



## A Retrospective Co-relational Study to Assess the Lifestyle Practices of Patients Diagnosed with Coronary Artery Disease.

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### ABSTRACT

**Introduction:** Coronary artery disease is the most common cause of mortality worldwide. It is a disease of arteries caused by accumulation of plaque within the walls of artery that supply blood to myocardium. Coronary artery disease has become the most common cause of mortality in the world. According to the Cleveland Clinic, around 13 million people have a history of coronary artery disease and 7.2 million have suffered from Myocardial infarction.

**Materials and methods:** A Quantitative non-experimental retrospective co-relational research approach and design was used, purposive sampling technique was used to select 100 patients diagnosed with coronary artery disease from selected hospitals of district Jalandhar. Self Structured knowledge questionnaire had been used to assess the life style practices of patients diagnosed with coronary artery disease.

**Results:** The study result shown that, in male's alcohol (7.432) and in female's diet (6.628) was the major causative factor for coronary artery disease. Whereas, other causes were found to be physical activity (6.094) and smoking (2.776). There was association of Alcohol and diet which was statistically significant at  $p \leq 0.05$  level of significance.

**Conclusion:** It concludes that alcohol and diet had significant positive co-relation among all the lifestyle practices in the development of coronary artery disease.

**Key words:** Lifestyle Practices, Coronary Artery Disease.

### INTRODUCTION

Coronary artery disease (CAD) is a direct consequence of atherosclerosis, an inflammatory disease process involving the gradual accumulation of plaque taking the form of lipid laden lesions (atheromas) on the inner walls of coronary artery.<sup>1</sup>

It has been often considered as affluent person's disease, i.e. a disease of artery caused by rich and oily diet. Coronary artery disease could further lead to other heart conditions such as myocardial infarction, angina pectoris, atherosclerosis and hypertension.<sup>2</sup>

Coronary artery disease has become the most common cause of mortality in world. Indian is more prone to Coronary artery disease (CAD) due to sedentary life style. It is a disease that rarely displays symptoms before striking and primarily affects those in later stages of life.<sup>3</sup>

According to report on stroke statistics, prevalence of coronary artery disease in India was 1.6 million in the year 2000 and the current burden has increased to 32 million in 2011. Whereas, the

current burden in rural areas is 3-5% and in urban it is 7-10%. As per statistics, sedentary habits, consumption of high fatty food, liquor, anger prone personality are majorly suffering from coronary artery disease.<sup>4</sup>

As per World Health Organization 60% of world cardiac patient will be Indian by 2010. Nearly 50% of cardiovascular death in India will occur below the age of 70 years compared with just 22% in the west.<sup>5</sup>

Coronary artery disease is the most common cardiovascular disorder in adults it is accepted fact that incidence of Coronary artery disease (CAD) has reached endemic proportions in many countries.<sup>6</sup>

Coronary artery disease is associated with modifiable and non-modifiable factors. Modifiable factors include smoking, hypertension, elevated serum cholesterol level, diabetes mellitus, physical inactivity and obesity. Non modifiable factors are hereditary factors such as age, gender, and race. The vulnerability of urban Indians is possibly related to nutrition and life-style factors.<sup>7</sup> Heart disease often is a result of life style, which includes the type of work done, eating, drinking and smoking habits, exercise and amount of stress one faces. As per American cancer society, the more time spent sitting, the less total energy expended and the more chances to gain weight and being obese.<sup>8</sup>

Therefore, sedentary life style slows down blood circulation, and stiffens and blocks blood vessels. However, coronary artery disease is the mutual interaction of life style practices leading to serious events that may harm the heart. These events include fat accumulation that obstructs the blood circulation to heart muscle. So, life style modification is best remedy for coronary artery disease, rather than treatment.

## **MATERIALS AND METHODS**

### **Design**

A Quantitative non-experimental retrospective co-relational research approach and design was used to conduct the study to assess the lifestyle practices of patients diagnosed with coronary artery disease in selected hospitals of District Jalandhar, Punjab.

### **Sample**

Non-Probability purposive sampling technique was used to select 100 patients diagnosed with coronary artery disease. Data was collected by using Self Structured knowledge questionnaire. Inclusion criteria include patients who were diagnosed with coronary artery disease, who can read and write Punjabi and English and willing to participate. Exclusion criteria include patients who were less than 18 years of age, diagnosed with cardiac disease other than coronary artery disease and were unconscious.

## **INSTRUMENTATION**

Development of questionnaire tool- The self structured knowledge questionnaire tool was constructed to assess the lifestyle practices of patients diagnosed with coronary artery disease.

Part A- this part consists of socio demographic variables like: Age (years), Gender, Education status, Occupation, Family income (in month), Dietary pattern.

Part B- this part comprises self structured knowledge questionnaire related to lifestyle practices of patients diagnosed with coronary artery disease in which 30 multiple choice questions were included to assess the lifestyle practices of patients diagnosed with coronary artery disease by referring books, journals, newspaper and internet sources.

Questionnaire was divided into 4 parts.

**Table 1:** Distribution of Questions

Sr. No.	Items	No of Questions	Questions
1.	Questions related to Diet	10	1- 10
2.	Questions related to Physical activity	10	11- 20
3.	Questions related to Alcohol	05	21- 25
4.	Questions related to Smoking	05	26-30

The study was conducted in two Hospitals of District Jalandhar, Punjab – S.G.L Superspeciality Hospital and Shri Ram hospital and Heart Care Centre.

#### **Criterion Measure**

Data was collected by self administrating Self Structured knowledge questionnaire after explain the purpose of the study. Total 30 items were included in knowledge questionnaire. Each question was in rank order. The maximum score was 5 and minimum was 1.

#### **Ethical Consideration**

Written permission was obtained from the Principal and Research committee of the S.G.L Nursing College, Jalandhar, Punjab and Administrator of the Selected Hospitals of District Jalandhar, Punjab – S.G.L Superspeciality Hospital and Shri Ram hospital and Heart Care Centre. The informed consent was taken from the each study sample that was willing to participate in the study.

Data was analyzed by using both descriptive and inferential statistics. In descriptive statistics mean, standard deviation, and co-relation and inferential statistics (ANOVA) was used to calculate association with selected socio-demographic variables.

## **RESULTS**

The socio demographic profile of 100 patients diagnosed with coronary artery disease who were enrolled in study is summarized in table number 1 below. The data was described with the help of percentage.

**Table-2:** Frequency and Percentage distribution of coronary artery disease patients according to their Socio demographic variables.

<b>N=100</b>			
<b>Sr. No.</b>	<b>Socio Demographic Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>1.</b>	<b>Age (in years)</b>		
	40-50	28	28
	51-60	32	32
	61-70	29	29
	71-80	11	11
<b>2.</b>	<b>Gender</b>		
	Male	67	67
	Female	33	33
<b>3.</b>	<b>Education</b>		
	Illiterate	25	25
	Primary	47	47
	Secondary	11	11
	Graduate	00	00
	Post graduate	17	17
<b>4.</b>	<b>Occupation</b>		
	Government job	08	08
	Private job	13	13
	Self work	64	64
	Retired	15	15
	Others	00	00
<b>5.</b>	<b>Family Income per month (in Rupees)</b>		
	Less than 5000	04	04
	5000-10,000	17	17
	10,000-20,000	51	51
	20,000 & Above	28	28
<b>6.</b>	<b>Dietary pattern</b>		
	Vegetarian	35	35
	Non Vegetarian	65	65

It shows that, 32% of respondents belong to age group between 51-60 years and 67% were males. Majority 47% were with Primary education, 64% respondents had self work. Maximum 51% were having Monthly income between 10,000-20,000 Rupees. Maximum 65% were Non Vegetarian.

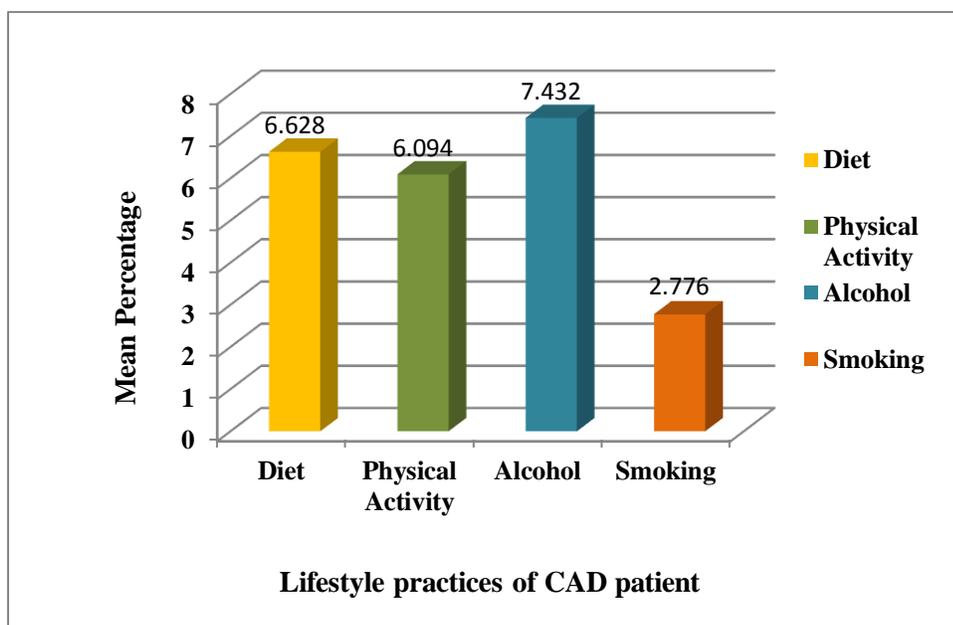
**Table-3:** Contribution of lifestyle practices to Coronary Artery Disease (CAD)

N=100

Sr. No.	Lifestyle practices	Maximum score	Mean	Mean percentage	Ranking
1.	Dietary pattern	50	3.314	6.628	2
2.	Physical inactivity	50	3.047	6.094	3
3.	Alcohol	25	1.858	7.432	1
4.	Smoking	25	0.694	2.776	4

Study findings depicted that, alcohol ranked 1 with the mean percentage of 7.432 followed by dietary pattern were ranked 2<sup>nd</sup> position with mean percentage of 6.628, rest of physical activities and smoking were the least associated factor in the development of coronary artery disease.

Which proved the hypothesis that, there is significant positive co-relation between coronary artery disease with lifestyle practices among cardiac patients. Null hypothesis ( $H_0$ ) that, there is no significant positive co-relation between coronary artery disease with lifestyle practices among cardiac patients was therefore rejected.



**Figure 1:** Contribution of lifestyle practices of CAD.

The association between lifestyle practices and their demographic variables shown that, Alcohol consumption and dietary pattern had significant positive co-relation among all the lifestyle

practices in the development of coronary artery disease ( $p \leq 0.05$  level of significance). Statistical significance was calculated using chi square test.

## DISCUSSION

Findings of the present study revealed that life style practices contributing to coronary artery disease were Alcohol that ranked 1 with mean percentage of 7.432 followed by dietary which ranked 2<sup>nd</sup> with the mean percentage of 6.628, rest of physical activity and smoking were the least associated factor in development of coronary artery disease.

It is supported by a study conducted by Fouwels A J. et al., in which results showed that in 209 participants smoking habits mostly (90.4%), followed by alcohol use (81.8%), physical activity (50.2%), and eating habits (27.3%) were found to be causative factors.<sup>9</sup>

There was significant relationship between life style practices and coronary artery disease. It was identified that Alcohol had significant co-relation among all the lifestyle practices in the development of coronary artery disease.

In order to results of the study explained that the association between life style practices of patients diagnosed with coronary artery disease with their selected socio demographical variables i.e. gender, education, occupation, family income, dietary pattern were found significant.

It is supported by a prospective study by Liu S. et al., the data relating fruit and vegetable intake to cardiovascular disease risk in which 39876 female health professionals (subjects) with no previous history of cardiovascular disease were assessed. The findings observed a significant inverse associated between fruit and vegetable intake and CVD risk. Higher fruit and vegetable intake was also associated with a lower risk of MI, with an adjusted RR of 0.62 (95% CI for extreme quintiles: 0.61, 1.17) for extreme quintiles.<sup>10</sup>

## CONCLUSION

On the basis of findings of the present study the conclusion can be drawn that life style practices contributing to coronary artery disease were Alcohol that ranked 1 with mean percentage of 7.432 followed by dietary which ranked 2<sup>nd</sup> with the mean percentage of 6.628, rest of physical activity and smoking were the least associated factor in development of coronary artery disease.

It finding of present study revealed that, 32 (32%) of respondents belong to age group between 51-60 years and 67 (67%) were males. Majority 47 (47%) were with Primary education, 64 (64%) respondents had self work. Maximum 51 (51%) were having Monthly income between 10,000-20,000 Rupees. Maximum 65 (65%) were Non Vegetarian.

The association between life style practices of patients diagnosed with coronary artery disease with their selected socio demographical variables i.e. gender, education, occupation, family income, dietary pattern were found significant.

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