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A Study To Assess The Knowledge And Attitude Regarding Lifestyle Modification On Cardiovascular Diseases Among Cardiac Patients In Selected Hospitals, Jaipur, With A View To Develop An Information Booklet.

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ABSTRACT

Cardiovascular disease remains a leading cause of death globally, with rising prevalence due to factors such as urbanization, aging populations, and lifestyle habits. It is influenced by both modifiable risk factors (unhealthy diet, physical inactivity, tobacco use) and non-modifiable factors (age, genetics, family history). Despite advancements in medical management, poor adherence to treatment and lack of awareness about lifestyle changes continue to impact patient outcomes. Lifestyle modification, including nutritional adjustments, regular exercise, stress reduction, and smoking cessation, is essential for CVD prevention and management. This study assesses the knowledge and attitude of cardiac patients regarding lifestyle modifications in selected hospitals of Jaipur and explores their association with demographic variables. The findings highlight the need for targeted educational programs to improve awareness and encourage behavioural changes. The aim of the study is to develop an information booklet to educate cardiac patients on adopting sustainable lifestyle modifications for better cardiovascular health.

KEYWORDS- Knowledge, Attitude Cardiovascular, Diseases.

INTRODUCTION

The muscular, hollow organ constituting the heart is located centrally in the thorax, between the lungs, and rests upon the diaphragm. Although heart size and weight are affected by age, gender, body weight, level of physical activity and conditioning, and heart disease, it weighs about 300 gm. Blood is pumped by the heart to the tissues, giving them nutrition and oxygen.[2]

The heart has two ventricles in addition to two atria. The right atrium and right ventricle comprise the "right heart". The "left heart" is composed of the left ventricle and the left atrium. The heart has two ventricles in addition to two atria. The right atrium and right ventricle comprise the "right heart". The "left heart" is composed of the left ventricle and the left atrium. There are three layers to the heart's outer wall. The inner wall of the pericardium is made up of the epicardium, which is the top wall layer. The muscle that contracts is in the main layer, which is called the myocardium. The endocardium, the innermost layer, is in direct contact with the blood. The heart of a healthy adult beats between 60 and 80 times per minute.[2]

Cardiovascular Disease refers to any disease or condition that affects the cardiovascular system, which includes the heart and blood vessels.[3] Some disease conditions included are like heart failure, coronary artery diseases (including angina and heart attacks), hypertension-related heart problems, cardiomyopathy, rheumatic heart disease, congenital heart defects, irregular heart rhythms (arrhythmia), valve disorders, heart inflammation (carditis), aortic aneurysms, peripheral artery disease, blood clots (thromboembolic disorders), venous thrombosis, etc.[4]

Cardiovascular diseases are the primary cause of death for both genders in developed and developing nations, while ranking among the top five killers in lesser developed country accounting for 21.4% of deaths.[5] Cardiovascular Diseases are linked to high rates of illness and death, posing a substantial global health burden that impacts individuals and society. Those who have experienced an acute cardiac event face an elevated risk of subsequent cardiac incidents.[6]

Underlying determinants like globalization, urbanization, population aging, poverty, stress, and hereditary factors also influence cardiovascular disease prevalence. Beyond lifestyle modifications, medical management of conditions like hypertension, diabetes, and high blood lipids is necessary to mitigate cardiovascular risks and prevent heart attacks and strokes in affected individuals.[3]

Specifically, women have significantly higher rates of stroke, hypertensive heart disease, rheumatic heart disease, non-rheumatic valvular heart disease, endocarditis, peripheral artery disease, and other cardiovascular and circulatory diseases globally. On the other hand, men have significantly higher rates of cardiomyopathy, myocarditis, and ischemic heart disease globally. Rheumatic heart disease is more prevalent in the age group of 25 to 49 years than in other age groups.[7]

The World Health Organization (WHO) reports that hypertension affects 47% of the population in underdeveloped or developing nations and 49% in industrialized nations. The adult population with hypertension is projected to rise by 60% by 2025, reaching a total of 1.56 billion individuals.[8]

The overall effectiveness of hypertension treatment remains suboptimal, primarily due to poor medication adherence. Studies show that around 60% of patients stop treatment within six months. Factors such as adverse effects, ineffective blood pressure control, and lack of patient engagement or information, particularly regarding dosage, contribute to this issue.

Effective therapy of hypertension necessitates a combination of pharmacological intervention and rigorous lifestyle modifications. Understanding hypertension is essential for ensuring compliance, adhering to treatment protocols, and attaining improved illness management, hence rendering thorough assessment a critical component of patient care.[8] Coronary artery disease (CAD), usually caused by atherosclerosis, can lead to angina or myocardial infarctions. The American Heart Association highlights the need for lifestyle changes and strategies to alter health behaviors in CAD patients. Inadequate knowledge about the disease affects attitudes, adherence to medical advice, and necessary prevention and treatment practices.[9]

Research by Sreejith et al. found that understanding of modifiable risk factors is crucial for cardiovascular disease prevention and management strategies. They evaluated patients' awareness of obesity, fatty food consumption, physical exercise, and smoking, classifying those knowledgeable about three out of four factors. The study showed only 42% had adequate knowledge, indicating poor awareness. Similar conclusions were noted in research conducted in Saudi Arabia.[10]

Stable Angina (SA) occurs in 2–4% of the general population in Western Europe, predominantly impacting individuals with coronary heart disease Angina significantly impacts quality of life, with more frequent episodes leading to greater negative effects. Despite effective medications and interventional cardiology, SA still causes significant disability and impaired for many patients. In a cross-sectional observational study, Quintar found that angina symptoms were underestimated in 43.3% of patients.[11]

Cardiovascular disease is a significant risk factor in South Asian countries, particularly accelerating the epidemic in Pakistan and India. In developing nations, prevention is the most effective strategy against cardiovascular disease due to a shortage of medical resources. Understanding modifiable risk factors among the local population aids public health programs. Recent research shows that health education programs improve the health and behavior of cardiac patients. Many in developing countries are unaware of how to reduce cholesterol through exercise and diet. Joint families often have more difficulty understanding risk factors compared to nuclear families.[12]

Ischemic heart disease, caused by blocked coronary arteries, leads to insufficient blood supply to the heart, resulting in angina or heart attacks. It is a leading cause of death globally for both men and women, often

asymptomatic but preventable (Shahjehan & Bhutta, 2022). Nurses play a crucial role in educating patients on lifestyle modifications to enhance health and prevent heart attacks.[13]

The European Society of Cardiology guidelines, therefore, recommend that patients after an acute cardiac event participate in a Cardiac Rehabilitation program. These programs foster recovery and secondary prevention, focusing on supporting lifestyle modification, psychosocial wellbeing, and closely monitored exercise.[5]

PROBLEM STATEMENT

A STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS IN SELECTED HOSPITALS, JAIPUR, WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET.

OBJECTIVES OF THE STUDY

1. To assess the knowledge regarding lifestyle modification on cardiovascular diseases among cardiac patients in selected Hospitals, Jaipur.
2. To assess the attitude regarding lifestyle modification on cardiovascular diseases among cardiac patients in selected Hospitals, Jaipur.
3. To find out the relationship between knowledge and attitude regarding lifestyle modification on cardiovascular diseases among cardiac patients in selected Hospitals, Jaipur.
4. To find out the association between knowledge regarding lifestyle modification on cardiovascular diseases among cardiac patients in selected Hospitals, Jaipur with their selected background variables.
5. To find out the association between attitude regarding lifestyle modification on cardiovascular diseases among cardiac patients in selected Hospitals, Jaipur with their selected background variables.
6. To develop an information booklet about knowledge regarding lifestyle modification on cardiovascular diseases.

OPERATIONAL DEFINITIONS

Assess

In this study, assess refers to statistical measurement of finding out knowledge and attitude regarding lifestyle modification for cardiovascular diseases in cardiac patients.

Knowledge

In the present study, knowledge refers to the correct information, awareness, and understanding that cardiac patients possess regarding the importance of adopting a healthy lifestyle for cardiovascular diseases to

manage their cardiovascular condition.

Attitude

In the present study, attitude refers to the feelings and point of view of the cardiac patients hold towards lifestyle changes for cardiovascular diseases to improve their cardiovascular health.

Lifestyle Modification

It refers to changes in diet, and physical activity like walking, climbing stairs, running, and sleeping patterns.

Cardiac Patients

In this study**,** patients who are suffering from cardiovascular diseases and visited in OPD or admitted in selected hospitals.

RESULT

SECTION - I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF BACKGROUND VARIABLES AMONG CARDIAC PATIENTS

This section deals with the distribution of participants according to the background variables selected for analysis in the study: Age (in year), gender, educational qualification, occupation, monthly income, type of family, and area of living. Data were analyzed using descriptive statistics and summarized in terms of frequency and percentage.

Table No.- 4

(N=60)

S. No.	Background Variable	Categories	Frequency(f)	Percentage(%)
1	**Age (in years)**	25 to 35	8	13 %
		36 to 45	13	22 %
		46 to 55	15	25 %
		56 to 65	24	40 %
2	**Gender**	Male	35	58 %

		Female	25	42 %
3	**Educational qualification**	Illiterate	21	35 %
		Secondary	18	30 %
		Senior Secondary	12	20 %
		Graduation and above	9	15 %
4	**Occupation**	Government Employed	6	10 %
		Private Employed	7	11.66 %
		Farming	25	41.67%
		Self employed	22	36.67 %
5	**Monthly income**	Upto 10,000	33	55 %
		10,0001-20,000	9	15 %
		20,000-30,000	9	15 %
		More than 30,000	9	15 %
6	**Type of family**	Nuclear	26	43 %
		Joint	27	45 %
		Extended	7	12 %
7	**Area of living**	Urban	29	48 %
		Rural	31	52 %

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO THEIR AGE

Table No. 4.1

(N= 60)

S. No.	Background Variable		Frequency(f)	Percentage(%)
1	Age (in years)	25 to 35	8	13 %
		36 to 45	13	22 %
		46 to 55	15	25 %
		56 to 65	24	40 %

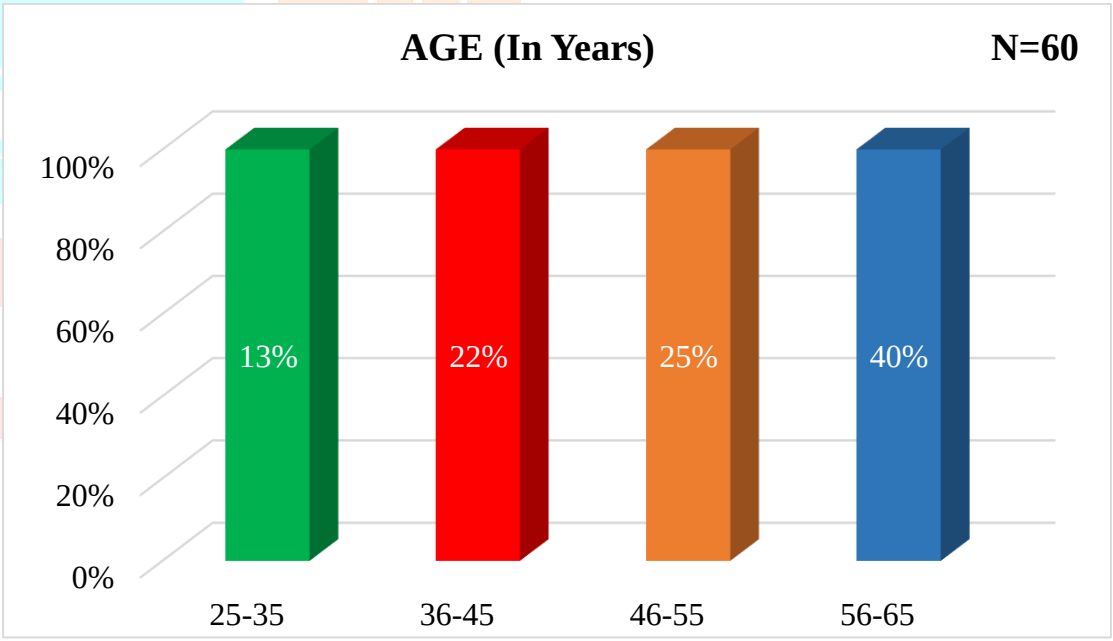

Figure No. 3: Column diagram showing frequency and percentage distribution of cardiac patients according to their age.

Table no. 4.1 and Figure no. 3 depict the distribution of cardiac patients according to their age. It indicates that the majority of cardiac patients, 24 (40%), belong to the age group of 56–65 years. Additionally, 15 patients (25%) fall in the age group of 46–55 years, 13 patients (22%) in the age group of 36 – 45 years, and 8 patients (13%) in the age group of 25 –35 years.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO THEIR GENDER

Table No. 4.2

(N= 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
2	Gender	Male	35	58 %
		Female	25	42 %

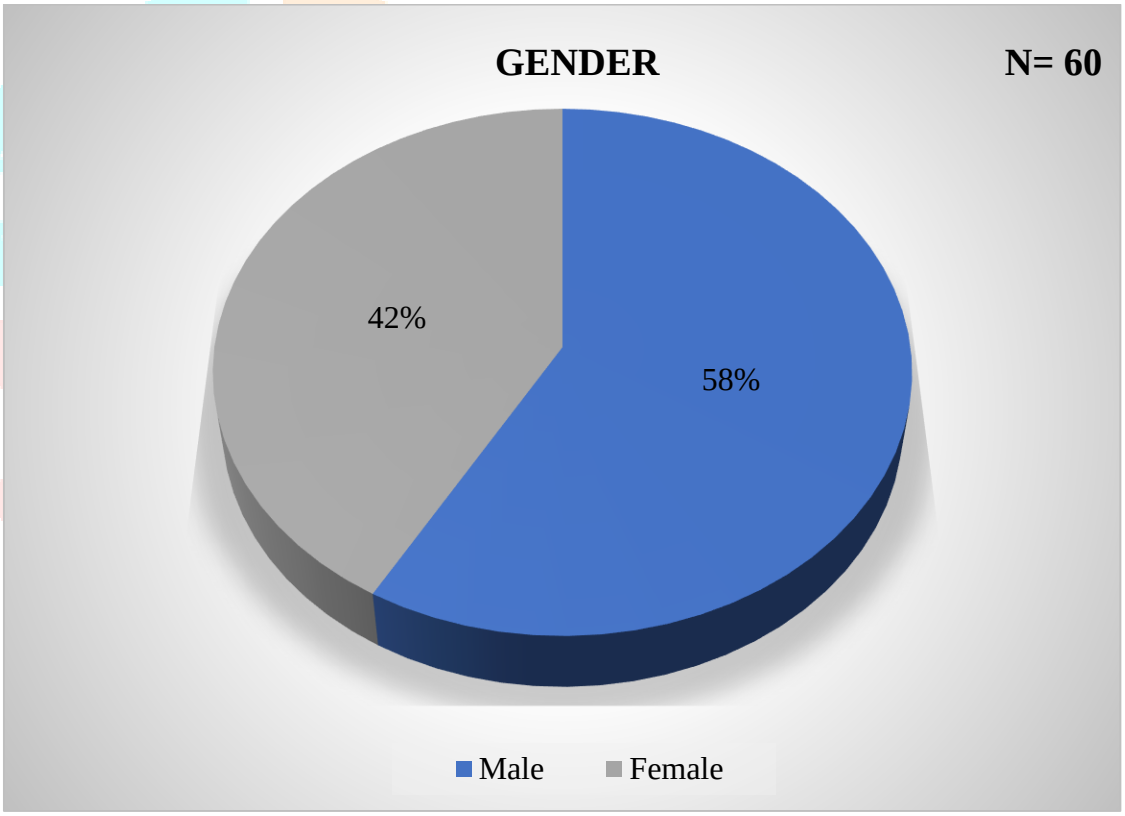

Figure No. 4: Pie diagram showing frequency and percentage distribution of cardiac patients according to the gender.

Table No. 4.2 and Figure No. 4 represent the distribution of cardiac patients based on their gender. The data reveals that the majority of cardiac patients, 35 (58%), are male, while 25 (42%) are female.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO THEIR EDUCATIONAL QUALIFICATION

Table No. 4.3

(N = 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
3	Educational qualification	Illiterate	21	35 %
		Secondary	18	30 %
		Senior Secondary	12	20 %
		Graduation and above	9	15 %

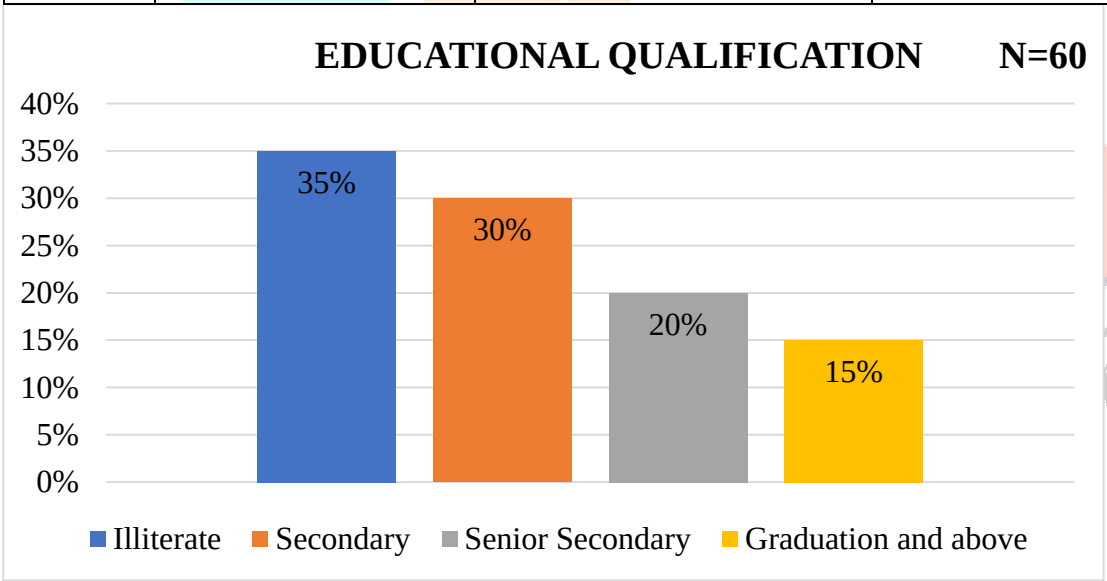

Figure No. 5: Column diagram showing frequency and percentage distribution of distribution of cardiac patients according to their educational qualification.

Table no. 4.3 and Figure no. 5 illustrate the distribution of cardiac patients based on their education. It reveals that 21 patients (35%) are illiterate, 18 patients (30%) have secondary education, 12 patients (20%) have senior secondary education and 9 patients (15%) belong to the graduation and above category.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO THEIR OCCUPATION

Table No. 4.4

(N= 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
4	Occupation	Government Employed	6	10 %
		Private Employed	7	11.66 %
		Farming	25	41.67%
		Self employed	22	36.67 %

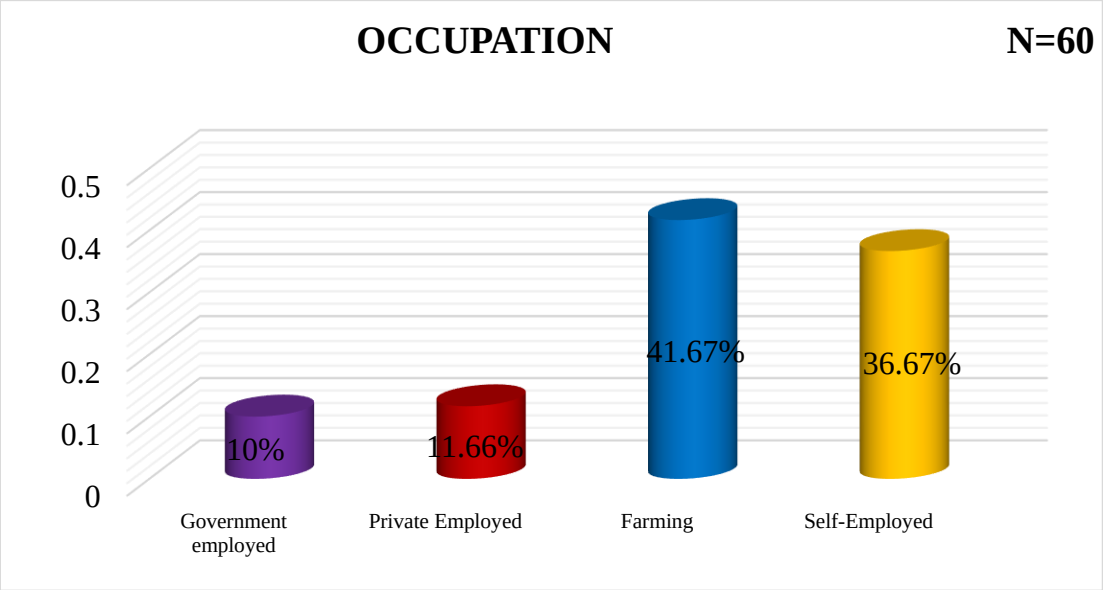

Figure No. 6: Column diagram showing frequency and percentage distribution of distribution of cardiac patients according to their occupation.

Table no. 4.4 and Figure no. 6 depict the distribution of cardiac patients based on their occupation. The majority of patients, 25 (41.67%), are engaged in farming, followed by 22 (36.67%) who are self-employed. Additionally, 7 patients (11.66%) are private employed, while 6 patients (10%) are government employees.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO THEIR MONTHLY INCOME

Table No. 4.5

(N = 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
5	Monthly income	Upto 10,000	33	55 %
		10,0001-20,000	9	15 %
		20,000-30,000	9	15 %
		More than 30,000	9	15 %

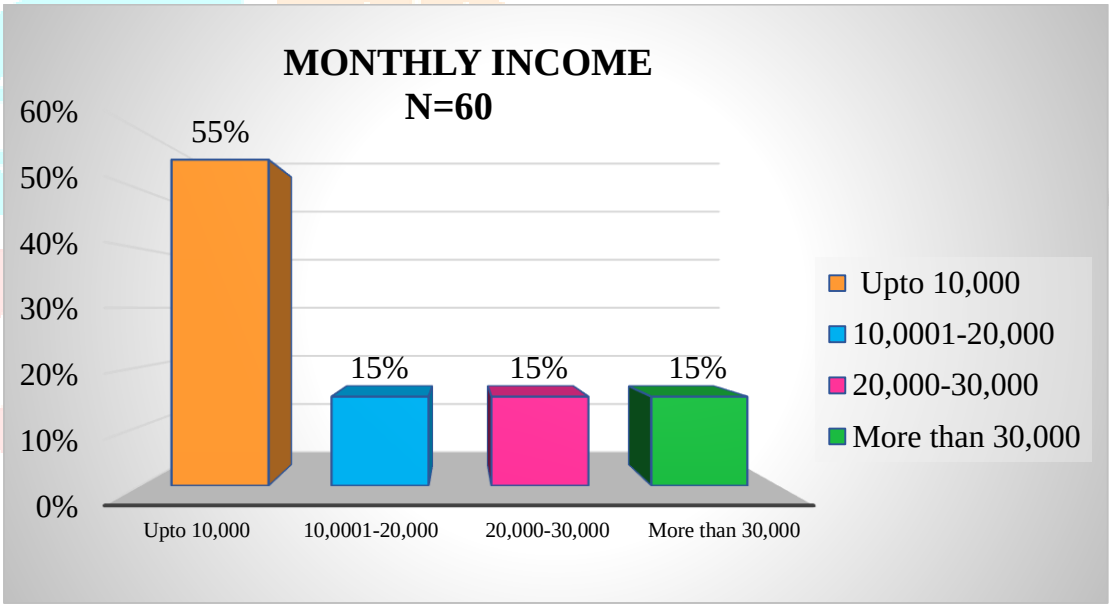

Figure No. 7: Column showing frequency and percentage distribution of distribution of cardiac patients according to their monthly income.

Table no. 4.5 and Figure no. 7 show the majority of patients, 33 (55%), have a monthly income of up to ₹10,000, followed by 9 patients (15%) in the ₹10,001– ₹20,000 category, 9 patients (15%) in the ₹20,001–₹30,000 category, and 9 patients (15%) with a monthly income of more than ₹30,000.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO TYPE OF FAMILY

Table No. 4.6

(N = 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
6	Type of family	Nuclear	26	43 %
		Joint	27	45 %
		Extended	7	12 %

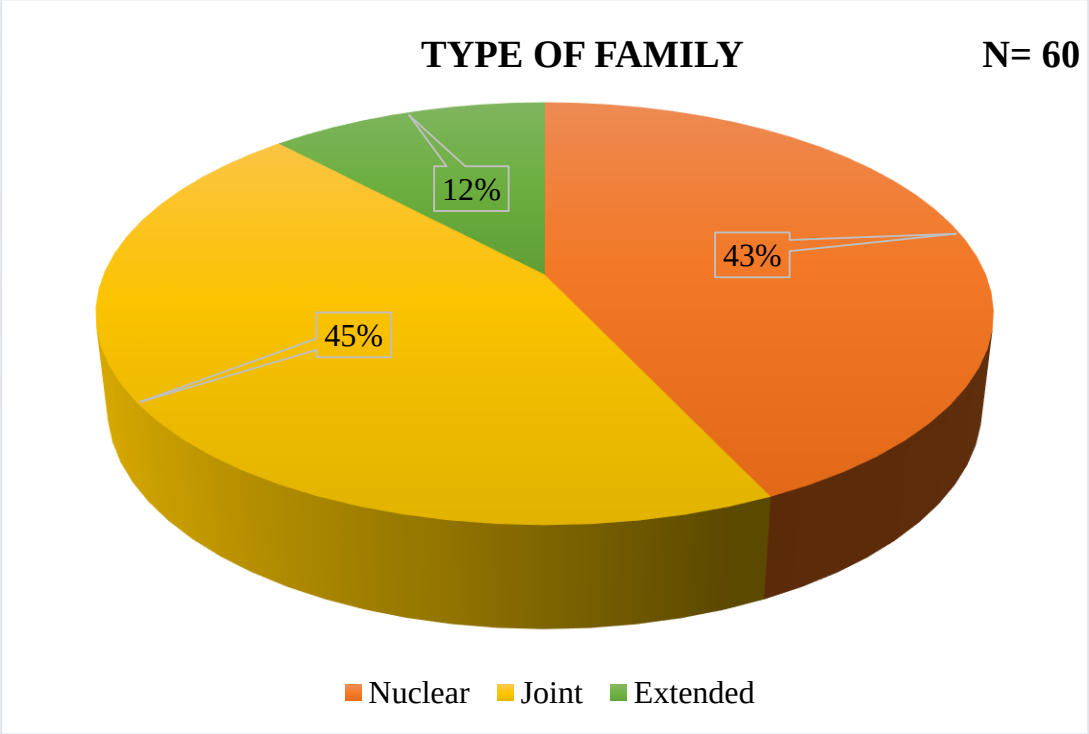

Figure No. 8: Pie diagram showing frequency and percentage distribution of cardiac patients according to their type of family

Table no. 4.6 and Figure no. 8 represent the majority of patients, 27 (45%), belong to joint families, followed by 26 (43%) from nuclear families and 7 (12%) from extended families.

FREQUENCY AND PERCENTAGE DISTRIBUTION OF CARDIAC PATIENTS ACCORDING TO AREA OF LIVING

Table No. 4.7

(N = 60)

S. No.	Background Variables		Frequency (f)	Percentage (%)
7	Area of living	Urban	29	48 %
		Rural	31	52 %

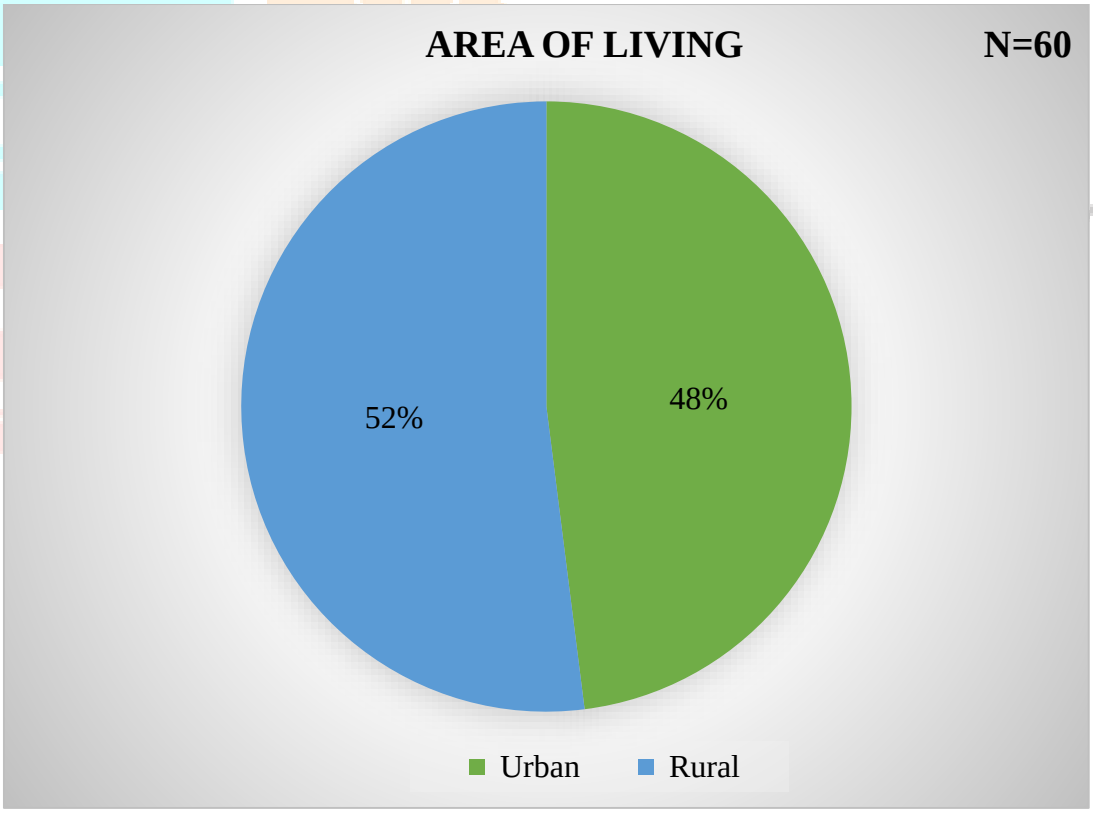

Figure No. 9: Pie diagram showing frequency and percentage distribution of distribution of cardiac patients according to their area of living.

Table no. 4.7 and Figure no. 9 reveal that the cardiac patients that have 31 (52%) belong to rural areas, whereas 29 (48%) live in urban areas.

SECTION- II

FREQUENCY AND PERCENTAGE DISTRIBUTION ACCORDING TO THEIR LEVEL OF KNOWLEDGE SCORE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS

Table No. 5

(N = 60)

S.No.	Level of knowledge	Score	Frequency (f)	Percentage (%)
1.	**Good**	23-30	4	6.66%
2.	**Average**	15-22	25	41.67 %
3.	**Poor**	0-14	31	51.67 %

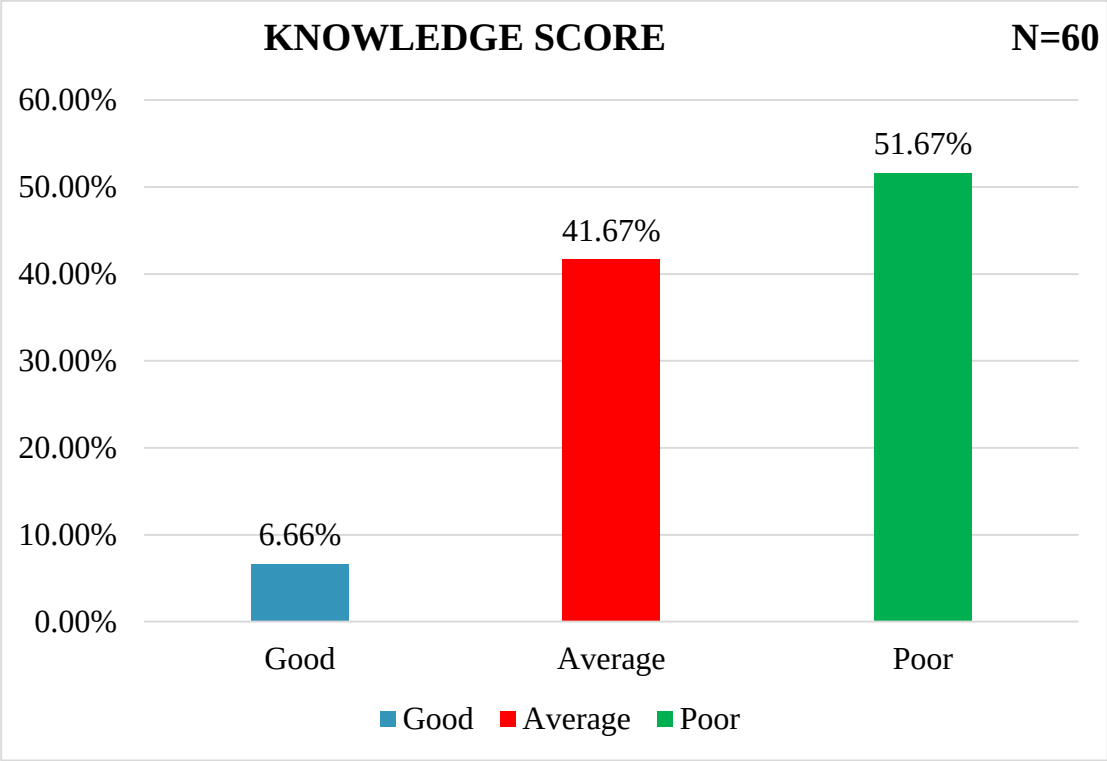

Fig no. 10: Column diagram showing frequency and percentage distribution of cardiac patients of selected hospitals, Jaipur according to their knowledge score.

Table no. 5 and figure no. 10 illustrate that the level of knowledge among cardiac patients, in which 4 (6.66%) had good, 25 (41.67%) had average, and 31 (51.67%) had poor knowledge.

SECTION- III

MEAN, MEAN PERCENTAGE, MEDIAN, MODE, AND STANDARD DEVIATION OF CARDIAC PATIENTS ACCORDING TO THEIR LEVEL OF KNOWLEDGE SCORE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES

Table No. 6

(N=60)

S. No.	Maximum Score	Mean	Mean %	Mode	Median	Standard Deviation
1.	30	14.41	48.03 %	14	14	4.8

SECTION - IV

FREQUENCY AND PERCENTAGE DISTRIBUTION ACCORDING TO THEIR LEVEL OF ATTITUDE SCORE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS

Table No. 7

(N=60)

Level of attitude score	Score	Frequency	Percentage %
Negative	20-60	15	25 %
Positive	61-100	45	75 %

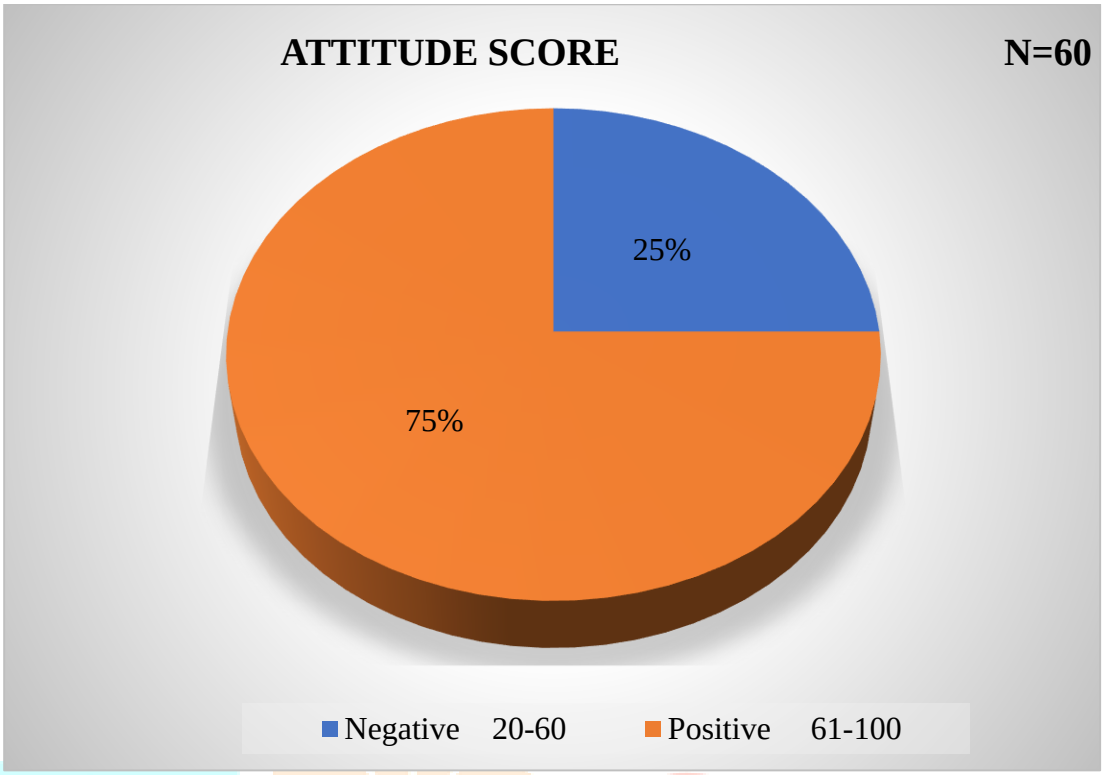

Figure no. 11: Pie diagram showing frequency and percentage distribution of cardiac patients of selected hospitals, Jaipur according to their attitude score.

Table No. 7 and Figure no. 11 depict that the favourable and unfavourable attitude of cardiac patients, according to which 45 (75%) had a positive attitude and 15 (25%) had a negative attitude.

SECTION -V

MEAN, MEAN PERCENTAGE, MEDIAN, MODE, AND STANDARD DEVIATION ACCORDING TO THEIR LEVEL OF ATTITUDE SCORE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS

Table No. 8

(N=60)

S. No.	Maximum Score	Mean	Mean %	Mode	Median	Standard Deviation
1.	100	67.71	67.71 %	70	70	10.10

SECTION -VI

RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDE REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS

Table No. 9

(N = 60)

Relationship between knowledge and attitude score	Mean	Spearman's Calculated value (r_s)	Df	Tabulated value	Level of significance @ 0.05
Knowledge	14.4	- 0.052	58	0.218	NS
Attitude	67.71				

SECTION-VII

ASSOCIATION BETWEEN KNOWLEDGE AND SELECTED BACKGROUND REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS

Table No. 10

(N= 60)

S. No	Background variables and categories	Frequency (f)	Knowledge Score			Chi-square (χ^2)	Df	Tabulated Value	LOS @ 0.05
			Good	Average	Poor				
1	Age (in years)								
	25-35	8	0	4	4	2.95	6	12.59	NS
	36-45	13	2	5	6				
	46-55	15	1	7	7				
	56-65	24	1	9	14				

2	Gender								
	Male	35	2	12	21	2.34	2	5.99	NS
	Female	25	2	13	10				
3	Educational qualification								
	Illiterate	21	3	7	11	9.01	6	12.59	NS
	Secondary	18	0	7	11				
	Senior Secondary	12	1	8	3				
	Graduation and above	9	0	6	3				
4.	Occupation								
	Government employed	6	0	3	3	5.99	6	12.59	NS
	Private employed	7	0	6	1				
	Farming	25	1	16	8				
	Self-employed	22	3	10	9				
5	Monthly income								
	Upto 10,000	33	3	13	17	2.95	6	12.59	NS
	10,001-20,000	9	1	4	4				
	20,001-30,000	9	0	3	6				
	More than 30,000	9	0	5	4				

6	**Type of Family**								
	Nuclear	**26**	**4**	**13**	**9**	**8.79**	**4**	**9.48**	**NS**
	Joint	**27**	**0**	**9**	**18**				
	Extended	**7**	**0**	**3**	**4**				
7	**Area of Living**								
	Urban	**29**	**1**	**17**	**11**	**6.79**	**2**	**5.99**	**S**
	Rural	**31**	**3**	**8**	**20**				

df- Degree of Freedom **S-Significant** **NS-Non significant**

SECTION-VIII

ASSOCIATION BETWEEN ATTITUDE AND SELECTED BACKGROUND REGARDING LIFESTYLE MODIFICATION ON CARDIOVASCULAR DISEASES AMONG CARDIAC PATIENTS.

Table No. 11

(N= 60)

S.No	Background Variables	Frequency	Attitude score		Chi-square ($\chi 2$)	Df	Tabulated value	LOS @0.05
			Positive	Negative				
1.	**Age (in years)**							
	25-35	**8**	**7**	**1**	**0.65**	**3**	**7.81**	**NS**
	36-45	**13**	**10**	**3**				
	46-55	**15**	**11**	**4**				
	56-65	**24**	**18**	**6**				
2.	**Gender**							
	Male	**35**	**26**	**9**	**1.71**	**1**	**3.84**	**NS**

	Female	**25**	**22**	**3**				
3.	**Educational Qualification**							
	Illiterate	**21**	**18**	**3**	**1.99**	**3**	**7.81**	**NS**
	Secondary	**18**	**12**	**6**				
	Senior Secondary	**12**	**9**	**3**				
	Graduation and above	**9**	**7**	**2**				
4.	**Occupation**							
	Government Employed	**6**	**5**	**1**	**6.15**	**3**	**7.81**	**NS**
	Private Employed	**7**	**3**	**4**				
	Farming	**25**	**20**	**5**				
	Self-Employed	**22**	**19**	**3**				
5	**Monthly income**							
	Up to 10,000	**33**	**27**	**6**	**1.54**	**3**	**7.81**	**NS**
	10,001-20,000	**9**	**6**	**3**				
	21,001-30,000	**9**	**8**	**1**				
	More than 30000	**9**	**7**	**2**				
6.	**Type of family**							
	Nuclear	**26**	**20**	**6**	**3.77**	**2**	**5.99**	**NS**

	Joint	**27**	**24**	**3**				
	Extended	**7**	**4**	**3**				
7.	**Area of living**							
	Urban	**29**	**21**	**8**	**1.15**	**1**	**3.84**	**NS**
	Rural	**31**	**26**	**5**				

df- Degree of Freedom **S-Significant** **NS-Non significant**

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