

Research Article

A Study to Assess the Effectiveness of Structured Teaching Module on Risk Factors and Preventive Measures of Coronary Artery Disease Among Patients Admitted in Selected Hospitals of Kerala, India

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Abstract

Coronary artery disease is usually a result of plaque buildup in coronary arteries, a condition called atherosclerosis. Although it is highly appreciable to have rapid development in the field of medicine, mortality and morbidity due to the coronary artery disease is still on the rise both in underdeveloped and developing countries which includes India in particular. This is pointing towards the fact that, not only curative medicine but preventive medicine also can play a vital role to bring down the ever-increasing prevalence of coronary artery disease, which is evident from the rapid decline of prevalence of coronary artery disease in the advanced economies of the world for the last two decades. The main objective of the study was to evaluate the effectiveness of structured teaching module on knowledge regarding risk factors and preventive measures of coronary artery disease. The study was conducted by using a quasi-experimental design. 300 Samples had been selected with the help of nonprobability convenient sampling technique from the selected hospital. Among the total 300 samples, 150 samples belong to study group and 150 samples belong to control group. Data was collected by using the tools prepared by the investigator. The calculated independent 't' test for knowledge revealed a high statistically significant difference between experimental and control group at $p < 0.001$. In the pretest on knowledge questionnaire, majority of study group (96.7%) as well as almost full control group samples (99.3%) performed poorly. None of the either group were performed good on the questions. In contrast after the intervention, the posttest knowledge score has shown a drastic improvement among study group's result. The overall mean posttest knowledge score of study group was 34.1, whereas in control group, it was 15.7 after the intervention. The unpaired t test value was 28.266 which was significant at $p < 0.001$ level. Hence the investigator come to the conclusion that Structured teaching module was an effective strategy to impart knowledge regarding risk factors and preventive measures of coronary artery disease among in patients.

Keywords

Structured Teaching Module, Coronary Artery Disease, Knowledge, Risk Factors, Preventive Measures

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1. Introduction

Coronary artery disease is the most common diagnoses for cardiovascular patients admitted to the hospital, globally and the leading cause of mortality though the advancement in the medical field is highly appreciable [1-3] Despite encouraging decline in the incidence of coronary artery disease in the united states for the last 30 years [4], it is still responsible for almost 1 million deaths and 5 million hospital admissions in each year. More than half of the all reported deaths from united states are also contributed from Coronary heart disease. In contrast to the developed countries where death rate from the cardiovascular diseases has been decreasing ever since, it is not very true about developing countries. Coronary heart disease led to 17.5 million deaths in 2012, around the world. More than $\frac{3}{4}$ of these deaths had been reported in developing countries. This increase in mortality and morbidity of cardiovascular disease, in developing country is reported to be driven by rapid industrialization, urbanization and related lifestyle changes and is called epidemiological transition. Similarly, as per the WHO fact sheet, in the year of 2016, nearly 17.9 million people were died with cardiovascular diseases, representing 31% of whole global deaths and 85% of these deaths are due to heart attack and stroke. In addition to, it is also reported 17 million premature deaths (under the age of 70) due to non-communicable diseases in 2015, and not surprisingly 82% of these deaths are reported in low and middle income countries and are caused by CVDs [5].

India and other south Asian countries reported an alarming increase in the prevalence of coronary heart disease over the past twenty years. As per data, Indians have the highest rates of CAD all over the world [6]. It is 2-4 times higher at all ages and 5-10 times higher in those below 40 years of age [7]. Also, some studies have pointed towards the rising prevalence of CHD in India over the last 60 years, from 1% to 9-10% rise in urban population and <1% to 4-6% rise in rural population of india [8]. It has also, been reported a 4-fold increase in the prevalence of coronary heart disease in India within the last forty years by a few numbers of studies [9] It is also estimated by both the WHO and Indian council for medical research (ICMR) that India will not only be the heart attack capital but also the capital of diabetes and hypertension, some of the major risk factors of CVD.

As per a study report, by the year of 2030, India will have the largest cardiovascular burden in the world” [10] and Among Indians, coronary heart diseases tend to occur earlier in life than in any other ethnic group [11]. And many other studies are also supporting the same statement of incidence of CAD among Indians in their early younger age [12]. Registrar popular of India (RGI) reported, throughout the duration of 1980-1990 CVD led to 15.4% to 20.4% of the deaths in the country [13]. Similarly, it has also been suggested an increasing fashion of CVD mortality in India from the year 1990 to 2013, with 20.7% deaths in 1990, 21.6% in 1995, 24.4% in 2000, 27.6% in 2005, and 29.1% in 2013. More than 10. Five

million deaths arise annually in India amongst that CVD led to 20.3% of these deaths in men and 16.8% of all deaths in women [14].

Among the different states, southernmost state of India Kerala, has the highest prevalence of CAD risk factors, as per a few numbers of research studies. Kerala has undergone a remarkable transition in the last 30 years and this state is supposed to be in the stage III epidemiological transition [15]. Fifty percentage of all total death in Kerala is reported to be with cardiovascular problems and it is predicted to be $\frac{2}{3}$ rd of the total deaths by the end of 2030. Even though Kerala has the highest life expectancy, lowest infant mortality rate, and maternal mortality rate, the social transition led to the highest prevalence of CHD among all Indian states with a rural prevalence of 7.4 percent [16] and urban prevalence of 11 percent [17]. As per the Varkala ICDS block data, 38000 people die of heart attack every year in Kerala or everyday about 110 people die of heart attack somewhere in kerala [18]. This data is not so surprising when one understands the preponderance of risk factors of cardiovascular disease in Kerala. Based on the the ICMR and world health organization report on non-communicable disease risk factors, it has been estimated around 8.72 million hypertensives, 3.48 million diabetic and more than 50% population has higher than 200mg/dl cholesterol level (52.1 percent males and 61.4 percent female populations) (Goyal & Yousuf, 2006) [19] present in kerala. The age adjusted coronary artery disease mortality changes consistently in Kerala, are 382 for men and 128 for women. These CAD changes in Kerala are better than that of industrialized international locations and three to six times higher than Japanese and rural Chinese. CAD in Kerala is suggested to be premature and malignant, ensuing in dying at a completely young age. The excessive rate of premature heart ailment in Kerala additionally consequences in a high financial burden as high as 20% of its state home product.

Many of the research reviews highlighted the preventable nature of coronary artery disorder with the proper proof. For example, there's a document of surprising drop in the prevalence of CAD in developed nations from $\frac{1}{3}$ to at least one half of over the past 3 decades. With the proof, it has confirmed that primary prevention of CAD has behind this 25% of this drastic decline, 29% due to secondary prevention and different 43.5% is because of the development in the medical facilities [20-21]. In a examine performed in the year of 2005 pointed the importance of public awareness program in stopping the incidence of CAD. Similarly, a study carried out by way of Roijer (2006) also has signifies the wonderful impact of primary prevention on coronary heart disease. A excellent wide variety of different studies also has proved the fantastic correlations among affected person's precise expertise about risk factors of acute coronary syndrome and self-pronounced life style modifications and adherence to prescribed drugs [22].

However, a good number of studies highlighted the insufficient information of patients and laymen concerning coronary artery disease. For instance, Ponti et al. Carried out a survey to evaluate the expertise and lifestyle of patients admitted with Acute coronary syndrome in the CCU of an Italian hospital [23]. The study results confirmed that 75% of the patients had inadequate knowledge concerning risk factors of acute coronary syndrome all through the time of discharge from the hospital. The researcher concluded that there has been a need to offer powerful interventions to improve the expertise of patients regarding ACS. In a survey to evaluate the information, attitude and health searching for exercise of coronary artery disease among 222 sufferers admitted in a government health facility in Dhaka showed that a very few quantity patients have good enough knowledge regarding the coronary artery disease. Majority of the samples had shown insufficient understanding regarding the CAD [24].

It is very obvious from all the above-mentioned studies that there may be a excessive need to enhance the notice of knowledge regarding Congenital heart disease among patients. Structured teaching module and a vast variety of different academic intervention has already validated its efficacy to improve awareness concerning preventive measures of coronary artery disease amongst patients. For instance, Ramachandra MU [25] et al carried out an evaluative study to assess the effectiveness of structured teaching programme on knowledge concerning prevention of coronary artery disease among adults in Kale village, Karad. The study findings confirmed that the pretest knowledge score was very poor and concerning the posttest knowledge score changed into 46.9% with an actual advantage score of 23.83 after the provision of planned teaching technique. The gain in expertise rating become statistically significant on the p value at 0.0001 levels. This makes the investigator to choose this title to do the research and to help the society from coronary artery disease's negative impact.

2. Review of Literature

Cardiovascular disorder is affecting millions of human beings in both developed and developing nations. Although, the rate of mortality rate has declined in developed nations in the past numerous decades, it's far still the leading cause of death [26] and extorts a heavy social and economic toll globally. In low- and middle-earnings countries, the prevalence of cardiovascular disorder has extended dramatically.

A study was conducted to assess knowledge concerning coronary artery illnesses amongst patients attending medical outpatient department. Results depicted that 44% patients having average level of knowledge, 34% patients were having good level of knowledge and 22% patients had been having below average level of knowledge regarding CAD among patients attending medical OPD [27].

Another descriptive exploratory study was conducted to assess knowledge concerning risk factors of coronary artery

disease (CAD) among teachers in selected school of Jammu. The study result showed that majority of teachers sixty-six (66%) had been having poor knowledge accompanied by means of 32 (32%) have been having average understanding and only 2 (2%) were having good knowledge regarding risk factors of coronary artery disease [28].

A study was conducted to assess the effectiveness of structured teaching programme on knowledge and practice regarding self-care activities among the clients with myocardial infarction among 60 clients with myocardial infarction in Sreedevi Hospital and District Hospital of Tumkur. The investigators have concluded that the teaching programme on self-care activity, stepped forward the knowledge and practice of customers on identity, fending off cause elements, self-tracking of pulse workout, regular use of medication and thereby allowing the client to lead a normal active life. Moreover, the understanding and exercise of myocardial infarction among sufferers was influenced by way of their academic status. The calculated chi-square value for association of knowledge with training in the pre-test was 0.025 significant and in the post test was 0.03 significant and for the practice in the pre-test was 0.02 significant and in the post test was 0.01 significant [29].

An evaluative study was conducted to evaluate the effectiveness of structure teaching programme on knowledge regarding prevention of coronary artery disease among adults in Kale village, Karad. The data was collected from 30 adults of Kale rural population by using interview schedule method. Findings of the study showed that there was a deficit in knowledge about coronary artery disease among adults during pre-test (46.17%), and posttest knowledge (70%) and actual gain score was 23.83. The mean posttest knowledge score was found to be significantly higher than the pretest score.

Statement of the Problem

A Study to Evaluate the Effectiveness of Structured Teaching Module on Risk Factors and preventive measures of Coronary Artery disease among in patients of Selected Hospitals of Kerala, India.

Objective

To assess the pre and posttest knowledge regarding risk factors and preventive measures of coronary artery disease in study and in control group.

To assess the effectiveness of structured teaching module on knowledge regarding risk factors and preventive measures of coronary artery disease in study group.

To associate the pretest knowledge scores regarding risk factors and preventive measures of coronary artery disease with their selected demographic variables in study and in control group.

Hypothesis

RH_1 - There will be a significant difference between pre and posttest knowledge scores, regarding risk factors and preventive measures of coronary artery disease, within study group and control group.

RH_2 - There will be a significant difference in the pre and

posttest knowledge scores, regarding risk factors and preventive measures of coronary artery disease, between study group and control group.

RH_3 - There will be a significant association in the mean difference of pre and posttest knowledge scores, on risk factors and preventive measures of coronary artery disease among patients, with their selected demographic variables in study group and control group.

3. Research Methodology

Research Design

Quasi-experimental pretest posttest design

Table 1. Quasi experimental pretest posttest design.

Group	Pre-test	Intervention	Post test
Study group	OS ₁	X	OS ₂
Control group	OC ₁	—	OC ₂

OS₁= Pretest to assess the knowledge of study group admitted in selected hospital regarding risk factors and preventive measures of coronary artery disease.

OS₂= Posttest to assess the knowledge of study group admitted in selected hospital regarding risk factors and preventive measures of coronary artery disease.

X= Administration of Structured teaching program regarding risk factors and preventive measures of coronary artery disease.

— = No intervention

OC₁ = Pretest to assess the knowledge of control group admitted in selected hospital regarding risk factors and preventive measures of coronary artery disease.

OC₂= Posttest to assess the knowledge of control group admitted in selected hospital regarding risk factors and preventive measures of coronary artery disease.

Variables

Independent variable

Structured teaching Module

Dependent variables

Knowledge

Attributable variable

The Attributable variable of the present study includes age, sex, educational status, type of family, income, occupation, previous knowledge and source of information regarding coronary artery disease.

Samples

The study sample comprised of 300 in patients of selected hospitals, who fulfilled the inclusion criteria.

Sampling Technique

In this present study, a total of 300 inpatients were selected by non-probability convenient sampling. All in patients of the

selected hospital, who fulfilled the inclusion criteria were selected for the present study.

Sample Size

The sample size was estimated, and the researcher included 300 samples for the study, out of which 150 for study group and 150 for control group.

Development, description of the tool and scoring interpretations

The instrument was developed and compiled by the investigator with the guidance of experts, various resources, and review of Literature. It comprised of two sections.

Section A: Structured questionnaire to assess the socio-demographic variables.

Section B: Structured questionnaire to assess the knowledge regarding risk factors and preventive measures of coronary artery disease.

A questionnaire consisting of 50 items were used to determine the knowledge regarding risk factors and preventive measures of coronary artery disease. It includes questions related to introduction to coronary artery diseases, risk factors of coronary artery diseases and preventive measures of coronary artery diseases.

Table 2. Grading system of total knowledge score.

Grade	Percentage
Good	>75%
Average	50-75%
Poor	<50%

Reliability of the Tool

After the pilot study the reliability of the tool, for assessing the knowledge on risk factors and preventive measures of CAD, was assessed by test-retest method (Cronbach's Alpha). The spearman's rank correlation coefficient value was 0.81. This correlation coefficients were very high, and it was a reliable tool to evaluate the effectiveness of structured teaching module.

Ethical Considerations

The investigator considered and followed all the ethical principles while proceeding the investigation. The investigator adhered to the following actions in order to protect the ethical rights of the in patients admitted in the selected hospital. Moreover, the investigator has obtained the ethical committee permission from the college before preceding the study.

Method of Data Collection

The total data collection duration was 6 months. The study was conducted ST Thomas hospital punalur and some other selected hospitals of kerala after taking the permission from district medical officer and from the concerned hospital's medical superintendent. Institutional ethical committee clearance certificate has obtained at first. Followed by the investigator got permission from the medical superintendent of the selected hos-

pitals. Investigator has attended the hospital, 6 days from Monday to Saturday to select the in patients for the study. Investigator explained in detail about the research study, to find out the interested patients for the study. Samples were selected with the help of non-probability convenient sampling technique both for the control and study group from both of the hospitals. With a brief introduction about the study, the participants were asked for their willingness to participate in the study. If the participants were willing to participate in the study, they were requested to

sign the informed consents provided separately for the study and the control group. In patients of study group and control groups were subjected to a pretest to assess their knowledge regarding risk factors and preventive measures of CAD. On the same day the investigator has provided a structured teaching module to the study group samples. The post test of knowledge was assessed among both study and control group, after 5 days of issuing STM to study group.

4. Results

Table 3. Pretest knowledge score regarding risk factors and preventive measures of CAD.

Knowledge level (Pre test)	Study group		Control group		Total	
	N	%	N	%	N	%
Poor	145	96.7	149	99.3	294	98.0
Average	5	3.3	1	0.7	6	2.0
Good	0	0	0	0	0	0
Total	150	100.0	150	100.0	300	100.0

It is obvious from the table that 96.7% of study group samples as well as 99.3% of the control group samples has performed poorly on the knowledge questionnaire regarding risk factors and preventive measures of CAD. 3.3% of the study group and 0.7% of the control group have aver-

age knowledge level. Moreover, it is also clear that none of the samples on both groups were performed good on this questionnaire. Pretest knowledge level was comparable between study group and control group ($p>0.05$).

Table 4. Posttest knowledge score regarding risk factors and preventive measures of CAD among study group and control group.

Posttest knowledge	Study group		Control group		Total		χ^2	df	P
	N	%	N	%	N	%			
Poor	13	8.7	147	98	160	53.3	240.6	2	<0.001
Average	89	59.3	3	2	92	30.7			
Good	48	32	0	0	48	16			
Total	150	100	150	100	300	100			

It is clear from the above table that 32% of study group had good knowledge after intervention whereas none of the control group had good knowledge in the post test. Similarly, 59.3% of the study group subjects showed av-

erage knowledge score whereas only 2% of control group had average knowledge score in the post test. The observed difference was statistically significant ($p<0.05$).

Table 5. Comparison of pretest and posttest knowledge score within study group.

		N	Knowledge score		Paired Differences		Paired t test	
			Mean	sd	Mean	sd	t	p
Study group	Pre test	150	15.6	3.73	18.5	5.52	40.9	<0.001
	Post test	150	34.1	7.06				

The pretest mean knowledge score was 15.6, while the posttest mean knowledge score was more than doubled (34.1), after the intervention, within the study group. It shows a significant difference in knowledge score between pretest and posttest knowledge score. Knowledge score among the study group was significantly improved after intervention.

Table 6. Comparison of pretest and posttest knowledge score within control group.

		N	Knowledge score		Paired Differences		Paired t test	
			Mean	sd	Mean	sd	t	p
Control group	Pre test	150	15.1	3.69	0.53	2.05	3.15	0.002
	Post test	150	15.7	3.73				

The pretest mean knowledge score was 15.1 and posttest mean knowledge score was 15.7, which has shown a difference in knowledge score between pretest and posttest knowledge score within the control group.

Table 7. Comparison of Posttest knowledge score between study group and control group.

		Posttest knowledge score					
		N	mean	sd	Min	max	Median
Study group	150	34.10	7.06	21	48	34	28-39.25
Control group	150	15.67	3.73	7	26	16	13-18

t=28.266 p<0.001

The average posttest mean knowledge score among the study group was 34.10 ± 7.06 and that of control group was 15.67 ± 3.73 . The posttest knowledge mean score of study group has significantly higher than that of control group. The observed difference was statistically significant ($p < 0.05$).

Average change in knowledge score among the study group was 18.5 ± 5.52 , and that of control group was 0.53 ± 5.05 . The observed difference was statistically significant ($P < 0.05$). Improvement in knowledge score among the study group was significantly very higher than that of control group.

It is evident from the above table that structured teaching module is highly effective to impart knowledge regarding risk factors and preventive measures of CAD among patients admitted in the hospital.

Table 8. Comparison of change in knowledge score between study group and control group.

	N	Change in knowledge score		t	p
		mean	sd		
Study group	150	18.5	5.52	37.3	<0.001
Control group	150	0.53	2.05		

Table 9. Effectiveness of structured teaching module on knowledge regarding risk factors and preventive measures of CAD.

		Study group		Control group		Unpaired t test	
		Mean	sd	Mean	sd	t	p
Pre test	Introduction	3.03	1.41	2.70	1.10	2.288	0.023
	Risk factors	4.40	1.80	4.34	1.35	0.326	0.744
	Prevention	8.73	2.66	7.81	1.99	3.363	0.001
Post test	Introduction	5.70	1.01	2.64	1.03	25.897	<0.001
	Risk factors	11.20	3.20	4.31	1.43	24.052	<0.001
	Prevention	17.20	3.77	8.71	2.53	22.889	<0.001
Change in knowledge score	Introduction	2.67	1.26	-0.06	0.35	25.487	<0.001
	Risk factors	6.80	2.76	-0.03	0.54	29.686	<0.001
	Prevention	8.47	3.48	0.90	1.55	24.367	<0.001

5. Discussion

The first objective of the study is to assess the pre and posttest knowledge regarding risk factors and preventive measures of CAD, in experimental and in control group. From the result, the average pretest knowledge score among the study group was 15.61 ± 3.73 and that of control group was 15.14 ± 3.69 . The observed difference was not statistically significant ($p > 0.05$). In contrast, during the posttest, the mean knowledge score of study group were significantly higher than that of pretest, it has improved to 34.1. Similarly control group also has shown a significant change on their knowledge level with compared to pretest mean knowledge score of 15.1. it is improved to 15.7, slightly, during the time of posttest. The paired t test value for the changes between pretest and posttest value is 3.15. The observed difference was significant at $p < 0.05$. This proves that there were significant changes within the group in between pretest and posttest. Thus the null hypothesis H_{01} stated that "There will not be any significant difference between pre and posttest knowledge scores, regarding risk factors and preventive measures of coronary artery disease, within experimental and control group". was not accepted for both study group and control group. The present study findings were consistent with findings of the following study. The result of the study was supported by a study conducted by a researcher to assess the effectiveness of video assisted teaching Module on lifestyle modifications of the Patients with coronary artery diseases Admitted in selected cardiac hospital, Bangalore, Karnataka. The result of that study also shows that, during the pretest majority of the samples (76.5%) were had inadequate knowledge and only 23.5% had average level of

knowledge and none of them shows adequate level of knowledge on the same questionnaire whereas the posttest knowledge level of the samples were significantly higher than that of the pretest where majority of the samples gained adequate knowledge regarding the questionnaire regarding life style modification. Over all pretest knowledge score was 37.8% and was that of posttest mean knowledge score was 52.2% [30].

The second objective was to assess the effectiveness of structured teaching module on knowledge regarding risk factors and preventive measures of coronary artery disease in experimental group. Study findings shows that the average pretest knowledge mean score was 15.61 ± 3.73 and that of control group was 15.14 ± 3.69 . In contrast the average posttest knowledge mean score of study group was 34.10 ± 7.06 and that of control group was 15.67 ± 3.73 . Though there is a significant change in control group also, the changes happened in the study group were highly remarkable. The present study findings were consistent with findings of the following study. The result of this study was supported by an evaluative study conducted by Ramchandra MU et al (2015) to assess the effectiveness of structure teaching programme on knowledge regarding prevention of coronary artery disease among adults in Kale village, Karad. The findings of the study show that, between the pretest and posttest the knowledge gain was 23.83 and the hence the mean posttest knowledge score are very significantly higher than that of pretest mean score of the same group. The study was statistically significant P value at 0.0001 level [25].

The third objective was to associate the pre- and post-test knowledge scores regarding risk factors and preventive measures of coronary artery disease among patients with their selected demographic variables in experimental and in control group. The study findings show that there is a sig-

nificant association between mean difference of pre and posttest knowledge scores with the selected demographic variables like age, educational level, type of family, previous knowledge and occupation of the study group and control group samples whereas the sociodemographic variables of both groups such as gender, source of information, income and marital status were not associated with their mean difference of pretest posttest knowledge scores. Thus the null hypothesis H_{03} "There will not be any significant association in the mean difference of pre and posttest knowledge scores, on risk factors and preventive measures of coronary artery disease among patients, with their selected demographic variables in experimental and control group" was not accepted for age, educational level, type of family, previous knowledge and occupation of the study group and control group samples whereas H_{03} was accepted for the sociodemographic variables such as gender, source of information, income and marital status of the control group and study group subjects. The present study findings were consistent with findings of the following study. A descriptive exploratory study to assess knowledge regarding risk factors of coronary artery disease (CAD) was conducted among teachers in selected school of Jammu, J&K. The study findings showed that there is an association between the age and knowledge score of samples.

6. Conclusion

It has become the need of the hour to take some action to curb the menace of rising trend of coronary artery disease among population, globally. As it's a preventable disease enriching the knowledge regarding risk factors and preventive measures of CAD among patients, benefit the individual, family, community level to halt the progression of noncommunicable diseases, CAD in particular. Knowledge about the healthy habits, heart healthy diet, different types of exercise and when and what to do make the patients to choose healthy over the unhealthy habits. Hence it is become highly essential for everyone to know all about the health sustenance to stay in pink. The Structured teaching module regarding various risk factors and preventive measures about coronary artery disease helps the in patients to know more about the disease condition in detail, it also help the in patients to choose the better choices over the unhealthy habits. In this study, the study could make a significant knowledge difference among study group members after the provision of STM. Therefore, the structured teaching module is an effective strategy, to enhance the knowledge among patients regarding risk factors and preventive measures of Coronary artery disease. Also, the study recommends the utilization of STM by the Community Health Nurses, Nurse Researchers, Nurse Administrators, Nurse Educators and Primary and Secondary health care professionals to enhances the knowledge regarding coronary artery disease among laymen. To put in nutshell, structured

teaching module is very effective, simple and easy to understand and an economic way to enhance the knowledge among patients and to curb the menace of the CAD in the present generation.

7. Recommendations

The study finding shows that the structured teaching module is an effective strategy to improve the knowledge regarding risk factors and preventive measures of CAD among inpatients and therefore recommends the following.

The structured teaching module can be utilized in the primary, secondary and tertiary health care services to enrich the patient's knowledge regarding CAD.

Plan and organize a seminar/ workshop regarding risk factors and preventive measures of CAD among High school students and university level students.

A refresher course can be organized for all health care personnel on recent trends of nutritional aspects, lifestyle modifications and the need of physical activity to stay in pink.

All the health care personnel and even the public especially tertiary care practitioners, need to be oriented about the Indian cut off ranges of BMI, WC, FBS.

Similar study can be replicated in industrial workers, college faculty, IT employees and other white collar job holders.

The similar study can be done on a large sample to generalize the findings.

A large-scale study can be done to find out the risk factors of CAD among laymen.

Further research is recommended to find out the exact reasons of rising tendency of coronary artery disease among Kerala and Indian population.

Abbreviations

CAD	Coronary Artery Disease
FBS	Fasting Blood Sugar
BMI	Body Mass Index
WC	Waist Circumference
CHD	Coronary Heart Disease
CVD	Cardiovascular Disease
OPD	Out Patient Disease

Author Contributions

Vinil Upendrababu is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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