ASSESS THE PREVALENCE OF CORONARY ARTERY DISEASE AND EFFECT OF STRUCTURE TEACHING PROGRAMME AMONG RURAL ADULTS AT BIDAR DISTRICT.

Mr. Danidhariya Ankurbhai Vijaykumar
MSC ,Medical Surgical Nursing, Asst Professor Nida college Of Nursing Bidar

Abstract- **BACKGROUNDOFTHE STUDY: Heart health is essential for improving the quality of life. Lifestyle changes and improper dietary habits commonly leads to heart disease. One of the most common heart disease is coronary artery disease. Coronary artery disease otherwise called ischemic heart disease. Awareness regarding heart healthy diet helps to improve the level of knowledge among coronary artery disease patients and prevention of cardiac disease as much as possible. Providing video assisted teaching is the best technique to improve the level of knowledge among patients regarding the diet habits and proofer exercises. The level of knowledge regarding diet which contains vegetables and fruits which are good source in vitamins, minerals, low calorie and rich in fibre that may help prevent cardiac diseases, daily allowance of dietary pattern, and unhealthy food of the heart. The video may be used to improve the knowledge on heart healthy diet among coronary artery disease patients, which help patients improve their level of knowledge and prevent cardiac diseases.**

Study objective: To assess the pretest level of knowledge on prevalence of coronary artery diseases among rural adults hospitals at Bidar.
To assess the post-test level of knowledge prevalence of coronary artery diseases among rural adults hospitals at Bidar.
To determine the effectiveness of structured teaching programme on coronary artery diseases among rural adults hospitals at Bidar.

To find out the association between the levels of knowledge on prevalanceo coronary artery disease patients in cardiac outpatient department on heart healthy diet with the selected demographic variables such as age, gender, employment status, previous history of cardiac disease, comorbidity, diet habits, personal habits, history of smoking, history of alcoholism and family history of cardiac disease.

Hypotheses: H1: There will be a significant improvement on level of knowledge among coronary artery disease patients in cardiac outpatients department with heart healthy diet.
H2: There will be a significant association between the level of knowledge of coronary artery diseasepatients in cardiac outpatient department on heart healthy diet with the selected demographic variables such as age, gender, employment status, previous history of cardiac disease, comorbidity, diet habits, personal habits, history of smoking, history of alcoholism and family history of cardiac disease.

RESEARCH METHODOLOGY: The researcher adopted qualitative research design in one group pretest posttest. The study was conducted bidar district. Based on the inclusion criteria 30 samples were selected by purposive sampling technique. Pretest was conducted by using knowledge assessment questionnaire, after collecting the questionnaires, Video assisted teaching was given to them. Post test was conducted on after 07th day of teaching by the same knowledge assessment questionnaire. The collected data were analyzed based on the above mentioned objectives using descriptive and inferential statistics.

Study findings: The study identified that the level of knowledge was improved in the post-test group. It was found that there was a significantly improvement in the level of knowledge among coronary artery disease patients. The 't' value compared for the same also reveal significant difference t value 8.47 [p<0.05]. The study identifies that the level of knowledge on heart healthy diet among CAD patients in cardiac out patient department in the post- test. The mean score was statistically significant with 't' value 8.47 [p< 0.05]

Conclusion: The researcher found that video assisted teaching was very much effective in improving level of knowledge on heart healthy diet among coronary artery disease patients. Patient satisfaction was very much higher in this intervention.

Index Terms- **CAD, PREVELENCE,STP,EFFECT.**

I. INTRODUCTION

The health do not mean the absence of physical illness only, according to WHO, health is a state of complete physical, mental and social wellbeing, and not merely the absence of disease and infirmity. The loss of health is loss of all happiness. Mahatma Gandhi says, it is health which is real wealth, and not piece of gold and silver.

Coronary artery disease should now be considered an important public health problem due to epidemiological transition characterized by changing lifestyles and a problem related to interplay of factors with regards to their existence, casualty and attributes The epidemiological factors like ageing and changing lifestyles, which culminate in an epidemic of non-communicable disease is rapidly occurring in the developing countries.

Coronary artery disease is the narrowing or blockage of the coronary arteries usually caused by atherosclerosis. Atherosclerosis (sometimes called "hardening" or "clogging" of the arteries) is the build-up of cholesterol and fatty deposits (called plaques) on the inner walls of the arteries. These plaques can curb blood flow to the heart muscle by physically clogging the artery or by causing abnormal artery tone and function. Without adequate blood supply, the heart becomes starved of oxygen and the vital nutrients it needs to work properly. This can cause chest pain called angina. If the blood supply to a portion of the heart muscle is disconnected entirely, or if the energy needs of the heart become much greater than its blood supply, a heart attack (injury to the heart muscle) may occur.

Cardiac diseases are the class of diseases that involve the heart or blood vessels (arteries and vein) mainly related to atherosclerosis (arterial disease). World Health Organization (WHO) reports that non-communicable chronic diseases are responsible for about 70% of worldwide deaths. The risk of heart disease increases as the age advances. There is also a greater risk if there is a close family member who had heart disease at an early age.1 In India, based on mortality data from Registrar-General of India on predominantly rural populations prior to 1998, vital registration varied from five to fifteen percent. Cardiac diseases or Cardiovascular diseases (CVD) were the largest causes of deaths in males (20.30%) as well as females (16.90%) and led to 1.70 million to 2.0 million deaths annually. Regional studies have also reported that CVD is the leading cause of deaths in urban as well as rural populations. WHO has predicted that from years 2000 to 2020 losses from CVD in India will double in both men and women from the current 7.70 million and 5.50 million respectively. Prevalence studies report that CVD diagnosed using history and Electrocardiogram (ECG) changes have trebled in both urban and rural adults from early 1960s and current prevalence rates are 10-12 percent in urban and four to five percent of rural adults.2 The root cause of most cases of CVD is a build-up of atheroma, a fatty deposit within the inside lining of arteries. Blood pressure and cholesterol level are also important. Chest X-rays, Radionuclide scanning, Echocardiography, Computed Tomography, Magnetic Resonance Imaging, Positron Emission Tomography, Blood tests for Creatine PhosphoKinase, Lactic DeHydrogenase and Serum Glutamic Oxaloacetic Transaminase, Blood Urea Nitrogen and creatinine and coronary angiography are the different diagnostic tests done for cardiac diseases.4 Prevention can be considered on a number of levels. Primordial prevention seeks to prevent at a very early stage, often before the risk factor is present in the particular context, the activities which encourage the emergence of lifestyles, behaviors and exposure patterns that contribute to increased risk of disease.

Diabetes has long been recognized to be an independent risk factor for CAD. Prospective studies, such as the Framingham, Honolulu, and San Antanio Heart studies, as well as numerous more recent population studies in the United States and other countries, have documented the excess CAD risk in patients with Diabetes from multiple racial and ethnic groups. The adverse influence of diabetes extends to all components of the cardiovascular system, the microvasculature, the larger arteries, and the heart, as well as the kidneys. Because of the increase in prevalence of Diabetes in our society, it now rivals cigarette smoking, hypertension, and cholesterol disorders as major risk factors for CAD. It is a particularly strong risk factor among women and among the growing orderly population.

Global report on diabetes, 2016, diabetes is the leading cause of death in the world. 1.5 million people worldwide died due to diabetes. An additional 2.2 million deaths occurred due to an increased risk of cardiovascular disease. According to world health report 2015, 75900 males and 51700 females died in India due to cardiovascular complications of diabetes mellitus.

The proportion of coronary artery disease in patients with diabetes varies across countries but approximately one - fifth of clinical trials (18%) and

registry patients (15.1- 21.4%) are documented as known diabetes patients. India stands out as an anomaly with 30.4% and 39.1% of CAD patients reporting known diabetes in national and international prospective registries. These proportions may be deemed the result of high background prevalence of glucose abnormalities on India. However given that South Asians have higher prevalence of T2 DM, and earlier onset of CAD despite a normal body mass index (BMI) by international standards, the premises that this population is more susceptible to diabetes and CAD and that these conditions are interlinked, is plausible.

A study conducted on Benefits of exercise training on coronary blood flow in coronary artery disease patients in United States. Every 34 seconds an American experiences a myocardial infarction or cardiac death. Approximately 80% of these coronary artery diseases (CAD)-related deaths are attributable to modifiable behaviours, such as a lack of physical exercise training (ET). Regular ET decreases CAD morbidity and mortality through systemic and cardiac-specific adaptations. ET increases myocardial oxygen demand acting as a stimulus to increase coronary blood flow and thus myocardial oxygen supply, which reduces myocardial infarction and angina. ET augments coronary blood flow through direct actions on the vasculature that improve endothelial and coronary smooth muscle function, enhancing coronary vasodilatation. Additionally, ET promotes collateralization, thereby, increasing blood flow to ischemic myocardium and also treats macro vascular CAD by attenuating the progression of coronary atherosclerosis and restenosis, potentially through stabilization of atherosclerotic lesions. In summary, ET can be used as a relatively safe and inexpensive way to prevent and treat CAD.

A community based cross-sectional study on 418 persons (212 males and 206 females) observed that prevalence of tobacco use was the most significant risk factor (42.3%) among subjects. The prevalence of other coronary risk factors ranged from 10-20%. Tobacco use, alcoholism and sedentary life style were considerably more amongst males while truncal obesity and systolic hypertension were more among females.

The Global Burden of Disease study estimated of age-standardized CVD death rate of 272 per 100000 populations in India was higher than the global average of 235 per 100000 populations. Premature mortality in terms of years of life lost because of CVD in India increased by 59%, from 23.2 million (1990) to 37 million (2010). Regardless of wide heterogeneity in the prevalence of cardiovascular risk factors across different regions, CVD has come out as the leading cause of death in all parts of India. The progression of the CVD epidemic is characterized by the reversal of socioeconomic gradients; tobacco use, low fruit and vegetable intake have become more prevalent among those from lower socioeconomic backgrounds. In addition, individuals from lower socioeconomic backgrounds frequently do not receive proper treatment, leading to poorer outcomes.

A cross-sectional study was carried out on 3771 study subjects to examine the prevalence of CHD using WHO Rose Angina questionnaire and WHO STEP approach. Study revealed prevalence of Coronary heart disease among the study subject was 226 (6.0 %). Male and female ratio was 123 (6.3% to 103 (5.7 %). Higher risk factor for coronary artery disease among males were smoking, smokeless tobacco and alcohol consumption while hypertension, obesity, sedentary type of physical activity, low fruits and vegetable consumption were the risk factors which were higher among females.17

Findings of a study result revealed that only 15.33% of subjects had good level of knowledge, and 84.67% subject had poor level of knowledge regarding prevention of CAD. The study recommends the requirement of awareness raising program regarding preventive measures of CAD to decrease the burden of such devastating disease.

II. MATERIALS AND METHODS

Statement of the Problem

A STUDY TO FIND THE CORRELATION BETWEEN STRESS AND COPING STRATEGIES OF POSTNATAL MOTHERS OF NEONATE ADMITTED TO PICU OF SELECTED HOSPITAL AT BIDAR

OBJECTIVES OF THE STUDY

- To assess the pretest level of knowledge on prevalence of coronary artery diseases among rural adults hospitals at Bidar.
- To assess the post-test level of knowledge prevalence of coronary artery diseases among rural adults hospitals at Bidar.
- To determine the effectiveness of structured teaching programme on coronary artery diseases among rural adults hospitals at Bidar.
- .To find out the association between the levels

of knowledge on prevalanceo coronary artery disease patients in cardiac outpatient department on heart healthy diet with the selected demographic variables

ASSUMPTIONS

1. Patients may have some knowledge and practice regarding coronary artery disease and its prevention.
2. The Video teaching programme on coronary artery disease and its prevention and management can bring about desired changes in the lifestyle of patients with diabetic and hypertension patients .

HYPOTHESES

H1: There may be a significant improvement in the post test level of knowledge and practice regarding prevention and management of coronary artery disease among patients with diabetic and hypertension patients .

H2: There will be a significant relationship between post test knowledge and practice score regarding prevention and management of coronary artery disease among patients with diabetic and hypertension patients.

H3: There will be significant association of post test of knowledge and practice scores regarding prevention management of coronary artery disease among patients with diabetic and hypertension patients and their selected demographic variables

Dependent Variable

The dependent variables in this study are knowledge and practice**.**

Independent Variable

The independent variable in this study is Video teaching programme on prevention of coronary artery disease.

Extraneous Variable

The extraneous variables are age, sex, educational status, occupation, and known case of hypertension, known case of diabetes and family history of heart disease.

DELIMITATIONS

1. Patients admitted with diabetic and hypertension patients in a private hospital, Karnataka

2. Patients who are available at the time of data collection**.**

RESEARCH APPROACH

A quantitative research approach has been used for this study.

RESEARCH DESIGN

The research design used in this study was pre experimental one group pretest post test research design.

The schematic representation follows

Pre test

(O1) Intervention

(Post test

(O2)

Assessment of

pre-test level of knowledge and practice regarding prevention & management of coronary artery

disease Video teaching programme on knowledge and practice regarding prevention & management of coronary artery disease Assessment of post-test level of knowledge and practice regarding prevention & Management of coronary artery disease

VARIABLES

Dependent Variable

The dependent variables in this study are knowledge and practice.

Independent Variable

The independent variable in this study is Video teaching programme on prevention of coronary artery disease.

Extraneous Variable

The extraneous variables are age, sex, educational status, occupation, and known case of hypertension, known case of diabetes and family history of heart disease.

SETTING

The research setting was Bidar Hospital, Karnataka

POPULATION

Target Population

Patients with diabetic and hypertensive patients of coronary artery disease

Accessible Population

All the patients with diabetic and hypertensive patients of coronary artery disease in Bidar Hospital,

SAMPLE

The patients who satisfied the inclusion criteria were the samples of the study.

SAMPLE SIZE

It consisted of 30 patients. Samples were selected from Bidar Hospital,

Karnataka.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

1. Patients admitted with diabetic and hypertension patients in a private hospital Karnataka.
2. Patients who were willing to participate.
3. Patient who were willing to comeback on post test day in case of discharge.

Exclusion Criteria

1. Patients who do not know to read and write in Malayalam.

SAMPLING TECHNIQUE

30 patients were selected by non-probability purposive sampling technique from Bidar Hospital, Karnataka.

III. RESULT

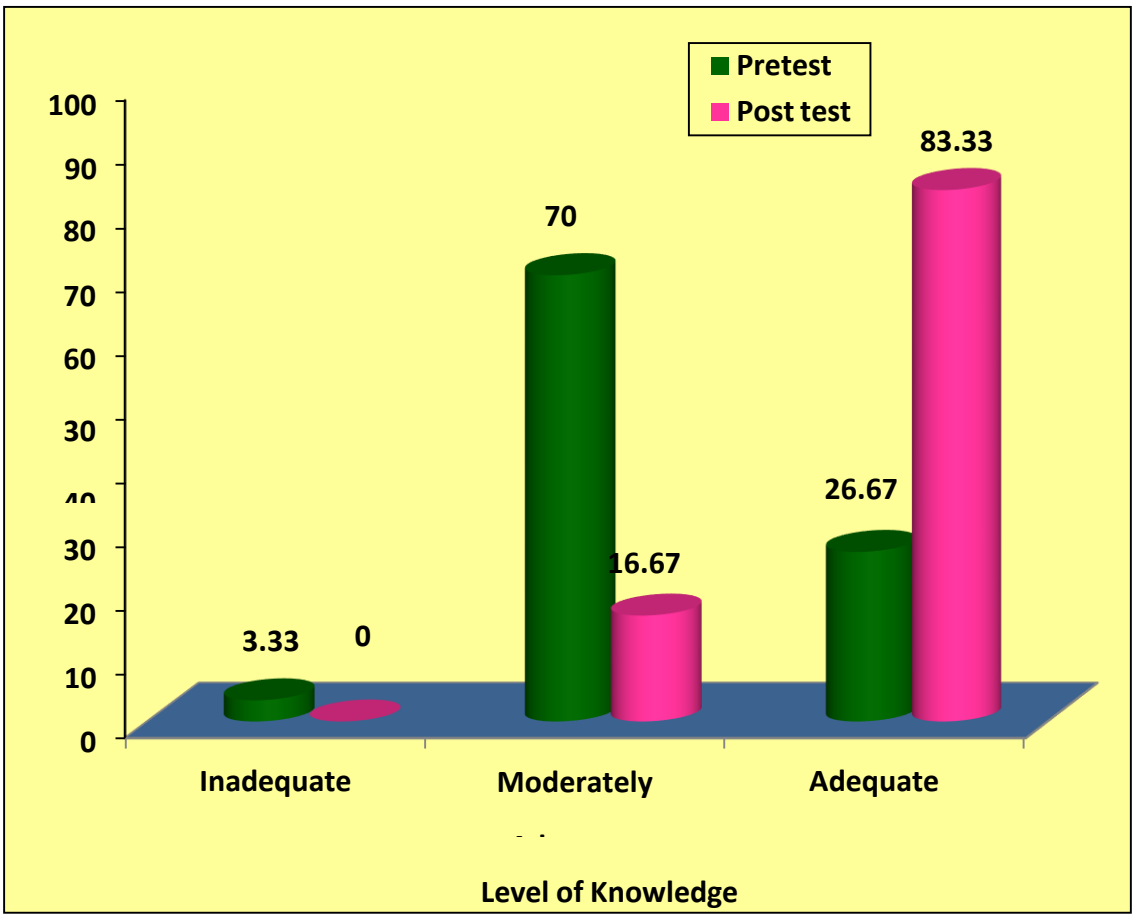
Frequency and percentage distribution of demographic variables of patientswith diabetic and hypertension patients **n = 30**

Demographic variables	No	%
Age in years		
21 -30 years	4	13.33
31 - 40 years	5	16.67
41 - 30 years	6	20.00
Above 30 years	15	30.00
Gender		
Male	15	30.00
Female	15	30.00
Educational status		
High school	6	20.00
HSE	2	6.67
Graduate	18	60.00
Post graduate	4	13.33
Occupational status		
Sedentary worker	8	26.67
Moderate worker	18	60.00
Heavy worker	4	13.33
Religion		
Hindu	1	3.33
Muslim	1	3.33
Christian	28	93.33
Others	0	0.00
Marital status		
Single	1	3.33
Married	29	96.67

Widower	0	0.00
Demographical variables	**No**	**%**
Dietary habits		
Vegetarian	5	16.67
Non Vegetarian	25	83.33
Bad habits		
Alcoholic	3	10.00
Smoker/tobacco	5	16.67
Alcoholic/Smoker/tobacco	3	10.00
Drug abuse	0	0.00
Alcoholic /Smoker/Tobacco/Drug Abuse	1	3.33
None	18	60.00
Known case of hypertension		
Yes	16	53.33
No	14	46.67
Known case of diabetic		
Yes	8	26.67
No	22	73.33
Do you have family history of heart disease		
Yes	16	53.33
No	14	46.67
Do you diagnosed with high cholesterol		
Yes	11	36.67
No	19	63.33
BMI measures		
Under weight<18.5	0	0.00
Normal weight 18.5 - 24.9	4	13.33
Overweight 25.0 - 29.99	17	56.67
Obese 30.0 - 39.9	9	30.00
Over 40	0	0.00

Demographic variables	No	%
Waist circumference		
More than 100cm in males	14	46.67
More than 88cm in females	12	40.00
Less than 100cm in males	1	3.33
Less than 88cm in females	3	10.00

ASSESSMENT OF PRETEST AND POST TEST LEVEL OF KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF CORONARY ARTERY DISEASE AMONG PATIENTS WITH DIABETIC AND HYPERTENSION PATIENTS .



Majority 21(70%) had moderately adequate knowledge, 8(26.67%) had adequate knowledge and only one (3.33%) had inadequate knowledge. Whereas in the post test after the Video teaching programme majority 25(83.33%) had adequate knowledge and only 5(16.67%) had moderately adequate knowledge regarding prevention of coronary artery disease among patients with diabetic and hypertension patients .

EFFECTIVENESS OF VIDEO TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF CORONARY ARTERY DISEASE AMONG PATIENTS WITH DIABETIC AND HYPERTENSION PATIENTS .

n = 30

Knowledge	Mean	S.D	Paired 't' Value
Pre test	36.30	4.16	t = 9.775 p = 0.000, S
Post Test	45.93	4.71	

***p<0.001, S – Significant

The table 2 shows that in the pretest, the mean score of knowledge was 36.30 4.16 whereas in the post test the mean score of knowledge was 45.93 4.71. The calculated paired't' value of t = 9.775 was found to statistically significant at p<0.001 level. This clearly shows that the Video teaching programme imparted to patients with diabetic and hypertension patients had significant improvement in the post test level of knowledge regarding prevention of coronary artery disease.

Comparison of pretest and post test practice scores regarding prevention of coronary artery disease among patients with diabetic and hypertension patients .

n = 30

Practice	Mean	S.D	Paired 't' Value
Pre test	11.86	3.30	t = 7.301 p = 0.000, S
Post Test	17.56	2.30	

***p<0.001, S – Significant

pretest, the mean score of practice was 11.86 3.30 whereas in the post test the mean score of practice was 17.56 2.30. The calculated paired't' value of t = 7.301 was found to statistically significant at p<0.001 level. This clearly shows that the Video teaching programme imparted to patients with diabetic and hypertension patients had significant improvement in the post test levelof knowledge regarding prevention of coronary artery disease.

ASSOCIATION OF POST TEST LEVEL OF KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF CORONARY ARTERY DISEASE AMONG PATIENTS WITH DIABETIC AND HYPERTENSION PATIENTS WITH SELECTED DEMOGRAPHIC VARIABLES.

n = 30

Demographic Variables	Moderately adequate (51-75%)		Adequate (>75%)		Chi-square value
	No.	%	No.	%	
Age in years					χ^2=6.000 d.f=3 p=0.112 N.S
21 -30 years	0	0	0	13.3	
31 - 40 years	0	0	5	16.7	
41 - 30 years	0	0	6	20.0	
Above 30 years	5	16.7	10	33.3	
Gender					χ^2=2.160 d.f=1 p=0.142 N.S
Male	4	13.3	11	36.7	
Female	1	3.3	14	46.7	
Educational status					χ^2=0.600
High school	0	0	5	16.7	

HSE	0	0	2	6.7	d.f=3 p=0.896 N.S
Graduate	3	10.0	15	30.0	
Post graduate	1	3.3	3	10.0	
Occupational status					
Sedentary worker	3	10.0	6	20.0	χ^2=0.600 d.f=3 p=0.896 N.S
Moderate worker	3	10.0	15	30.0	
Heavy worker	0	0	4	13.3	
Religion					
Hindu	0	0	1	3.33	χ^2=0.429 d.f=2 p=0.807 N.S
Muslim	0	0	1	3.33	
Christian	5	16.7	23	76.7	
Others	-	-	-	-	

Demographic Variables	**Moderately adequate (51-75%)**		**Adequate (>75%)**		**Chi square value**
	No.	**%**	**No.**	**%**	
Do you have family history of heart disease					χ^2=0.429 d.f=2 p=0.014 S*
Yes	5	16.7	15	30.0.	
No	0	0	10	33.3	

**p<0.05, S* – Significant, N.S – Not Significant

The table 5 shows that the demographic variable family history of heart disease had shown statistically significant association with post test level of knowledge regarding prevention of coronary artery disease at p<0.05 level and the other demographic variables had not shown statistically significant association with post test level of knowledge

IV. IMPLICATIONS

The implications drawn from the study are of importance to the field ofnursing including nursing service, administration, education and research.

Nursing Practice

- The nurse as a service provider should periodically organize and conduct mass education programme on lifestyle modifications among patients with diabetic and hypertensive patients of coronary artery disease using appropriately designed audio visual aids.
- The nurse implements the information, education, communication to create aware to the patient on causes and prevention of coronary artery diseases.
- As a service provider the nurse should design self care modules on prevention of coronary artery diseases and improve their knowledge.

Nursing Education

- Nurses must be reinforced in-service education regarding management coronary artery diseases, its prevention, early identification of complications and its management.
- Nursing students have to be educated regarding prevention of coronary artery disease.
- Nurse educators should emphasize the proper

assessment and management of CAD among patient with diabetic and hypertensive patients as well as provide opportunity for students to apply the knowledge.

Nursing Administration

- The nurse as an administrator should design formal teaching programme on lifestyle modifications coronary artery patients with diabetic and hypertensive patients toimprove their knowledge.
- Provide opportunities for nurses to attend training programmes.
- The nurse must instrumental in pointing out relevant policies of the state and central level of ensure effective programme to educate the public and facilitate optimal recourses allocation for implementation of the programme and create intersectional network to control the coronary artery disease.

Nursing Research

- Nurse researchers can promote more research with regard to utilization of different pharmacological agents in the clinical practice.
- Nurse researchers can collaborate with the other health team members in developing evidence based nursing practice.
- Nursing researcher can encourage clinical nurses to apply the research findings in their daily nursing care activities.

V. RECOMMENDATIONS

Nursing research is a widely expanding area with need for validating conservative interventions and development of new knowledge. The studyrecommends the following for achieving this end.

- A comparative study can be carried out to assess the factors leading to the development of CAD between rural and urban population.
- A study can be conducted in larger sample for better generalization.
- A comparative study can be conducted to compare the effect of Video teaching programme among experimental group and control group without intervention.
- A similar study can be conducted by the different types of non pharmacological measures.
- A study can be conducted along with medical interventions.

VI. LIMITATIONS

- The study was confined to small number of subjects and shorter period.

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