International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Study to Assess the Effectiveness of Planned Teaching Programme on Healthy Lifestyle to Prevent Cardiovascular Diseases Among Undergraduate Students in Selected Colleges at Bangalore

Dr. Neha Kumari[1], Ms. Sarita Kumari[2], Dr. Ashish Kumar[3]

[1]DMO, East Central Railway, Patna, OBG, Indian Railway
[2]Lecturer, Nursing – MSN, MGM INSTITUTE OF NURSING AND PARAMEDICAL
[3]Professor, Allied Health Science, Ambedkar Institute of Higher Education, Danapur, Patna

Abstract

Coronary artery disease (CAD) is inncreasing both in developed and developing countries. Risk factors of CAD varies and may be either modifiable or non – modifiable. Modifiable risk factors can be be targeted to reduce the chances of CAD. Studies have shown that education increases knowledge and facilitate behavior change of cardiac patients, optimizing quality of life.Hence the aim of this study was on enhancing knowledge of risk factors, prevention strategies, early recognition of symptoms so that steps can be taken for timely appropriate interventions.

Result: There was a greater improvement in the pre test – post test the maximum 40(80%) samples were having Adequate Knowledge level, 7(14.0%) samples were having Moderate Knowledge level, 3(6%) samples were having Inadequate Knowledge level.

Conclusion: It is proposed that the current study may lead a sparkling decrease in the CVD.

The human heart is a muscular organ in the thoracic cavity, slightly left of the center. Like other muscles tissues cardiac muscle tissues also need proper oxygen and nutrients for proper functioning. These function i.e. oxygen and nutrients supply to cardiac tissues is ensured by coronary arteries to meet its high metabolic demands. A condition where plaque builds up in the coronary arteries, called Coronary artery disease (CAD) which is responsible for more than 75% of sudden cardiac death in the developed world.[1]

Studies have shown that education increases knowledge and facilitate behavior change of cardiac patients, optimizing quality of life.[2]

Hence the aim of this study was on enhancing knowledge of risk factors, prevention strategies, early recognition of symptoms so that steps can be taken for timely appropriate interventions.

Methodology:

The present study, a pre-experimental one group pretest post-test design was adopted as it is a virtue of a situation that naturally happens. For participation in this study inclusion criteria was set on the basis of

voluntary participation, cooperative and can attend pre and post test.The study was conducted on fifty under graduate students of Koshys P U College, Bangalore who met the inclusion criteria.

A maximum of 5 students group were included in a group and total group formed was ten. There were six training session , each lasting 55 min. The instructional methods employed during these sessions encompassed group discussions, question-and-answer sessions, and practical demonstrations. Additionally, multimedia tools such as audio visual , PowerPoint presentations, and informative pamphlets were used to enhance the learning.

Teaching method was focused on the implications that can be manage to reduce the cause of coronary artery disease. These causes were Not exercising enough, Eating an unhealthy diet, High blood pressure, High cholesterol, High blood sugar, Poor sleep, Depression, stress, anxiety, Big waist size and Smoking.[3] In each teaching session, the following items were addressed:[4]

1. information on individual risk factors and appropriate targets;
2. information and education on methods to reach the appropriate target on the risk factors;
3. negotiating a plan to reach those targets;
4. stimulating healthy dietary and exercise behaviour;
5. monitoring and feedback on progress;
6. stimulating the patient's own responsibility;
7. stimulating assertiveness in relation to health care providers and the patient's direct environment.

Intervention:

Guidelines for controlling modifiable factor was as below –

For exercise minimum borderline was set as Preschool-aged children (3 through 5 years) should be physically active throughout the day to enhance growth and development. Children and adolescents aged 6 through 17 years should do 60 minutes or more of moderate-to-vigorous physical activity daily. Adults should do at least 150 minutes to 300 minutes a week of moderate-intensity, or 75 minutes to 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. They should also do muscle-strengthening activities on 2 or more days a week. Older adults should do multicomponent physical activity that includes balance training as well as aerobic and muscle-strengthening activities. Pregnant and postpartum women should do at least 150 minutes of moderate-intensity aerobic activity a week. Adults with chronic conditions or disabilities, who are able, should follow the key guidelines for adults and do both aerobic and muscle-strengthening activities. Recommendations emphasize that moving more and sitting less will benefit nearly everyone. Individuals performing the least physical activity benefit most by even modest increases in moderate-to-vigorous physical activity. Additional benefits occur with more physical activity. Both aerobic and muscle-strengthening physical activity are beneficial.[5]

Diet was selected as Fat: less than30% of daily calories (<7% Cal from saturated fat; < 1% Cal from trans fat); Sodium: less than 2000 mg/day and Fibre: 25 to 50 grams/day.[6]

Blood Pressure was set to maintain Less than 140/90 mmHg but for patient Living with Diabetes: less than 130/80 mmHg.[7]

Cholesterol and Triglycerides was advocated as LDL Less than 2.0 mmol/L or 50% or more reduction; Cholesterol/HDL Ratio - Less than 4.0; HDL Greater than 1.0 mmol/L and Triglycerides Less than 1.7 mmol/L.[8]

Fasting Blood Glucose Living with diabetes: 4 to 7 mmol/L and A1c Living with diabetes: Less than 7% for most.[9]
Coping well with: Depression, Sleep apnea, Psychosocial stress, Disturbed sleep, Chronic stress, Stressful life events, Lost sense of control.[10]
Waist size was bordered upto for Men <90 cm (36") Women < 80 cm (32").[11]Avoid smoking and exposure to second hand smoke

Result

Table – 1 Showing pretest knowledge scores regarding healthy lifestyle to prevent cardiovascular disease among under graduate students

Aspects	Number of items	Max. Score	Mean
Basics of CVD	7	7	3.50
Risk factors of CVD	17	17	8.50
Prevention and life style changes	26	25	12.50
Total	50	49	24.50

In the pre-test the maximum mean percentage (0.51) was found in Prevention and lifestyle changes with mean 12.50.38±4.50, mean percentage (0.34) was found in Risk factors of CVD with mean 9.60±4.69, mean percentage (0.51) was found in Basics of CVD with mean 3.56±2.11. The overall mean percentage was 0.56 with mean 27.54±12.98.

Table 2: Pretest knowledge regarding healthy lifestyle to prevent cardiovascular disease among undergraduate students.

Knowledge level	Frequency	Percentage
Inadequate	12	24.0
Moderate	33	66.0
Adequate	5	10.0

In the pre-test the maximum 33(66%) samples were having Moderate Knowledge level, 12(24%) samples were having Inadequate Knowledge level, 5(10%) samples were having Adequate Knowledge level.

Table – 3 Showing posttest knowledge scores regarding healthy lifestyle to prevent cardiovascular disease among under graduate students

Aspects	Number of items	Max. Score	Mean
Basics of CVD	7	7	5.38
Risk factors of CVD	17	17	13.70
prevention and lifestyle changes	26	25	20.60
Total	**50**	**49**	**39.68**

In the post-test the maximum mean percentage (0.82) was found in Prevention and life style changes with mean 20.60±4.68, mean percentage (0.81) was found in Risk factors of CVD with mean

13.70±3.11, mean percentage (0.77) was found in Basics of CVD with mean 5.38±1.69. The overall mean percentage was 0.81 with mean 39.68±8.67.

Table 4: Pretest knowledge regarding healthy lifestyle to prevent cardiovascular disease among undergraduate students.

Knowledge level	Frequency	Percentage
Inadequate	3	6.0
Moderate	7	14.0
Adequate	40	80.0

In the post-test the maximum 40(80%) samples were having Adequate Knowledge level, 7(14.0%) samples were having Moderate Knowledge level, 3(6%) samples were having Inadequate Knowledge level.

Table 5: Comparison of pretest and post-test knowledge scores

Aspects	Number of items	Pretest				Posttest				Mean% difference
		Max. Score	Mean	SD	Mean %	Max. Score	Mean	SD	Mean %	
Basics of CVD	7	7	3.56	2.11	0.51	7	5.38	1.69	0.77	0.26
Risk factors of CVD	17	17	9.60	4.69	0.56	17	13.70	3.11	0.81	0.24
Prevento n and life style changes	26	25	14.38	6.80	0.58	25	20.60	4.68	0.82	0.25
Total	**50**	**49**	**27.54**	**12.98**	**0.56**	**49**	**39.68**	**8.67**	**0.81**	**0.25**

Discussion

This study were aimed to enhance knowledge about CAD and its causative agent. Focus of this study was modifiable risk factors which can reduce the persentage the CAD and overall burden on country economic. Our goal to asses the knowledge about CAD and enhance knowledge of them whose pretest knowledge were below mark. The intervention involves implementing an educational session along with other method of teaching and learning. By comparing the before and after intervention of the average scores of the planned teaching programme, a significant difference is observed between the average scores These findings align with previous studies conducted by Khodaveisi et al.[12] Who in a study Education based on the health belief model to improve the level of physical activity reported that there is a significant changes after teaching the physical activity and also concluded that The health belief model is a useful model for improving individuals' understanding of the benefits of physical activity.

The findings of the current investigation demonstrate a statistically significant rise in the sensitivity values, aligning with the results reported by Saffari et al.[13] showing the impact of a relatively brief

educational intervention based on HBM principles led to a significant improvement in CVD risk factors among police officers.

This study was also strengthen after questionerie about CAD awareness .[14] The findings of this study indicated that pre and post implementation of the educational intervention, there was a statistically significant distinction observed in relation to behaviour. However, following a period of three months subsequent to the educational intervention, the participant exhibited a noticeable increase in the behaviour.

Hence in conclusion the current study suggests that the educational programme may lead a sparkling decrease in the CVD.

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