribution of family monthly income, the result interprets that majority of 34% participants had monthly income less than Rs 5000 , 30 % had Rs.10000-2000 & 5000-10000 and lowest percentage of 6% had more than Rs 20000 .Hence it can be interpreted that majority of the participants had monthly income less than Rs 5000.

Duration of illness

Table No-10 n-100

Sr.no	Duration of illness	Frequency	Percentage
1	1-3 yr	30	30%
2	4-6 yr	30	30%
3	7-12 yr	15	15%
4	13 yr& above	25	25%

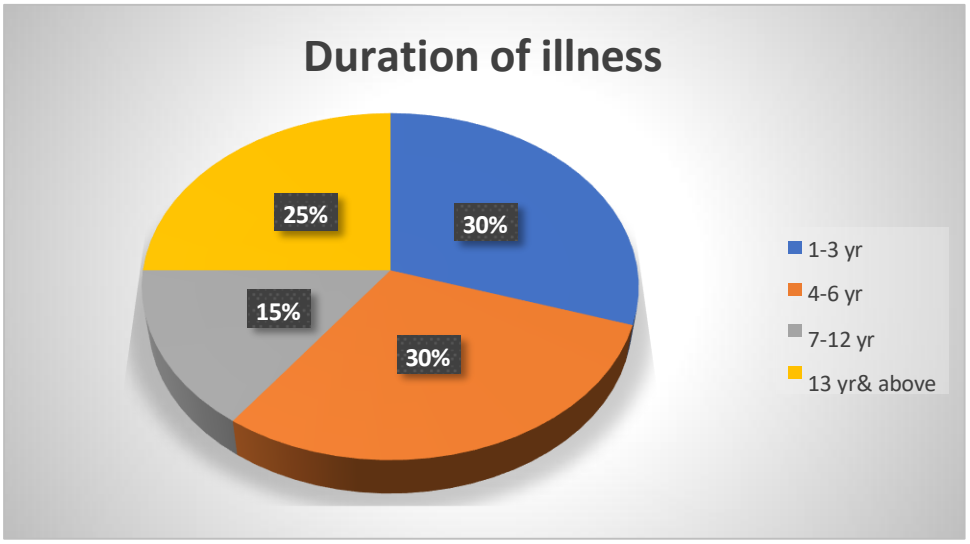

Fig No: 9 Pie diagram showing percentage wise distribution of duration of illness

The data presented in the above table no 9 and fig no 9 reveals the percentagewise distribution of duration of illness shows that , majority of findings shows that 30% participants duration of illness was 1-3 year &4-6 year, 25% was 13 yr and above and 15% had 7-12 years. Hence it can be interpreted that majority of the participants under study duration of illness was 1-3 year &4- 6 year.

Type of family

Table No-11 n-100

Sr.no	Type of family	Frequency	Percentage
1	Nuclear	42	36%
2	Joint	35	34%
3	Extended	23	30%

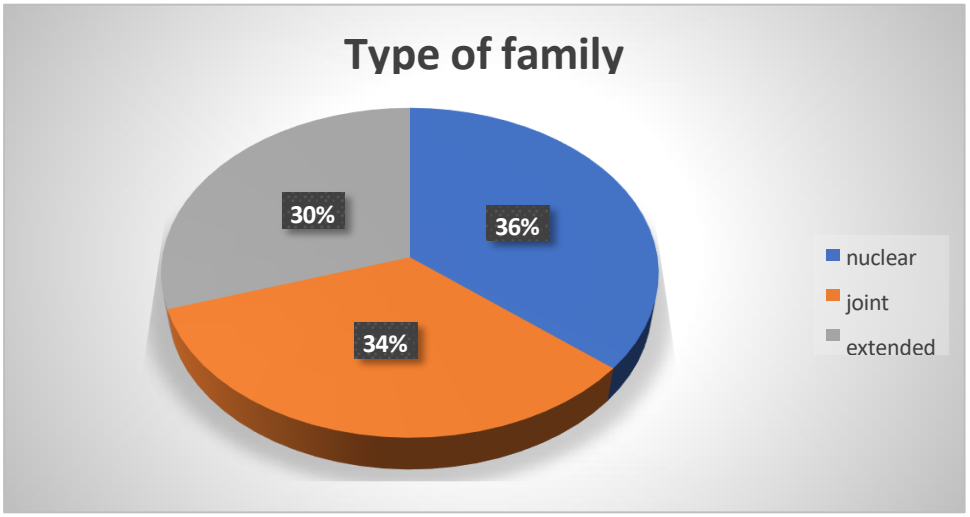

Fig No: 10 Pie diagram showing percentage wise distribution of type of family

The data presented in above table no 10 and fig no 10 shows the percentage wise Among the distribution of type of family result shows that majority of findings i.e 36% participants were belongs to nuclear family, 34% were belongs to joint family& 30% were extended family .Hence it can be interpreted that majority of the participants were belongs to nuclear family.

Type of diet

Table No-12 n-100

Sr.no	Type of Diet	Frequency	Percentage
1	Vegetarian	49	49%
2	Non-vegetarian	51	51%

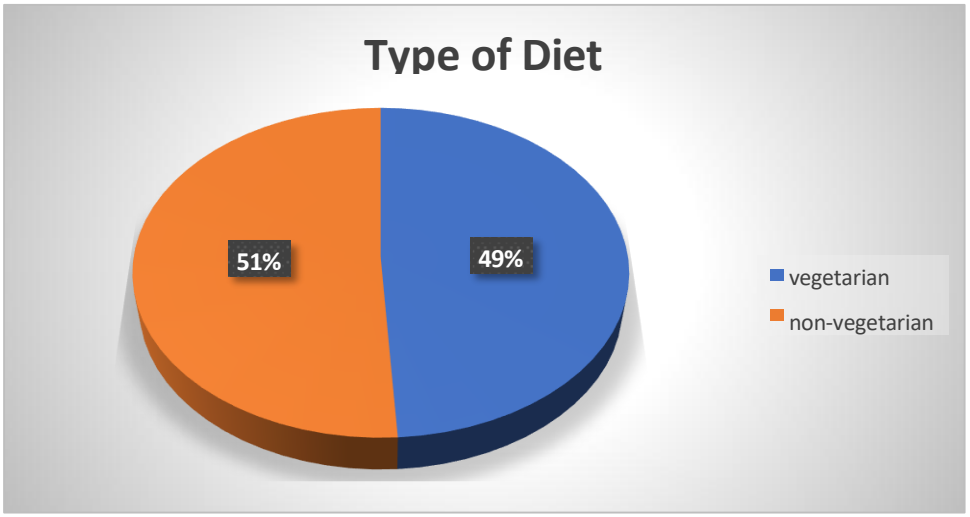

Fig No: 11. Pie diagram showing percentage wise distribution of type of diet

The data presented in the above table no 11 and fig no 11 shows the percentage wise distribution of type of diet the study findings shows that majority of 51% participants were Non-vegetarian and remaining 49% were vegetarian .Hence it can be interpreted that majority of the participants were Non-vegetarian.

Habit

Table No-13 n-100

Sr.no	Habit	Frequency	Percentage
1	Alcoholic	25	25%
2	Smoking	22	22%
3	Tobacco chewing	29	29%
4	No habits	24	24%

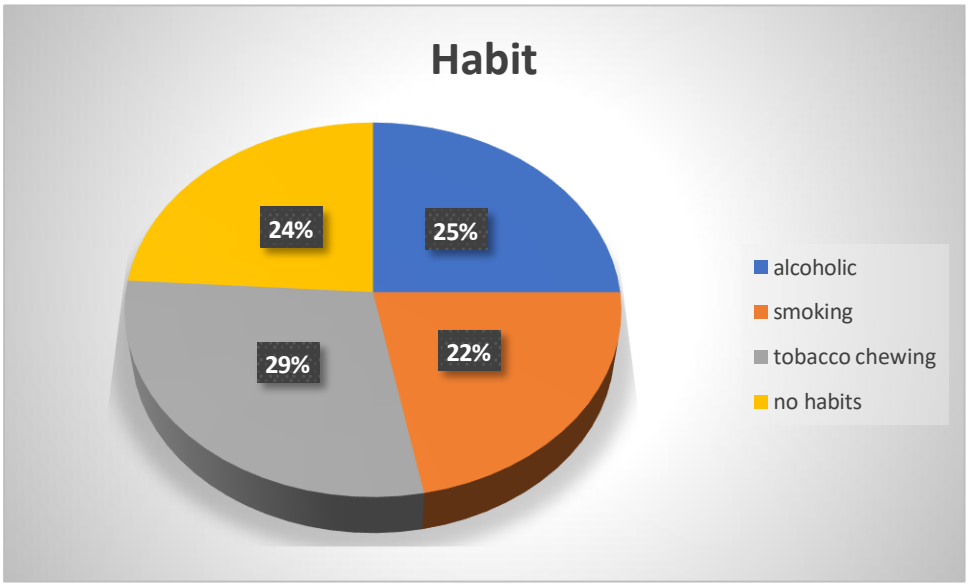

Fig No: 12. Pie diagram showing percentage wise distribution of habit

The data presented in the above table no 13 and fig no 11 shows the percentage wise distribution of, habit the study findings shows that shows majority of 29% participants were chewing tobacco , 25% were alcoholic ,24% had no habit , & 22% were smoking. Hence it can be interpreted that majority of the participants were chewing tobacco.

Follow up to Physician

Table No-14 n-100

Sr.no	Follow up to Physician	Frequency	Percentage
1	Once in a week	19	19%
2	Once in month	19	19%
3	Once in 2 month	24	24%
4	As needed	38	38%

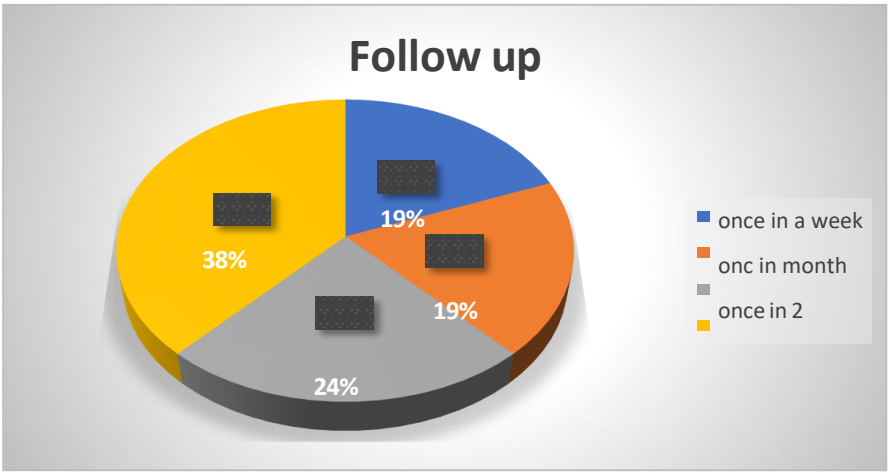

Fig No: 13. Pie diagram showing percentage wise distribution of follow up to physician

The data presented in the above table no 13 and fig no 13interprets the distribution of follow up to physician the study findings shows that, majority of 38% as needed , 22% got all the time ,24% once in 2 month,19% once in month & once in week . Hence it can be interpreted that majority of the participants follow up to physician as needed .

Residential Area

Table No-15 n-100

Sr.no	Residential Area	Frequency	Percentage
1	Urban	83	83%
2	Rural	17	17%

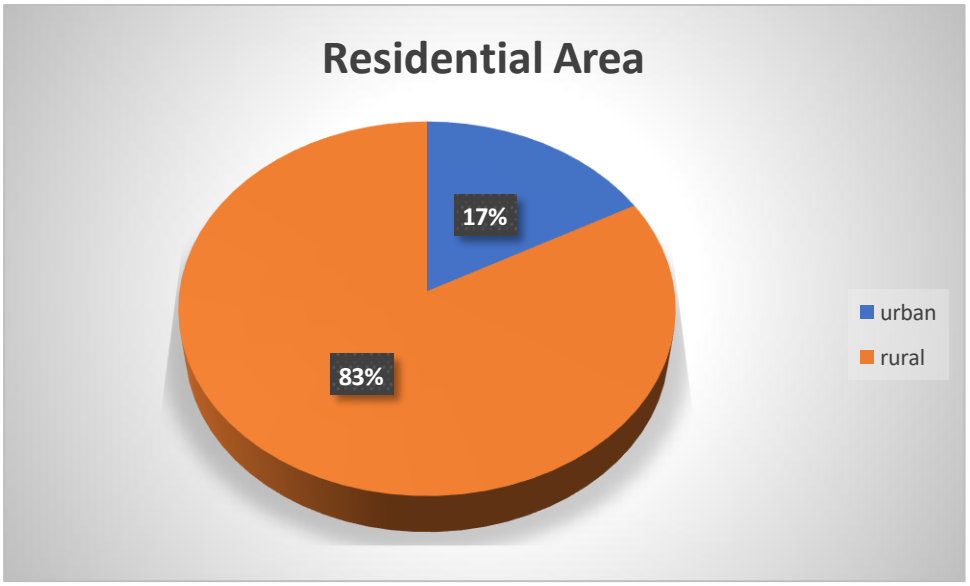

Fig No: 14. Pie diagram showing percentage wise distribution of residential area

The data presented in the above table no 14 and fig no 14 interprets the distribution of residential area the study findings shows that, majority of 83% participants were residing rural area and remaining 17% in urban area. Hence it can be interpreted that majority of the participants were residing rural area.

Awareness about lifestyle modification

Table No-16 n-100

Sr.no	Awareness about lifestyle modification	Frequency	Percentage
1	Yes	40	40%
2	No	60	60%

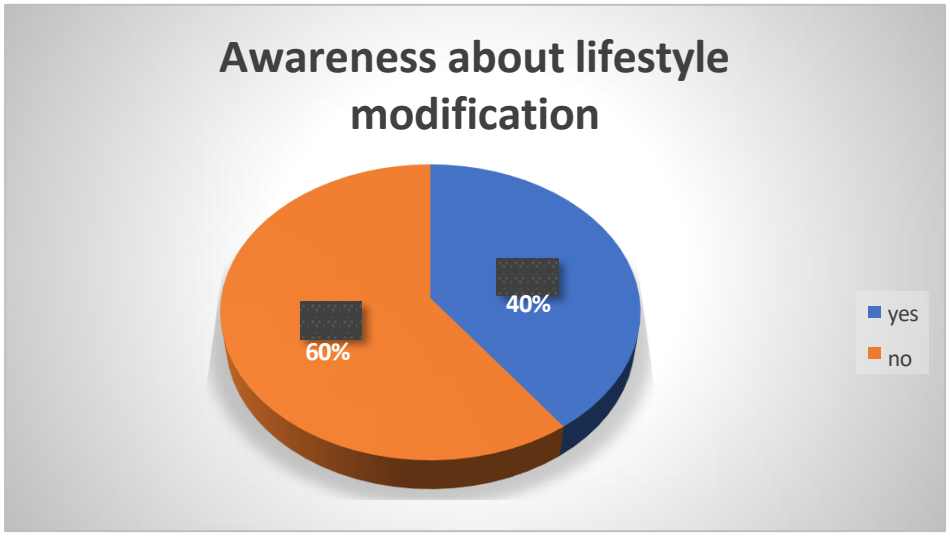

Fig No: 15. Pie diagram showing percentage wise distribution of awareness about lifestyle modification

The data presented in the above table no 15 and fig no 15interprets the distribution of awareness about lifestyle modification the study findings shows that, majority of 60% were not aware about lifestyle modification of healthy heart and 40% were

aware about lifestyle modification of healthy heart.

Follow up to Physician

Table No-17 n-100

Sr.no	Medical Diagnosis	Frequency	Percentage
1	Myocardial Infarction	48	48%
2	Angina pectoris	52	52%

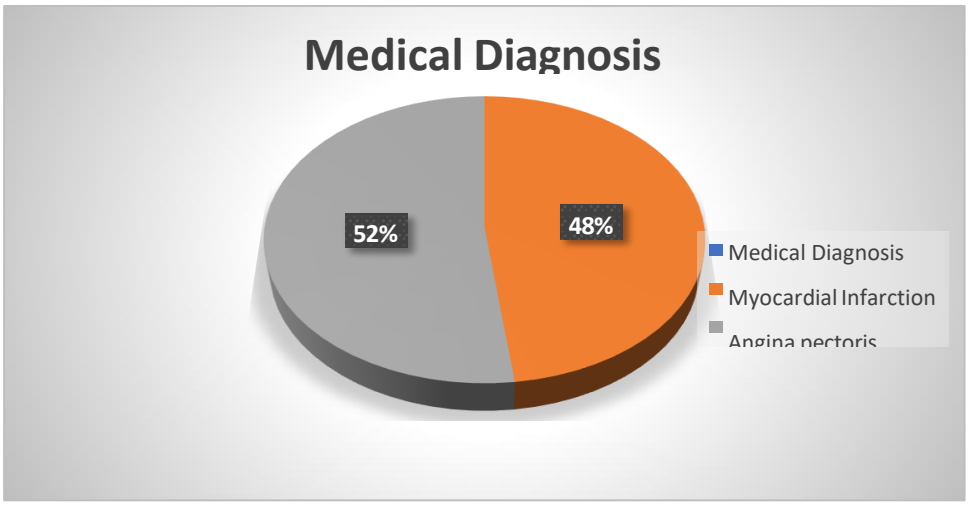

Fig No: 16. Pie diagram showing percentage wise distribution of medical diagnosis

The data presented in the above table no 16 and fig no 16 interprets the distribution of medical diagnosis the study findings shows that, majority of 52% medical diagnosis was angina pectoris & 48 was myocardial infarction . Hence it can be interpreted that majority of the participants medical diagnosis was angina pectoris

Section B: Assess the level of knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital of the city

Table No 18- Assess the knowledge regarding lifestyle modification to maintain healthy heart among CAD patient admitted in selected hospital of the city

Table No-18n-100

	Level of Knowledge	Range of score	Frequency	Percentage
	Poor knowledge	0-10	62	62%
	Average Knowledge	11-20	38	38%
	Good Knowledge	21-30	0	0%

Assessment of level of knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that majority 62% of the CAD patient had poor knowledge, and 38% had Average knowledge.

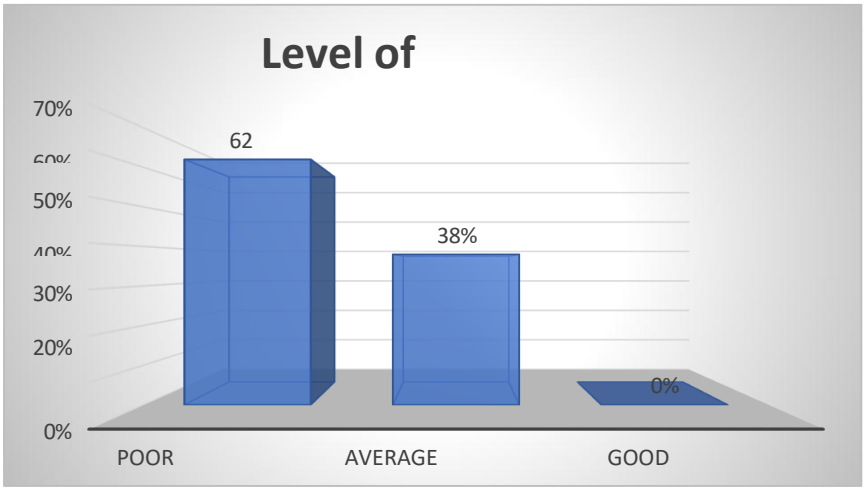

Fig 17 :Bar diagram shows that the knowledge regarding lifestyle modification to maintain healthy heart among CAD patient

Table No 19 Assess the Pre-test Post-test knowledge regarding lifestyle modification to maintain health heart among CAD patient

	Level of Knowledge	Range of score	Pre test		Post test	
			Frequency	Percentage	Frequency	Percentage
	Poor knowledge	0-10	62	62%	0	0%
	Average Knowledge	11-20	38	38%	72	72%
	Good Knowledge	21-30	0	0%	28	28%

Assessment of pre test post test level of knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that majority 62% of the participants had poor knowledge in pretest and in post test 72% had average knowledge. Result shows that self instructional module is effective in improving knowledge regarding lifestyle modification to maintain health heart among CAD patient.

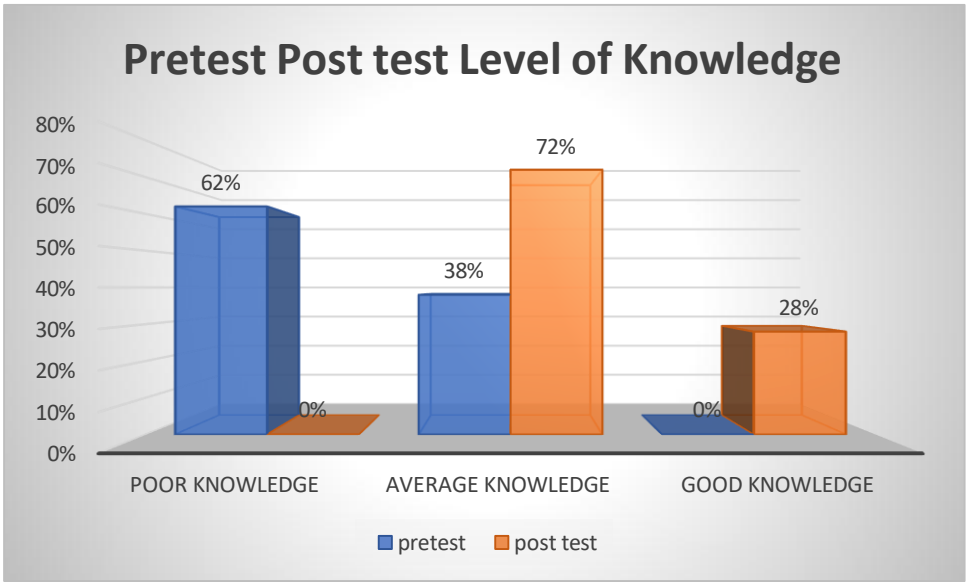

Fig 18- Bar diagram show that the difference between pre test post test knowledge regarding lifestyle modification to maintain health heart among CAD patient

Table No 20- Comparison between level of knowledge regarding lifestyle modification to maintain health heart among CAD patient

	Group	Mean	SD	Paired t test
	Pre test	10	2.61	**15.43***
	Post test	17.38	3.10	

Table no 20 depicts the difference of level of knowledge regarding lifestyle modification to maintain health heart among CAD patient post test and pre test mean score found **17.38** and **10** respectively and paired t test value was found to be **15.43** which is significant at the level of 0.05

Section C: Association between level of knowledge regarding lifestyle modification to maintain healthy heart among CAD patient with demographic variables.

Table No 21- Association between level of knowledge regarding lifestyle modification to maintain health heart among CAD patient with demographic variables.

	Variables		Level of Significance
	Age		**Significant**
	Gender		Non Significant
	Education		Non Significant
	Occupation		Non Significant
	Religion		Non Significant
	Marital Status		Non Significant
	Type of family		Not Significant
	Monthly family income		Non Significant

	Duration of illness		**Significant**
	Type of diet		Not Significant
	Habit		Not Significant
	Residential area		Not Significant
	Follow up to physician		Not Significant
	Awareness about lifestyle modification		**Significant**
	Medical Diagnosis		Not Significant

Df = 99 , Table – 3.84 , p ≤ 0.05

Chi square values were calculated to find out the association between level of knowledge regarding lifestyle modification to maintain health heart among CAD patient with demographic variables. The findings revealed that there was significant association between Knowledge score and socio demographic variables like Age and Awareness about lifestyle modification , whereas there was no any significant association between Knowledge score and socio demographic variables like gender, education ,occupations, family monthly income , type of family , religion ,marital status, duration of illness, habit and medical diagnosis stated null hypothesis (HO2) was accepted as there was no significant association level of knowledge regarding lifestyle modification to maintain health heart among CAD patient with demographic variables.

10. DISCUSSION, SUMMARY, CONCLUSION IMPLICATION AND RECOMMENDATIONS

The present study was conducted to assess the quasi experimental study to assess the effectiveness of Self instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient.

In order to achieve the objective of the study a Quasi experimental one group pre test post test approach was adapted. Non probability purposive sampling technique was used to select the sample. Data was collected from the 100 sample. The data collected was calculated and analyzed using descriptive and inferential statistics. Effectiveness of Self instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient.

SUMMARY

The present investigation was study to assess effectiveness of Self-instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient.

Objective of the study

1. Assess the level of knowledge regarding lifestyle modification to maintain health heart among CAD

patient.

2. To assess the effectiveness of Self-instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient.
3. To find out the association between knowledge regarding lifestyle modification to maintain health heart among CAD patient with their selected socio demographic variables.

Research approach

Quasi experimental one group pretest post-test research design

Sample size:

Sample size consist of 100 CAD patient

Sampling Techniques:

Non-probability purposive sampling techniques

Data analysis

Descriptive and inferential statistics were used for data analysis. Chi-square method is used to find out association between knowledge score with selected demographic variable. The collected data is planned to be organized and tabulated by using descriptive statistics like mean, standard deviation and mean percentage.

The finding are summarized as follow finding related to sociodemographic variable of CAD patient

1. Majority of the subjects were (44%) in the age group of 26-35 years
2. Majority of the subjects (54%) were female.
3. Majority of the subjects (38%) had higher secondary education
4. Highest percentage (30 %) occupation was daily wages.
5. Majority of the respondents (65%) were hindus
6. Majority of 42% were Married
7. Highest percentage of 34% had monthly incomeless than Rs 5000
8. Majority of 30% duration of illness was 1-3 yr and 4-6 yr
9. Highest percentage of 36% belongs to nuclear family
10. Majority of 51% were Non- vegetarian
11. Majority of 29% were chewing tobacco
12. Majority of 38% follow up to physician as needed.
13. Majority of 83% were belongs to rural area
14. Majority of 60% not aware about lifestyle modification.
15. Majority of 52% had angina pectoris

Findings related to Assess the level of knowledge regarding lifestyle modification to maintain health heart among CAD patient admitted in selected hospital of the city Assessment of level of knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that majority 62% of the CAD patient had poor knowledge , and 38% had Average knowledge Similar study was conducted by Gnana Leonarld Das (2018) the study finding shows that majority of 54% participants had Average knowledge on lifestyle modification in post test

Findings related to Assess the pre test post test knowledge lifestyle modification to maintain health heart among CAD patient admitted in selected hospital of the city

Assessment of pre test post test level of knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that majority 62% of the participants had poor knowledge in pretest and in post test 72% had average knowledge. Result shows that self instructional module is effective in improving knowledge regarding lifestyle modification to maintain health heart among CAD patient Similar study was conducted by Mohan B (2022) the study finding shows that majority of 68% participants had good knowledge on lifestyle modification in post test .

Findings related to comparison of knowledge regarding management of lifestyle modification to maintain health heart among CAD patient admitted in selected hospital of the city

Difference of level of knowledge regarding lifestyle modification to maintain health heart among CAD patient post test and pre test mean score found **17.38** and **10** respectively and paired t test value was found to be **15.43** which is significant at the level of 0.05 similar study conducted by Gnana Leonarld Das (2018) founding shows paired t value was 16.31 which is significant at the level of 0.05

Findings related to association between level of knowledge regarding bedtime routine to establish good sleeping among adolescents of selected college with demographic variables Chi square values were calculated to find out the association between level of knowledge regarding lifestyle modification to maintain health heart among CAD patient with demographic variables.. The findings revealed that there was significant association between Knowledge score and socio demographic variables like Age and Awareness about lifestyle modification , whereas their was no any significant association between Knowledge score and socio demographic variables like gender, education ,occupations, family monthly income , type of family , religion ,marital status, duration of illness, habit and medical diagnosis stated null hypothesis (HO2) was accepted as there was no significant association level of knowledge regarding lifestyle modification to maintain health heart among CAD patient with demographic variables. Similar study was conducted by Justin V Sebastian finding shows there was no significant association with demographic variable like age, gender and education.

CONCLUSION:

The findings of the present study indicated regarding effectiveness of Self Instructional Module on knowledge regarding lifestyle modification to maintain health heart among CAD patient, shows that the CAD patient had good knowledge in post test. it shows that Self Instructional Module is effective in improving knowledge regarding lifestyle modification to maintain health heart among CAD patient **.**

IMPLICATIONS:

The findings of the study can be discussed in four areas, mainly, nursing practice, nursing education and nursing research. Several implications can be drawn from the present study for nursing practice.

Nursing Education

- Nursing students should be made aware of regarding lifestyle modification to maintain health heart.
- Nurse educator should educate to student nurses and other health care worker to improve the knowledge and create awareness regarding lifestyle modification to maintain health heart
- The findings may improve a critical analysis of nursing professional on level of knowledge regarding management of lifestyle modification to maintain health heart

Nursing Research: -

- There is a need of extensive and intensive research in this area, so that a strategy for educating nurses on knowledge regarding lifestyle modification to maintain health heart
- In service education and continuing education should be organized to update the nurse's knowledge regarding lifestyle modification to maintain health heart

RECOMMENDATIONS

Based on the study finding the following recommendations have made for the further study.

1. Similar study may be replicated on large samples for wider generalization.
2. Similar study can be conducted in community.
3. Similar study can be conducted through non experimental research approach

Manuals, information booklets and structure teaching may be developed in child health area for general public.

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