A Study to Assess the Knowledge on Prevention of Coronary Artery Disease among Adults in A.C Nagar, Nellore.

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Abstract : Background of the study: Coronary artery disease is also known as ischemic heart disease and is a group of disease that includes stable angina, unstable angina, myocardial infarction and sudden cardiac death. Indians have highest rates of CAD all over the world. It is 2-4 times higher at all age and 5-10 times higher in below 40 years of age. Excess burden of CAD in Indians is due to combination of nature and nurture. **Objectives:** To assess the knowledge on the prevention of coronary artery disease among adults and to find out the association between the prevention of coronary artery disease among adults with their selected socio demographic variables. **Material and methods:** A quantitative research approach and non-experimental descriptive design was adopted for this study. The study was conducted in A.C Nagar, Nellore. The participants selected for the present study was 50 adults withnon-probability convenience sampling technique. A structured questionnaire on prevention of coronary artery disease was used to assess the level of knowledge among adults. It was analyzed by using descriptive and inferential statistics. **Results:** Results shows that majority of participant's knowledge level fall in to the category of D grade, 32(64%). Mean value of level of knowledge on prevention of coronary artery disease among adultswere10.3 with the standard deviation of 3.0. There was a significant association between the level of knowledge on prevention of coronary disease among adultswith their socio demographic variables such as amount of oil used and type of salt used at p=0.005, and was no significant association withrest of the socio demographic variables. **Conclusion:** The study findings concluded that as a health professional, nurses need to educate the adults, since this result shows very low knowledge on prevention of coronary artery disease. Hence it can be done through creating awareness among public by conducting awareness programme on various risk factors such aseating a healthy diet, regular exercise, maintaining a healthy weight and avoid smoking.
Keywords: Assess, Knowledge, Coronary artery disease, Prevention, Adult.

Introduction: Coronary artery disease is also known as ischemic heart disease and is a group of disease that includes stable angina, unstable angina, myocardial infarction and sudden cardiac death.It is within the group of cardiovascular disease in which coronary artery disease is the most common type.

The risk factors include, high blood pressure, smoking, diabetes, lack of exercise, obesity high blood cholesterol, poor diet, depression, excessive alcohol and exercise, smoking into the risk, tobacco can increase inflammation and cause more cholesterol to deposit in coronary arteries. A woman who smokes cigarettes a day is six times more likely to develop coronary artery disease than a woman who has never smoked.

Coronary artery disease happens when the arteries that supply blood to heart muscle become hardened and narrowed, this is due to the build-up of cholesterol and other material called plaque on this inner walls.

Indians have highest rates of CAD all over the world. It is 2-4 times higher at all age and 5-10 times higher in below 40 years of age. Excess burden of CAD in Indians is due to combination of nature and nurture.

Prevention is by eating a healthy diet, regular exercise, maintaining a healthy weight and avoid smoking. Sometimes medication for diabetes controlling blood cholesterol levels reduce the risk of coronary artery disease. There is limited evidence for screening people who are of low risk and do not have symptoms Treatment involves the same measures as prevention.

Public awareness programme is the best instrument in the prevention of occurrence of coronary artery disease by helping people to take care of their own health. Although community education is the best information is not only the solution. The education must include strategies for motivation also.

Need and Significance for the study

The World Health Organization (WHO) 2017, estimates that there will be about 20 million deaths in 2015, andcoronary artery disease recently where common only in high income countries are how becoming dominant source of morbidity and mortality worldwide 2016 (WHO).

Coronary artery disease is the leading cause of death for both men and women and accounts for approximately 600,000 deaths in the United States in every year. American Heart Association statistics [AHA] 2017 shows coronary artery disease is the leading cause (45.1%) of death from 2004-2014. The annual death rate attributable coronary heart disease declined 35.5%, but the burden and risk factors remain alarmingly high between 2013 and 2030, medical costs of coronary heart disease are projected to increase by about 100%.

National Health Survey of India[2016] reported that based on estimation of national health survey of India incidence of CAD disease in 2014-2016 were 48,700 it increases 11% in 2014.

Andhra Pradesh Health Surveillance reported that coronary artery disease recently common in high income countries are becoming dominant source of mortality and morbidity rate coronary artery disease is leading cause of death for both men and women. Andhra Pradesh health surveillance reported [2017] that coronary artery disease is the leading cause and (35%) of death from 2010-2016 .in Nellore district the incidence rate of coronary artery disease was about 8548 the annual death attributable alarmingly high between 2013-2030, medical costly coronary heart disease due projected to increase by about 50%.

Statement of Problem

A study to assess the knowledge on prevention of coronary artery disease among adults in A.CNagar, Nellore.

Objectives

❖To assess the knowledge on the prevention of coronary artery disease among adults in AC Nagar.

❖To find out the association between the prevention of coronary artery disease among adults with their selected socio demographic variables.

Operational definitions

Assess: In this, it is referring to organized systematic and continuous process of collecting data from adult regarding coronary artery diseases and its prevention.

Knowledge: In this study, knowledge refers to adult's awareness regarding coronary artery diseases and its prevention.

Coronary artery disease: In this study, it refers to an acute or chronic form of cardiac disability arising from imbalance between myocardial supply and demand oxygenated blood.

Prevention: In this study, it refers to the steps that can be taken to prevent the occurrence of coronary artery disease.

Adult: In this study, it refers that the age at which a person is an adult age group of 20-60 years.

Assumptions

Adult may have knowledge on prevention of coronary artery disease.

Review of literature

Musafir KM et. al (2017) conducted study on Prevalence of Coronary artery disease in females with Hypertension and coronary artery disease presenting

with chest pain among 100 consecutive female patients the result shows that100 female patients. Using descriptive design, the study was conducted in Pakistan peoples. The sample size is 100 patients. Study result is out of 72 patients who had angiographically proven coronary artery disease for patients (5.5%) were between 30 and 40 year of age, 11 (15%) between 41 and 50 years, 25(35%) between 51 and 60 years, 24(33%) between 61 and 70 years and another 8 patients 13(26 %) were over 70 years of age. Out of 26 patients who neither had DM nor HTN, 15 (58%) still had coronary artery disease. The study concluded that increasing age along with hypertension and diabetes mellitus are the most significant risk factors for coronary artery disease in Pakistani females.

Bhumaethadwivedi et. al (2016) done a study on coronary artery disease in the Medical Faculty, atBangaloreand Wake-Up Call among 19 medical teaching faculty who suffered acute coronary artery disease episode during 2000 -2007, using cross sectional research design. The mean age was 51.73 ± 9.8 years with all patients being males. The incidence of early onset CAD (age d" 45 yrs.) in the study was 21%. The end result of the was high percentage of smokers (63.15%) and 34% had been taking regular alcohol. Central obesity was noted in 89.47% while 68.4% had hypertension, 36.8% diabetes mellitus and 21.5% had a family history of coronary artery disease. Although these figures do not give a prevalence estimate of coronary artery disease amongst medical faculty, they do reflect the significant presence of early coronary artery disease among physicians. The study result concluded It is imperative that physicians as a community need to wake up to the cardiovascular risks facing them on account of faulty life style and job stress.

Lessely MH et. al (2016) conducted survey cardiovascular diseases Prevention in Pakistan, by using a non-probability sampling technique and the selected population is 1050. A recent population-based survey has estimated a coronary artery disease prevalence of 26.9% in men and 30% in women. There is, therefore, the need to prioritize the disease prevention, risk factor control and health promotion approach to cardiovascular diseases in Pakistan. The end result of the study is More than 30% of Pakistan' s population lives in rural areas and 30% live on less than one dollar a day. It was perceived that mainstream preventive interventions often fail to reach this under privileged populations. The survey says the prevalence of cardio vascular disease.

Hussely T et. al (2016)had performed a study to determine the prevalence of coronary risk factors and coronary artery disease in rural Rajasthan, 1150 randomly selected individuals in a cluster of villages in central Rajasthan have been studied. These included 805 men and 345 women by using descriptive research design. The prevalence of various coronary risk factors in the whole group were: Smoking 488 (42.4%); Diabetes (history): 5(0.4%); Alcohol intake: 146 (12.7%); Sedentary lifestyle: 797 (69.3%); ***Stressful life events:*** 48 (4.2%); Hypertension (BP > or = 140/90) 152 (13.2%); obesity (BMI > or = 27 Kg/M2): 194 (10.9%). The overall prevalence of coronary heart disease was 46.1/1000. The end result of the study is Patients with Coronary artery disease had a higher prevalence of male sex (67.9 vs 51.5%); educated persons (30.2 vs. 28.8%); businessmen (13.2 vs. 10.2%); smoking (47.2 vs. 40.5%); sedentary lifestyle (75.5 vs. 62.3%); stressful life events (7.5 vs. 4.8%); and hypertension (26.4 vs.14.8%). The study concluded that the life style is the main factor that increases the prevalence coronary artery disease.

Abbott R.D et. al (2016) had performed a study on Cardiovascular risk factors and graded treadmill exercise endurance in healthy adults West Bengal, using cross sectional research design. A study was conducted to help and describe the association between exercise endurance and cardiovascular risk factor profiles, 2,606 young and middle-aged healthy adults were given sub maximal treadmill tests. The end result f the study is, for both men and women, exercise endurance was inversely related to resting heart rate, body mass index, systolic blood pressure and blood glucose, and positively related to HDL cholesterol. Risk factors associated with overt

cardiovascular disease in older individuals are also associated with poor exercise endurance in those who are younger and asymptomatic.

Material and Methods: A cross sectional descriptive research design was used for the study. Fiftyadults were selected by using nonprobability convenience sampling technique. The study was conducted in A.C. Nagar, Nellore district, A.P. After getting formal permission from the concerned authorities. The purpose of the study was explained to the participants and obtained informed consent. A structured questionnaire onprevention of coronary artery disease was administered to assess the level of knowledge amongadults.

Inclusion criteria:

Adultswho were: Both males and females at the age group 20-60 years. Available at the time of data collection.

Exclusion criteria:

Adultswho were: Not willing to participate in the study.

Variables:

Research variables: Knowledge on prevention of coronary artery disease

Demographic variables: The socio demographic variables includeage, gender, educational qualification, occupation, type of family, family income, working members in family, hours of sleep, dietary pattern, amount of oil used per day, type of oil used, type of salt habits, and entertainment.

Description of the tool:

The tool for data collection consists of 2 parts:

PART-A: Deals with socio demographic variables.

PART-B: Deals with structured questionnaire onknowledge on prevention of coronary artery disease, which includes 25 questions.

Scoring:

The questionnaire consists of 25 questions, each correct answer is recorded by '1' mark. Each wrong answer will be scored as '0'. Based on the score, knowledge level will be assessed in grading system.

Score interpretation:

Grade	Score
A+	More than 85%
A	More than 75%
B+	More than 65%
B	More than 55%
C	More than 50%
D	≤ 50%

Data Collection Procedure

The data collected for a period of 2 weeks (06-04-2018 to 19-04-2018) for 50 participantswho fulfilled the inclusion criteriaby using non-probability convenience sampling technique with minimum of 3 samples per day. Written consent was obtained from the participants by explaining the purpose and nature of study and assuring anonymity. A structured questionnaire was used to assess the level of knowledge and 30 minutes taken by the investigator to collect the data for each sample. Data was analyzed and tabulated according to the objectives for the study.The data sets were expressed in a descriptive and inferential manner.

Results:

The findings were presented as follows:

Table 1: Distribution of demographic variables among adults.

Sl	Demographic Variable	Fre	Per
1	Age in years		
	a) 20-30 years	9	18
	b) 31-40 years	13	26
	c) 41-50 years	19	38
	d) 51-60 years	9	18
2	Gender		
	a) Male	20	40
	b) Female	30	60
3	Educational Status		
	a) Illiterate	12	24
	b) Primary education	24	48
	c) Secondary education	11	22
	d) Graduate	3	6
4	Occupation		
	a) House wife	17	34
	b) Coolie	27	54

	c) Govt/private employee	3	6
	d) Business	3	6
5	Type of family		
	a) Nuclear family	5	10
	b) Joint family	22	44
	c) Extended family	18	36
	d) Co-habiting family	5	10
6	Family Income		
	a) Rs <5000/-	24	48
	b) Rs 5001-10000/-	19	38
	c) Rs 10001-15000/-	7	14
7	Working Members in Family		
	a) All members	22	44
	b) Husband and wife	24	48
	c) Father and children	2	4
	d) Children	2	4
8	Hours of Sleep		
	a) <6 hours	21	42
	b) 6-8 hours	20	40
	c) 8-10 hours	6	12
	d) 10-11 hours	3	6
9	Dietary Pattern		
	a) Vegetarian	19	38
	b) Non-vegetarian	15	30
	c) Mixed	12	24
	d) Ova-vegetarian	14	28
10	Type of oil used		
	a) Palm oil	13	26
	b) Sunflower oil	19	38
	c) Coconut oil	11	22
	d) Groundnut oil	7	14
11	Amount of oil used per day		
	a) < 30 ml	28	56
	b) 30 - 40 ml	14	28
	c) 40 - 50 ml	6	12
	d) > 50 ml	2	4
12	Type of salt		
	a) Rock salt	14	28
	b) Salt	29	58
	c) Iodized	6	12
	d) Non iodized	1	2
13	Habits		
	a) Smoking	14	28
	b) Alcohol	29	58
	c) Tobacco	6	12
	d) Drugs	1	2
14	Entertainment		
	a) Television	14	28
	b) Books	8	16
	c) Music	16	32
	d) Others	12	24

Table 1 shows the demographic information of the participants. The individuals were between the ages range between 20 and 60. Both male (40%) and female (60%) gender were participated in the study. While considering the educational status,48% of adults had a primary education. In the occupational status, 54 % of adults were coolie, whereas, most of them (44%) belongs to joint family with 48% of them had onlyRS <5000/- per month income. 48% of adults both husband and wives were working in the family. But most of adults (42%) were coming under the category of <6 hoursof sleep in a day. In the dietary pattern 38% of adults were vegetarian. 38% of adults were using sunflower oil for the cooking but 58% of them were using only <30mlof oil per day. 58% of adults were used powder salt in the type of salt. 58% were having the habit of alcohol drinking. 32% of adults were involved in the entertainment / leisure activity of listening music.

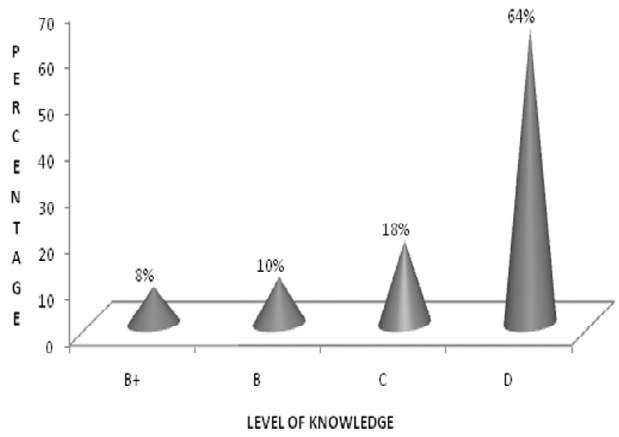

Fig 1: Percentage distribution among adults on level of knowledge

The result of the study shows in the **Fig 1,** that 4(8%) had the knowledge level in the grade of

B+, 5(10%) had B grade, 9 (18%) had C grade and 32(64%) had D grade.

Table 2: Mean and standard deviation of level of knowledge onprevention of coronary artery diseaseamong adults

Category	Mean	Standard deviation
Level of knowledge	10.3	3.0

Table 2 explains the mean value of the level of knowledgeamong adults was 10.3 with the standard deviation of 3.0.

Table 3: Association between the level of knowledge on organic food among house wives and selected socio demographic variables. (n=50)

Sl.	Demographic Variables	B+		B		C		D		Chi Square
		F	%	F	%	F	%	F	%	
1.	Age in years									df=9
	a)20-30 years	1	2	1	2	1	2	6	12	T=16.92
	b)31-40 years	1	2	1	2	4	8	8	16	CV=3.87
	c)41-50 years	1	2	3	6	3	6	11	22	51
	d)51-60 years	1	2	-	-	1	2	7	14	P=0.05
										NS
2.	Gender									df=3
	a) Male	3	6	3	6	2	4	12	24	T=7.81
	b) Female	1	2	2	4	7	14	20	40	CV=
										4.5173
										P=0.05
										NS
3.	Educational qualification									df=9
	a) Illiterate	2	4	2	4	3	6	5	10	T=16.92
	b) Primary education	2	4	1	2	3	6	18	36	CV= 10.1953
	c) Secondary education	-	-	2	4	3	6	6	12	P=0.05
	d) Graduate	-	-	-	-	-	-	3	6	NS
4.	Occupation									df=9
	a) House wife	-	-	2	4	4	8	11	22	T=16.92
	b) Coolie	3	6	3	6	5	10	16	32	CV=
	c) Govt/private employee	1	2	-	-	-	-	2	4	7.0913
										P=0.05
	d) Business	-	-	-	-	-	-	3	6	NS
5.	Type of family									df=9
	a) Nuclear family	1	2	-	-	-	-	4	8	T=16.92
	b) Joint family	1	2	4	8	5	10	12	24	CV=8.6
	c) Extended family	1	2	1	2	4	8	12	24	P=0.05
	d) Co-habiting family	1	2	-	-	-	-	4	8	NS
6.	Family income									df=6
	a) <5000/-	2	4	-	-	3	6	19	38	T=12.9
	b) 5001-10000/-	1	2	4	8	5	10	9	18	CV=
	c) 10001-15000/-	1	2	1	2	1	2	4	8	6.498
										P=0.05
										NS
7.	Workingmembers in family									df=9
	a) All members	2	4	3	6	4	8	13	26	T=16.92
	b) Husband and wife	2	4	2	4	4	8	16	32	CV= 3.261
	c) Father and Children	-	-	-	-	-	-	2	4	P=0.05
	d) Children	-	-	-	-	1	2	1	2	NS
8.	Hours of sleep									df=9
	a) <6 hours	2	4	3	6	4	8	13	26	T=16.92
	b) 6-8 hours	1	2	2	4	2	4	14	28	CV=
	c) 8-10 hours	1	2	-	-	1	2	3	6	3.933
	d) 10-11 hours	-	-	-	-	2	4	2	4	NS
9.	Dietary pattern									df=9
	a) Vegetarian	2	4	3	6	4	8	10	20	T=16.92
	b) Non vegetarian	1	2	2	4	4	8	8	16	CV= 7.926
	c) Mixed	1	2	-	-	-	-	11	22	P=0.05
	d) Ova - vegetarian	-	-	-	-	1	2	3	6	NS
10.	Type of oil									df=9
	a) Palm oil	2	4	2	4	4	8	5	10	T=16.92
	b) Sunflower oil	-	-	1	2	2	4	16	32	CV= 11.517
	c) Coconut oil	1	2	2	4	3	6	5	10	P=0.05
	d) Groundnut	1	2	-	-	-	-	6	12	NS
11.	Amount of oil used per day									df=9
	a) <30 ml	3	6	2	4	2	4	7	14	T=16.92
	b) 30-40 ml	1	2	3	6	6	12	18	36	CV=
	c) 40-50 ml	-	-	-	-	1	2	5	10	30.245
	d) >50 ml	-	-	-	-	-	-	2	4	P=S***
										Significant
12.	Type of salt									df=9
	a) Rock salt	2	4	-	-	3	6	9	18	T=16.92
	b) Salt	2	4	5	10	6	12	16	32	CV=
	c) Iodized	-	-	-	-	-	-	6	12	25.983
	d) No iodized	-	-	-	-	-	-	1	2	P=S***
										Significant

13. Habits									df=9
a) Smoking	2	4	1	2	4	8	12	24	T=16.92
b) Alcohol	2	4	3	6	5	10	18	36	CV=
c) Tobacco	-	-	1	2	-	-	1	2	7.68361
d) Drugs	-	-	-	-	-	-	1	2	P=0.05 NS
14. Entertainment									df=9
a) Television	1	2	1	2	3	6	10	20	T=16.92
b) Books	1	2	1	2	-	-	2	4	CV=
c) Music	2	4	3	6	3	6	10	20	7.4006
d) Others	-	-	-	-	3	6	10	20	P=0.05 NS

(NS -Non Significant, **S**- Significant, **T** - Table value, **Df**=Degree of freedom, **C**– Calculated value, **Df=** (r-1) (c-1))

Table 3: Association between the level of knowledge among adultswith demographic variables: The result shows that there was a significance association between the variables like amount of oil used and type of salts used at p=0.05. There was no significant association between the variables like age, gender, educational qualification, occupation, type of family,family income, working members in the family, hours of sleep, dietary pattern, type of oil, habits and entertainment at p=0.05.

Discussion:

The goal of this study was to the level of knowledge on prevention of coronary artery disease among adults. After assessing the knowledge, the study result shows 32(64%) had D grade knowledge level. The mean value was 10.3 and the standard deviation value was 3.0. There wasa significant association between the level of knowledge with their selected socio demographic variables such aslike amount of oil used and type of salts used at p=0.05, and no association was showing with the rest of the socio-demographic variables. However, further studies are warranted to increase the knowledge level among adults on prevention of coronary artery disease.

Implications

This study result imply that the nurse should take the responsibility to create awareness about how to manage thecoronary artery diseaseamong the adults and thus to prevent further attack in future.The essence of this research will help to build upthe body of knowledge in the subject area of nursing profession and there by concentrate in more research in the same aspect.

Recommendations for the Research: The study can be replicated to a large number of samples. A similar study can be done indifferent settings and in different population.

Conclusion: The current study reveals that majority of adults had inadequate knowledge 32(64%) on the prevention aspects of coronary artery disease.As a health professional, nurses need to educate the public on the same aspect to improve their knowledge level. It can be confirmedby creating awareness programme among general public.

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