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"A STUDY TO ASSESS THE AWARENESS ON CORONARY ARTERY DISEASE AMONG RURAL POPULATION RESIDING IN LONI BK"

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ABSTRACT

Background: Coronary artery disease (CAD), also known as coronary heart disease (CHD) or ischemic heart disease (IHD), is a widespread cardiovascular condition involving the partial or complete blockage of coronary arteries. Multiple factors increase the likelihood of developing coronary artery disease (CAD), including high blood pressure, tobacco use, diabetes, sedentary lifestyle, obesity, elevated cholesterol levels, unhealthy eating patterns, chronic stress, and excessive alcohol intake. Coronary artery disease (CAD) remains a leading cause of morbidity and mortality worldwide, responsible for around 9.1 million deaths in 2021 and comprising 13 % of all global deaths. Awareness is not merely academic; it influences preventive action. Awareness of CAD in India is critical but currently insufficient—reflected in rising prevalence, low recognition of risk factors, and poor early detection. **Material and methods**: The researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50 individuals from the rural population of Loni Bk. village were selected for the present study. The study participants were assessed using demographic variables and CAD awareness checklist. **Results**: The study findings regarding awareness of CAD revealed that 62% of the study participants were having high level of awareness, followed by 30% of the study participants were having moderate level of awareness, and 8% of the study participants were having low level of awareness. Overall, the rural population residing at Loni Bk. had moderate level of the awareness regarding CAD with mean score of 10.6±2.68. Study findings regarding association revealed that there was

no significant association between the level of awareness and selected demographic variables of the study participants. **Conclusion:** The rural population residing in Loni Bk had found with the moderate to high level of awareness regarding CAD with mean score of 10.6±2.68. There was no significant association between the awareness level regarding CAD with selected demographic variables of the study participants.
Key words: Awareness, Coronary Artery Diseases, CAD, Rural population.

INTRODUCTION

Coronary artery disease (CAD), also known as coronary heart disease (CHD) or ischemic heart disease (IHD), is a widespread cardiovascular condition involving the partial or complete blockage of coronary arteries. This typically results from atherosclerosis, a gradual buildup of cholesterol and other fatty substances along the arterial walls. The resulting plaque formation narrows the arteries, limiting blood flow and oxygen supply to the heart muscle. This can lead to clinical manifestations such as angina (chest discomfort), difficulty in breathing, or in severe cases, a heart attack (myocardial infarction).[1]

Multiple factors increase the likelihood of developing coronary artery disease (CAD), including high blood pressure, tobacco use, diabetes, sedentary lifestyle, obesity, elevated cholesterol levels, unhealthy eating patterns, chronic stress, and excessive alcohol intake. In addition to these modifiable risks, genetic inheritance is a major contributor, with approximately 50% of cases associated with familial tendencies. Recent studies have also highlighted the role of environmental exposures— particularly air pollution containing fine particulate matter—in further raising the risk of cardiovascular complications.[2]

The diagnosis of coronary artery disease (CAD) relies on a thorough clinical evaluation complemented by a variety of diagnostic investigations. Commonly used tests include electrocardiograms (ECG) to detect electrical abnormalities of the heart, cardiac stress tests to assess heart function under physical exertion, coronary computed tomographic angiography (CCTA) for detailed imaging of coronary arteries, and invasive coronary angiography, which remains the gold standard for visualizing arterial blockages. In some cases, blood tests to measure cardiac biomarkers, echocardiography to evaluate heart structure and function, and nuclear imaging may also be employed. Timely and accurate diagnosis is essential, as early identification of CAD allows for prompt initiation of lifestyle modifications, pharmacological treatment, or interventional procedures, thereby reducing the risk of major cardiac events such as heart attacks and improving long-term prognosis.[3]

Coronary artery disease (CAD) remains a leading cause of morbidity and mortality worldwide, responsible for around 9.1 million deaths in 2021 and comprising 13 % of all global deaths. In low- and middle-income countries, including India, CAD incidence is rising sharply, with more than half of cardiovascular deaths occurring

before age 70. Early awareness and recognition of risk factors, symptoms, and prevention strategies are essential for reducing disease burden in these populations.[4]

Awareness is not merely academic; it influences preventive action. Studies in Saudi Arabia and Pakistan among patients in hospitals reported that knowing CAD risk factors (e.g., diabetes, hypertension, smoking, obesity) led to significantly higher awareness scores. In Pakistan, although awareness of modifiable

risks was relatively good (65–80 %), recognition of non-modifiable risks like family history and age was lower (~50 %). These findings highlight the complexity of awareness, which spans knowledge of both inherent and lifestyle-related factors.[5]

Lessons from successful public health initiatives—such as Finland's North Karelia Project—demonstrate that community-based awareness and behavior change campaigns targeting smoking, diet, and blood pressure can dramatically reduce CAD mortality by up to 84 % over 40 years. In India, replicating such comprehensive awareness strategies—customized to local contexts—could improve early detection, timely management, and morbidity reduction. Integrating these lessons is vital for tackling the rising CAD burden.[6]

Need for Study

In India, the epidemiological transition has led to CAD emerging not only in urban centers but also in rural and socioeconomically disadvantaged communities. A systematic review found CAD prevalence in urban India to range from 2.5–12.6 %, and rural areas 1.4–4.6 %, alongside high rates of smoking, hypertension, and diabetes. Recent data from Kerala show prevalence as high as 3.5 % for definite CAD, with over

50 % of adults needing intervention for overweight, hypertension, diabetes, and dyslipidemia. Despite this, community awareness remains low, exacerbating delayed diagnosis and poor outcomes.[7]

Problem Statement

"A study to assess the awareness on coronary artery disease among rural population residing in Loni Bk."

Objectives of the study

1. To assess the awareness of coronary artery disease among rural population.
2. To find out association between level of awareness with their selected demographic variable.

RESEARCH METHODOLOGY

Research Approach- The approach used for the study was quantitative approach.

Research Design- The researcher adopted descriptive, cross-sectional design.

Variables

Demographic Variables: Age in years, Education, Occupation, Type of family, Religion, Period of gestation.

Study Variables: Awareness regarding Coronary Artery Disease.

Source of data: Data was collected from the individuals residing at rural areas of Loni Bk.

Setting of the study: The study was conducted in Loni Bk village.

Population:

Target Population- Target population for this study includes rural population aged 18 years and above.

- **Study Population-**Study population selected for this study includes rural population aged 18 years and above selected at Loni Bk village.

Sampling technique: For the present study non-probability, purposive sampling technique was used.

Sample: For the present study sample comprised of rural individuals who fulfilled the inclusion criteria.

Sample size: The sample size selected for this study is 50.

Sampling criteria-

Inclusion criteria.

The rural individuals who are;

1. Residing in Loni Bk
2. Above 18 years of age
3. Willing to participate in the study
4. Who are available during data collection period

Exclusion criteria.

The rural individuals who are;

1. Unable to respond to the tool.
2. Not available during data collection period
3. Able to read and write Marathi.

Tools of data collection

Section A; - Demographic variables of study participants.

Age, Gender, Marital status, Education, Occupation, Type of family, Religion, Previous source of information regarding Coronary Artery Disease

Section B; - Awareness checklist -Section B consists of a 15 items checklist to assess the level of awareness regarding the coronary artery diseases among the rural individuals.

Table no. 3.1. Scoring interpretation for Level of awareness

Total Score (out of 15)	Level of Awareness
0 – 5	Low Awareness
6 – 10	Moderate Awareness
11 – 15	High Awareness

Validity of the tool

Validity of the tool were established in consultation with experts. The tool was sent to the experts and modifications were done as per recommendations.

Procedure for data collection Permission from concerned authority

Prior to collection of data, Permissions were obtained from The Sarpanch of the Loni Bk village, then the written informed consent was obtained from the participants who were willing to participate in the study and who fulfilled the eligibility criteria.

Plan for data analysis

The plan for statistical analysis was made on the basis of objectives. The data analysis was planned to include descriptive and inferential statistics. The following plan was developed for data analysis on the basis of the opinion of experts.

- Demographic data to be analyzed using frequency and percentage in the form of tables and graphs.
- Data from the Awareness checklist to be analyzed using frequency, percentage, mean, standard deviation.
- The chi -square test to be used to determine the association between level of awareness with their selected demographic variable.

DATA ANALYSIS AND INTERPRETATION

SECTION-I: Description of the study participant according to their demographic characteristics

Table 4.1. Description of study participants according to their demographic characteristics.

n=50

Sr. No.	Demographic Variables		F	%
1	Age in years	18-30	8	16%
		31-42	13	26%
		43-54	17	34%
		More than 54	12	24%
2	Gender	Male	32	64%
		Female	18	36%
3	Marital status	Married	41	82%
		Unmarried	7	14%
		Divorced/Widow	2	4%
4	Education	Illiterate	4	8%
		Primary/Secondary	27	54%
		Higher secondary	13	26%
		Graduation and above	6	12%
5	Occupation	Housewife	10	20%
		Farmer	20	40%
		Salaried	14	28%
		Self-owned business	6	12%
6	Type of family	Nuclear	19	38%
		Joint	31	62%
7	Religion	Hindu	34	68%
		Muslim	8	16%
		Other	5	10%
		Christian	3	6%
8	Previous source of information regarding Coronary Artery Disease	Physician	14	28%
		TV/Newspaper	18	36%
		Internet	15	30%
		Other	3	6%

Table no. 4.1 shows the description of the study participants according to their demographic variables, the detailed description of the study participant according to each demographic characteristic is discussed further in the chapter.

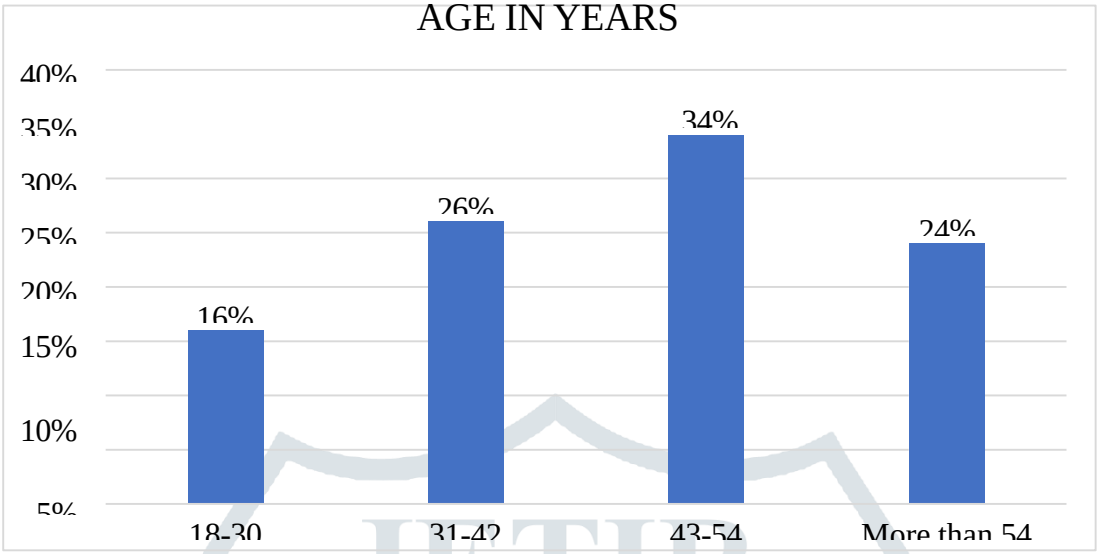

Fig 4.1. Bar diagram showing description of the study participant according to their Age in years

Fig 4.1 shows the description of study participant according to their age. Majority 34% of the study participants were belonged to the age category of 43 to 54 years, followed by 26% of the study participants belonged to the age category of 31 to 42 years, followed by 24% of the study participants belonged to the age category of more than 54 years and 16% of the study participants belonged to the category of 18 to 30 years of age.

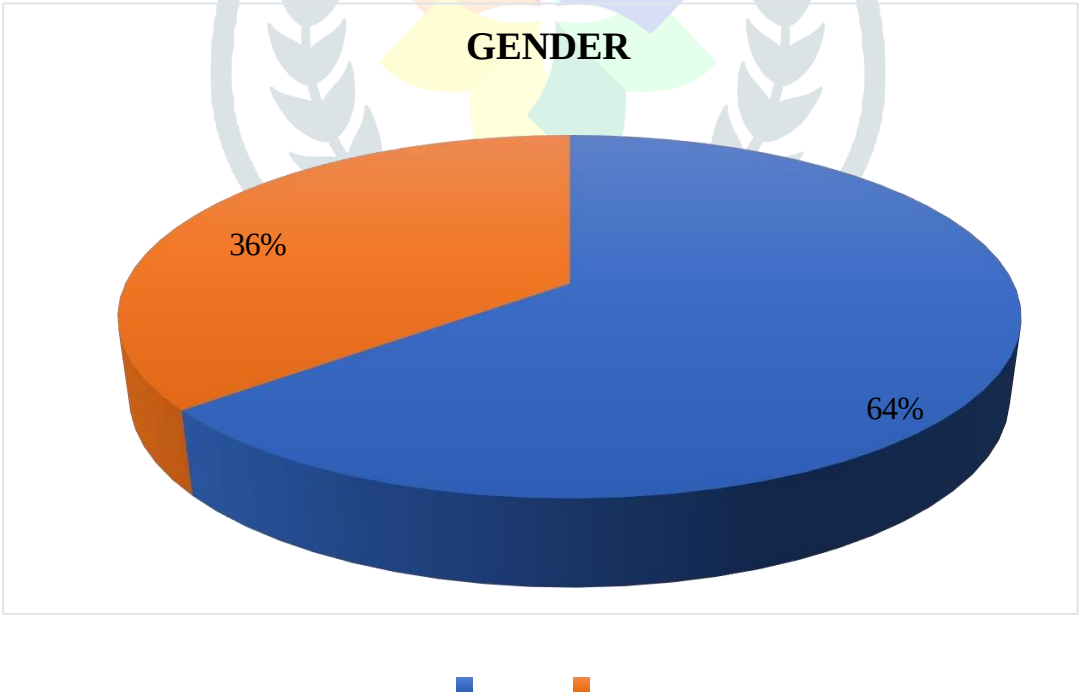

Fig 4.2. Pie diagram showing description of the study participant according to their gender.

Fig 4.2 Pie diagram shows the description of study participant according to their gender. Majority 64% of the study participants were male, whereas 36% of the study participants were female.

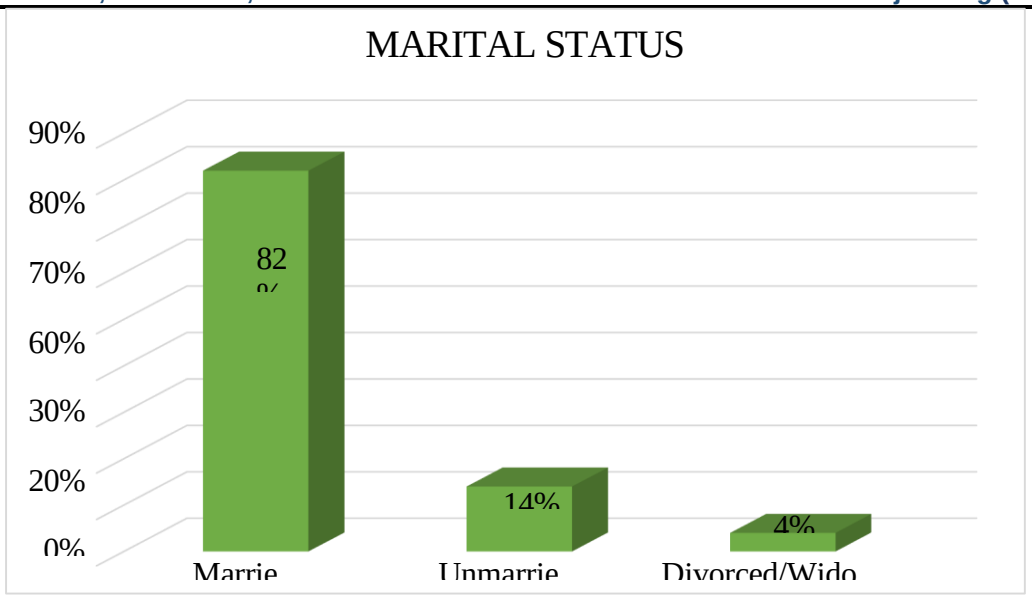

Fig 4.3. Bar diagram showing description of the study participant according to their marital status.

Fig 4.3 shows the description of study participant according to their marital status. Majority 82% of the study participant's parents were married, followed by 14% were unmarried and 4% of the study participants belonged to the divorced/Widow category.

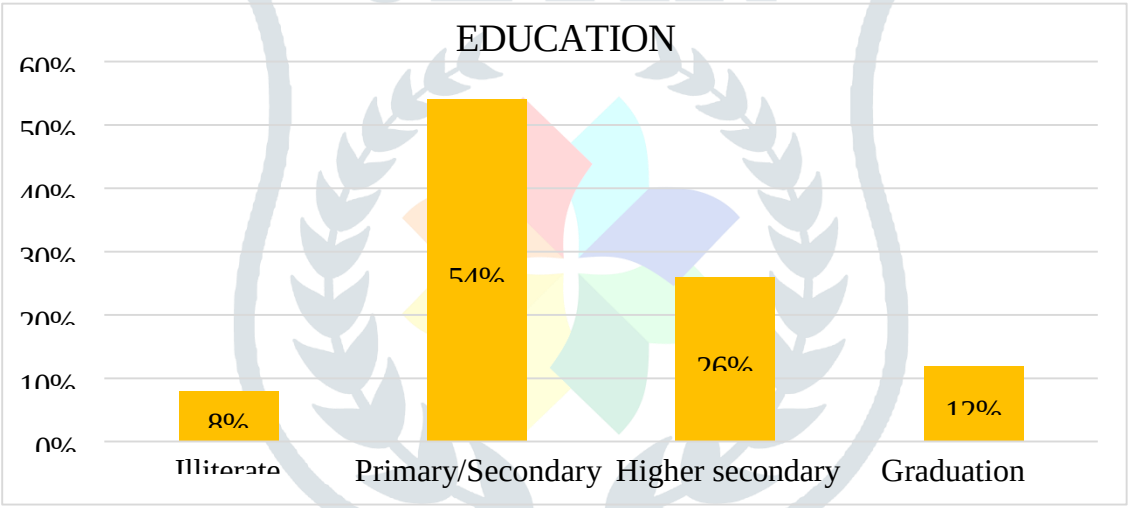

Fig 4.4. Bar diagram showing description of the study participant according to their education.

Fig 4.4 shows the description of study participant according to their education. Majority 54% of the study participants were in the category of primary/secondary level of education, followed by 26% were in the category of higher secondary, followed by 12% were in the category of graduation and above and 8% of the study participants were illiterate.

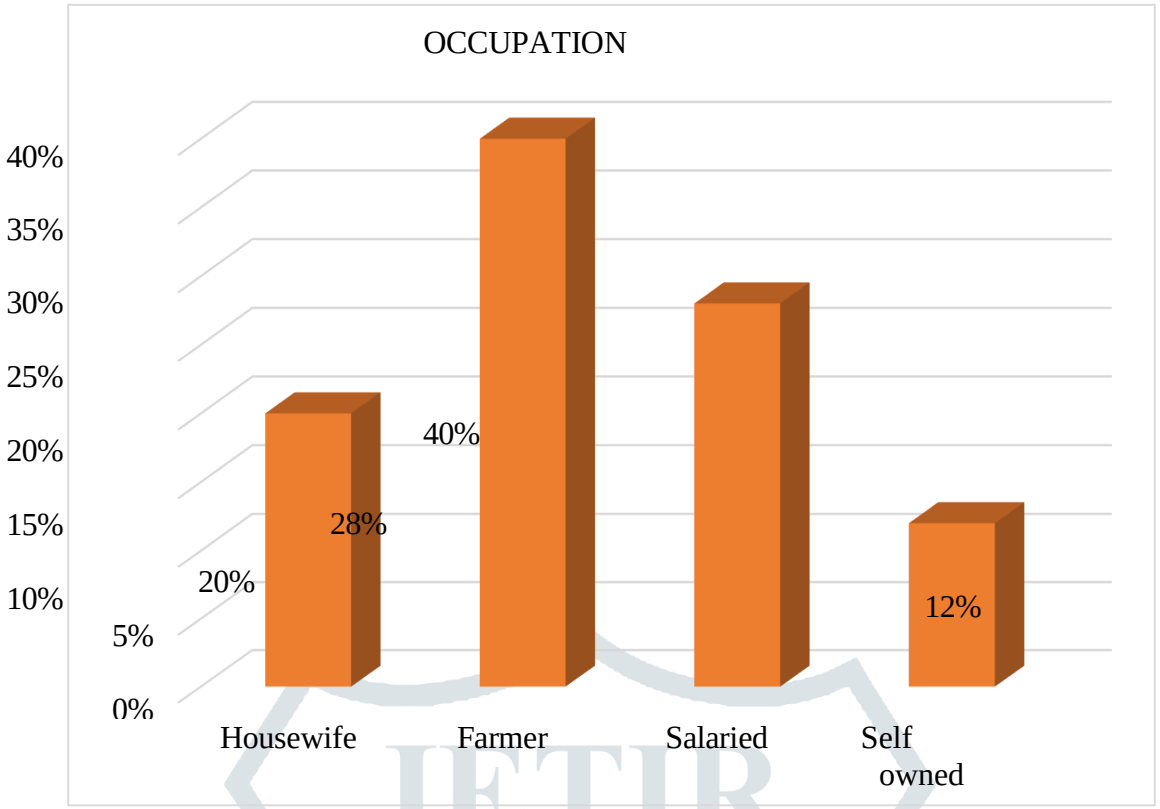

Fig 4.5. Bar diagram showing description of the study participant according to their occupation.

Fig 4.5 shows the description of study participant according to their occupation. Majority 40% of the study participants were farmer by occupation, followed by 28% were salaried, followed by 20% were having housewife and 12% of the study participants were having a self-owned business.

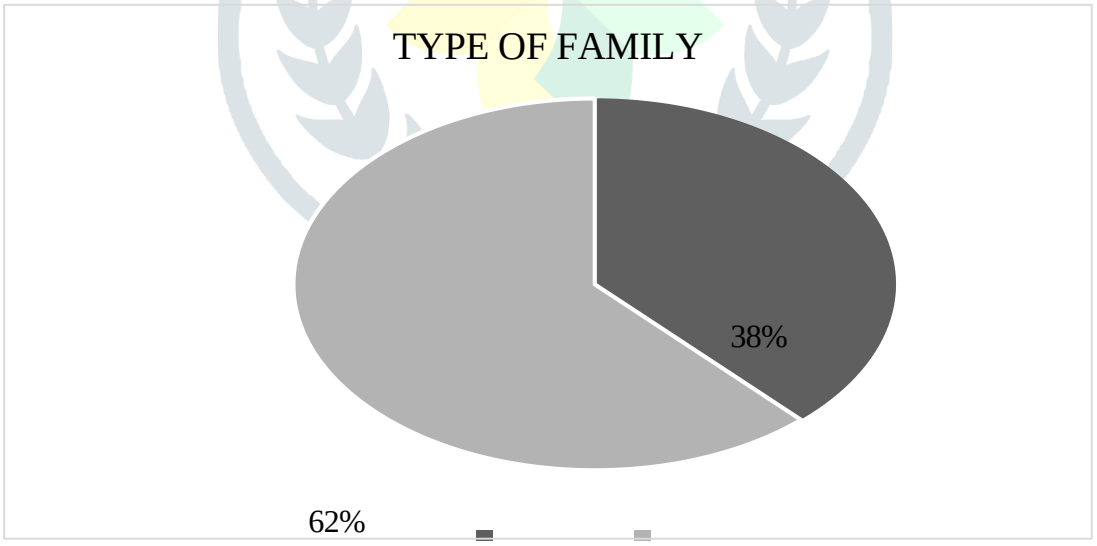

Fig 4.6. Pie diagram showing description of the study participant according to their type of family.

Fig 4.6 shows the description of study participant according to their type of family. Majority 62% of the study participants were belonged to the joint family, whereas 38% participants were belonged to the nuclear family.

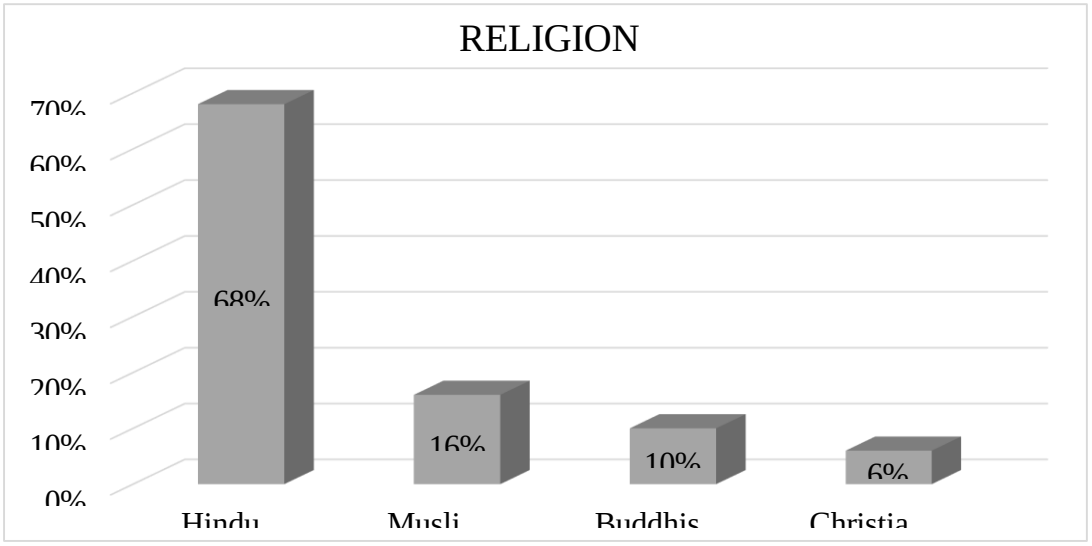

Fig 4.7. Bar diagram showing description of the study participant according to their religion.

Fig 4.7 shows the description of study participant according to their religion. Majority 68% of the study participants were Hindu, followed by 16% of the study participants were Muslim, followed 10% of the study participants were Buddhist and 6% of the study participants were Christian.

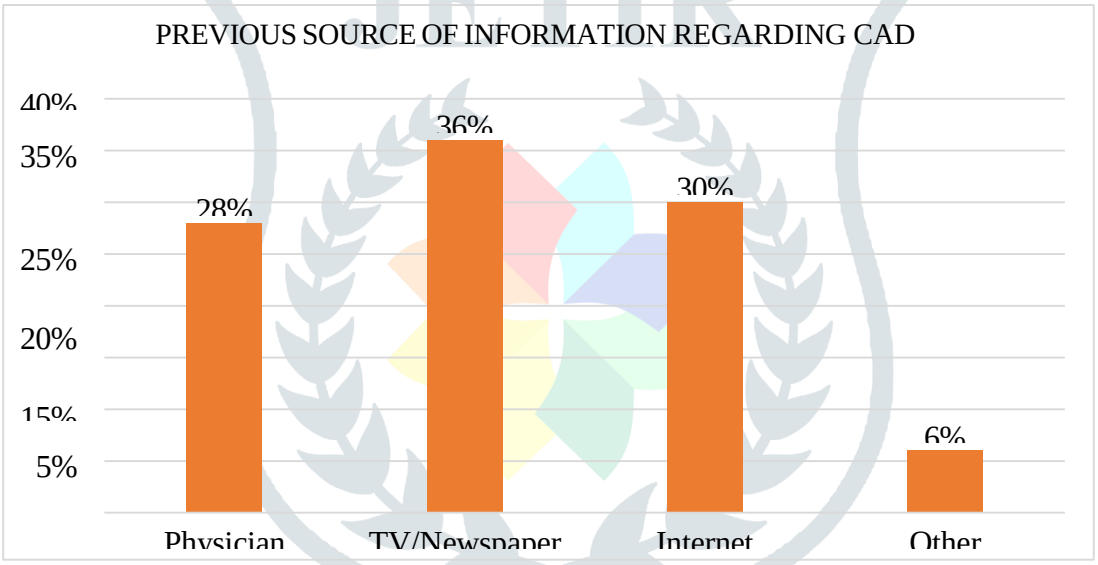

Fig 4.8. Bar diagram showing description of the study participant according to their previous source of information regarding CAD.

Fig 4.7 shows the description of study participant according to their previous source of information regarding CAD. Majority 36% of the study participants were belonged to the information category of TV/Newspaper, followed by 30% got the information from the Internet, followed by 28% got information from the Physician and 6% of the study participants got information from other sources.

SECTION II: Description of level of awareness of the study participants

Table No 4.2. Description of the level of awareness of the study participants

Sr. No	Low awareness	Moderate awareness	High awareness
F	4	15	31
%	8%	30%	62%

SECTION III: Association of the level of awareness of the study participants with selected demographic variables

Table no 4.3. Association of the level of awareness with selected demographic variables

n=50

Sr. No.	Demographic Variables	Chi Square Calculated	Chi square Table	Inference
1	Age in years	9.07	15.50	NS
2	Gender	0.1	5.99	NS
3	Marital status	1.31	9.48	NS
4	Education	3.86	15.50	NS
5	Occupation	2.6	15.50	NS
6	Type of family	0.62	5.99	NS
7	Religion	4.16	15.50	NS
8	Previous source of information regarding Coronary Artery Disease	8.66	15.50	NS

DISCUSSION

The present study was conducted to assess the awareness on coronary artery disease among rural population residing in Loni Bk. In order to achieve the objectives of the study, the researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50 individual from rural population were selected for the present study. The study participants were assessed using demographic variables, and awareness checklist to assess awareness regarding CAD.

- Age of the study participants reveals that, majority of 34% of the study participants were belonged to the age category of 43 to 54 years and 16% of the study participants belonged to the category of 18 to 30 years of age.
- The data based on the gender reveals that, majority 64% of the study participants were male, whereas 36% of the study participants were female.
- The marital status of the study participants reveals that, majority 82% of the study participant's parents were married and 4% of the study participants belonged to the divorced/Widow category.
- The data based on the education of the participants states that, majority 54% of the study participants were in the category of primary/secondary level of education and 8% of the study participants were illiterate.
- The data based on occupation of the study participants states that, majority 40% of the study participants were farmer by occupation and 12% of the study participants were having a self-owned business.

- The data based on their type of family reveals that, majority 62% of the study participants were belonged to the joint family, whereas 38% participants were belonged to the nuclear family.
- The data based on religion reveals that, majority 68% of the study participants were Hindu and 6% of the study participants were Christian.
- The previous source of information regarding CAD among the study participants reveals that, majority 36% of the study participants were belonged

  to the information category of TV/Newspaper and 6% of the study participants got information from other sources.

SUMMARY

The present study was conducted to assess the awareness on coronary artery disease among rural population residing in Loni Bk. In order to achieve the objectives of the study, the researcher adopted descriptive, cross-sectional research design. The non-probability method, purposive sampling technique was used. Total 50 individual from rural population were selected for the present study. The study participants were assessed using demographic variables, and awareness checklist to assess awareness regarding Coronary Artery Disease.

Conclusion

The rural population residing in Loni Bk had found with the moderate to high level of awareness regarding Coronary Artery Disease with mean score of 10.6±2.68. There was no significant association between the awareness level regarding Coronary Artery Disease with selected demographic variables of the study participants.

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