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## A cross-sectional, questionnaire-based study to assess the Knowledge and practice on life style modification among hospitalized cardiac patients

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### Abstract

**Background:** Cardiovascular diseases are mostly preventable cardiac diseases which manifest due to practice of unhealthy lifestyle. These days many people are deliberately engaged in find ways to preserve and improve their health by acquiring favourable lifestyle practices. Cardiovascular disease (CVD) is caused by non-modifiable and modifiable risk factors such as smoking, alcohol, obesity, hypertension, and diabetes mellitus. In India there are 60 million cases of cardiovascular diseases are estimated and it is expected to rise to 200 million in next decade. It is imperative to understand that the expected cases can be prevented only through modifying unhealthy lifestyle and practices.

**Objective:** We aimed to assess the knowledge and practice on lifestyle modifications of cardiovascular diseases and also to determine the correlation between knowledge and practices related to lifestyle modifications among hospitalized cardiac patients in a tertiary care hospital of northern India.

**Methods:** This is a, questionnaire based and descriptive study. Respondents who fulfilled the inclusion criteria 60 samples were selected using purposive sampling technique. A structured validated questionnaire was used to assess the knowledge and practice for data collection. After obtaining due approval from institutional ethical committee. Results: Mean knowledge and practice score of the study participants was  $12.5 \pm 1.4$  and  $6.6 \pm 0.7$ , respectively. Among the total participants ( $n=60$ ), 25 (41.7%) had good knowledge, 31(51.7%) had average knowledge and 4(6.6%) had poor knowledge regarding lifestyle and behavioural modifications. In practice score, 13(21.7%) had good practice, 46 (76.7%) had average practice and 1(1.6%) had poor practice. Socio-demographic variables like dietary patterns, education, occupation and body mass index significantly impacted the knowledge of patients regarding CVD prevention. Karl-Pearson coefficient proved that there was a perfect correlation between knowledge score and practices regarding lifestyle modifications among cardiac patients with 'r' score of 1.

**Conclusion:** Practice of lifestyle modification regarding cardiovascular diseases are largely determined by Knowledge. Patient with adequate knowledge practices good lifestyle practices. So A definite positive linear relationship exists between knowledge and good CVD prevention practices. Further interventional studies assessing various approaches to promote awareness regarding lifestyle modifications are required in cardiac patients. (Abstract published in Global Journal of Medicine and Medical Sciences 2020, ISSN: 2449-1888, Volume 8/Issue 9/03).

**Keywords:** Cardiovascular disease, lifestyle modification, knowledge, practice, cardiac patients

### Introduction

Cardiovascular disease and the resulting complications is the main cause of death for both male and female in the developed and developing countries. It is in top five causes in lesser develop 21.4% countries. According to the data of world health statistics in 2008 which concludes that, the global burden disease is shifting from infectious disease to non-communicable diseases such as cardiovascular disease and cancer. "It is predicted that Non-communicable diseases become the cause for over 75% of all mortality in 2030." [1].

Cardiovascular diseases such as atherosclerosis, coronary artery diseases are highly dependent on lifestyle practices. Slowing the incidence depends on reduction of risk factors for cardiovascular diseases like hypercholestermia, smoking, diet, obesity, high blood pressure and Lack of physical activity. Therefore cardiovascular diseases could be prevented by practicing good lifestyle such as exercise, Low fat diet, Low salt diet, no smoking and controlled Blood pressure [2].

Smoking, poor diet and less physical activity are the most common risk factors for heart disease as they not only cut short lifespan but also cost a country<sup>[3]</sup>. A collaborated report by WHO and World Economic Forum says that India will incur a total loss of \$236.6 billion by 2030 because of unhealthy practices of lifestyle and poor dietary pattern. The healthy diet and balanced nutrition is influenced by various factors such as social, cultural, economic and physiological factors. Overweight and obesity are established as risk factors for heart disease<sup>[4]</sup>.

Clearly, unhealthy lifestyle practices affect not only Blood pressure but also lipid/lipoprotein levels, triglycerides, and glucose-insulin homeostasis, thrombosis/coagulation, endothelial function, inflammation (eg, C-reactive protein), and<sup>[5]</sup>. Researcher said that a Practicing a healthy lifestyle plays an important role in the primary prevention of Cardiovascular diseases and also sudden cardiac death<sup>[6]</sup>.

Vishwanath Mohan (2001)<sup>[7]</sup> said the overall prevalence rate of cardiovascular disease is 11%. The prevalence rate of cardiovascular diseases was 9.1%, 14.9%, and 21.4% prevalence of cardiovascular disease increased with an increase in total cholesterol<sup>[7]</sup>.

### Method

A descriptive cross sectional questionnaire based study to assess the Knowledge and practices regarding life style modification among cardiac patients admitted in cardiology department, SGPGIMS Lucknow. Non Probability purposive sampling technique was used to select 60 samples for this study. A well-structured questionnaire was used as data tool to assess the knowledge and practice regarding lifestyle modifications. After the permission from IEC and informed consent from each sample, the data was collected.

Based on the objective of the study and the target population, Structured questionnaire was used to assess the knowledge and practice, it measure all the aspects of knowledge and practice of cardiac patient in SGPGI

Lucknow. Categorisation of subject also been done based on the scoring of knowledge and practice questionnaire.

The tool has 3 sections: Section A consists of demographic variables like age, sex, BMI, income, education diet, Place and work. Section B consists of 20 knowledge based questions and Section C includes 10 practice based questions.

### Result

The analysis is the classification and arrangement of the collected data in systematically in interpretable form thus it helps to get solution to research problem<sup>[8]</sup>. Descriptive and Inferential statistics were used to compute the data which collected from respondents (n=60).

The overall knowledge level of cardiac patients regarding lifestyle modifications, it shows 25 (41.7%) patients had good knowledge, 31(51.7%) had average knowledge and 4(6.6%) had poor knowledge. The mean value and standard deviation of knowledge score is 12.45 & 1.39.

The overall Practice score of cardiac patients regarding lifestyle modifications, it shows 13 (21.7%) patients had good practice, 46(76.7%) had average practice score and 1(1.6%) had poor practice. The mean value and standard deviation of practice score is 6.58 & 0.6729.

The association between knowledge score with practice was done by Karl Pearson correlation test. The obtained r value is 1. Hence there was perfect correlation between knowledge score and practices on lifestyle modifications among cardiac patients which means there was increase in knowledge with increase in practicing lifestyle modifications by the cardiac patients.

The Chi square value is more than the tabulated value at 0.05 level of significance, therefore there is a significant association between BMI work and diet with knowledge scores of cardiac patients. Other demographic variables like Age sex, place and Income have no significant association with knowledge scores, as their Chi a square value is less than the tabulated value at 0.05 level of significance.

**Table 1:** Level of knowledge on lifestyle modification among cardiac patients

S. No	Knowledge level	Score	Frequency	Percentage%	Mean	Standard deviation
1	Good	(14-20)	25	41.7		
2	Average	(7-13)	31	51.7	12.45	1.39
3	Poor	(0-6)	4	6.6		
	Total		60	100		

Table 1 reveals that the overall knowledge level of cardiac patients regarding lifestyle modifications, it shows 25 (41.7%) patients had good knowledge, 31(51.7%) had

average knowledge and 4(6.6%) had poor knowledge The mean value and standard deviation of knowledge score is 12.45 & 1.39.

**Table 2:** Practice of lifestyle modification among cardiac patients (n=60)

Characteristics	Frequency	Percentage	Mean	Standard deviation
Good (8-10)	13	21.7		
Average (5-7)	46	76.7	6.58	0.6729
Poor (0-4)	1	1.6		

Table 2 reveals that, the overall Practice score of cardiac patients regarding lifestyle modifications, it shows 13 (21.7%) patients had good practice, 46(76.7%) had average

practice score and 1(1.6%) had poor practice. The mean value and standard deviation of practice score is 6.58 & 0.6729.

**Table 3:** Frequency and percentage distribution according to socio demographic variables (N=60)

SL. No	Demographic Data	Category	Subject Group	
			Frequency (F)	Percentage (%)
1.	Age	30-35	12	20
		36-40	15	25
		41-46	18	30
		>46	15	25
2.	Gender	MALE	30	50
		Female	30	50
3.	BMI	18-25	4	6.7
		25-30	15	25
		30-35	19	31.7
		35-40	17	28.3
		>40	5	8.3
4.	Education	Illiterate	5	8.3
		Primary	16	26.7
		Secondary	22	36.7
		Tertiary	17	28.3
5.	Work	Sedentary	6	10
		Moderate	31	51.7
		Heavy	15	25
		Unemploy	8	13.3
6.	Diet	Veg	18	30
		Non Veg	3	5
		Both	39	65
7.	Income	<3,000	18	30
		3,000-5,000	13	21.7
		5,000-10,000	7	11.7
		>10,000	22	36.7
8.	Place	Rural	37	61.7
		Urban	23	38.3

**Table 4:** To find the association between knowledge score with practice on lifestyle modification among cardiac patients (n=60)

S. No	Variables	Mean	Standard Deviation	R Value
1.	Knowledge	12.45	1.39	0.99
2.	Practice	6.58	0.67	

Table 4: Reveals that r value is 1 hence there was perfect correlation between knowledge score and practices on lifestyle modifications among cardiac patients which means there was increase in knowledge with increase in practicing lifestyle modifications by the cardiac patients.

**Table 5:** To find the association between knowledge score with demographic variable

Variable	Category	Knowledge score			Chi square	DF	P Value
		Good	Average	Poor			
Age	30-35	4	7	1	1.2	6	0.99
	36-40	5	9	1			
	41-46	8	9	1			
	>46	8	6	1			
Gender	Male	12	16	2	0	2	0.97
	Female	13	15	2			
BMI	18-25	2	2	0	16.33	8	0.035
	26-30	5	9	1			
	31-35	8	9	2			
	36-40	8	8	1			
	>40	2	3	0			
Education	Illiterate	2	2	1	0.26	6	3.16
	Primary	7	8	1			
	Secondary	10	11	1			
	Tertiary	6	10	1			
Work	Sedentary	4	2	0	25.73	6	0.024
	Moderate	11	18	2			
	Heavy	8	6	1			
	Unemployment	2	5	1			
Diet	Vegetarian	10	8	0	32.7	4	0.0377
	Non veg	0	2	1			
	Mixed	15	21	3			
Income	<3000	6	11	1	8.4	6	0.9318
	3000-5000	4	8	1			
	5000-10000	2	4	1			

	>10000	13	8	1			
Place	Rural	14	19	4	3.2	2	0.72
	Urban	11	12	0			

\*NS-No significant, \* S-Significant 0.05

Table 5 depicts that there is a significant association exists between BMI, work, and diet with knowledge scores of cardiac patients as the Chi square value is more than the tabulated value at 0.05 level of significance. Other demographic variables like Age sex, place and Income have no significant association with knowledge scores, as their Chi-square value is less than the tabulated value at 0.05 level of significance.

### Discussion

The study concluded that cardiac patient's knowledge score have significant correlation with practice score and also reveals that some of the demographic variables like BMI, work, Diet has no significant association with knowledge score of cardiac patients. Other demographic variables like sex, place and Income have no significant association with knowledge scores, as their Chi a square value is less than the tabulated value at 0.05 level of significance.

Supportive study was conducted by Yang Chao 2013 to understand cardiac related knowledge attitude practice and provide the bases of integrated management of cardiac disease (hypertension). Data was collected by questionnaire and clinical examination. The result showed that awareness of lifestyle modification among patient (hypertensive) was low and some patient had incorrect attitude towards hypertension control <sup>[9]</sup>.

Another similar study was conducted from April 2017-march 2018 in a teaching hospital of Udaipur Rajasthan. The sample size was 402 patient. Self-structured questionnaire was used to assess the knowledge and lifestyle behavior towards CVD disease risk factor. Out of which 69% believe that dietary modification is very much essential to control their cholesterol levels and about 60% have to cease smoking <sup>[10]</sup>.

### Conclusion

Cardiovascular diseases are the preventable non communicable diseases resulting complications is the main cause of death for both male and female in the developed and developing countries. Modifiable Risk factors are the vital responsible factors for CVD <sup>[11]</sup>. This research shows that there is a significant relation between knowledge level and practice. Practices increases with knowledge level. So it is responsible of every nurses to enhance knowledge thus the patients could practice healthy lifestyle which reduces the risk of cardiovascular diseases.

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