EXPO-IEC for General Public with Cardiac Risk: A Heart Friendly Diet to Reduce Cardiovascular Problem in Community Area

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ABSTRACT

Background: Cardiovascular diseases are major and growing contributors to mortality and disability. Today's major concern is young adults with cardiovascular disease and CVD risk factors. With the help of proper health education and early detection, 90% of CVD and development of its risk factors are preventable. The aim of the study was to evaluate the Effectiveness of Exhibition cum Information Education and Communication (EXPO-IEC) on Knowledge and Practice regarding Heart Friendly Diet among general public with cardiac risk in selected community area, Puducherry.

Methodology: The research approach and design selected for this study was quantitative approach and Pre experimental one group pretest posttest group design. The study setting was selected community area at Lawspet, Puducherry. The sample size was 50 which was selected purposive sampling technique. Pretest was done to assess the level of knowledge and practice on heart friendly diet with the help of self-structured questionnaire. Exhibition cum Information Education and Communication (EXPO-IEC) was conducted. Posttest was done on the 7th day using the same tool.

Results: The study results revealed that out of 50 adult general public with cardiac risk, majority and 28(56%) had adequate knowledge and 49(98%) had adequate practice.

Conclusion: The study concluded that selected EXPO-IEC was very effective in improving knowledge and practice about heart friendly diet among general public with cardiac risk. Exhibition cum Information education and communication, heart friendly diet, general public with cardiac risk.

Keywords: Exhibition cum Information education and communication, heart friendly diet, general public with cardiac risk.

INTRODUCTION

"Heart disease is a food-borne illness."
- Dr. Caldwell Esselstyn

Health is one of those words that most people struggle to define despite knowing what means. There has been a reawakening

in recent decades that health is a fundamental human right and a global social goal that is essential to meeting basic human needs in improving one's quality of life.[1]

In addressing public health issues, health promotion is more important than ever. The global health scenario is at a crossroads, with a 'triple burden of diseases' comprised of an unfinished agenda of infectious diseases, newly emerging and re-emerging diseases, and an unprecedented rise in Non-communicable chronic illness.[2]

Non-communicable diseases (NCDs), such as heart disease, cancer, chronic respiratory disease, and diabetes, are the leading cause of death worldwide and represent an emerging global health threat.

Cardiovascular diseases (CVDs) are a class of heart and blood vessel disorders. They include coronary heart disease, which is a disease of the blood vessels supplying the heart muscle, Cerebrovascular disease, which is a disease of the blood vessels supplying the brain, Peripheral arterial disease, which is a disease of the blood vessels supplying the arms and legs, rheumatic heart disease, which is damage to the heart muscle and heart valves caused by streptococcal bacteria, congenital heart disease, which is birth defects that affect the normal development and function.[3]

In many ways, heart disease in women is similar to heart disease in men. Women, like men, can have high blood pressure and heart attacks. According to the American Heart Association, nearly half of the approximately 500,000 heart attack deaths each year occur in women. Heart attacks are almost unheard of in young women, and men have six times the number of heart attacks as women between the ages of 45 and 54.[4]

There are numerous CVD risk factors, some of which can be managed while others cannot. High blood pressure, high blood cholesterol levels, smoking, diabetes, overweight or obesity, lack of physical activity, unhealthy diet, and stress are risk factors that can be controlled (modifiable). Age (simply getting older increases risk), sex (men are generally at higher risk of coronary artery disease), family history, and race are those that cannot be controlled (conventional).[5]

Furthermore, people who live unhealthy lifestyles, rather than genetic disposition or physical disorders, believe that it is one of the most significant and modifiable causes of CVD deaths. A person who is at high risk for CVD, prevention measures are included as an essential component of CVD medical management.[6]

Lifestyle choices and behaviours can have a positive or negative impact on one's health. Lifestyle risk factors have received increased attention as it is well -known that many of the leading causes of death are linked to lifestyle patterns or habits. This has a significant economic impact on the healthcare system. Several lifestyle modifications have been strongly linked to a decrease in recurrent myocardial infarction and the prevention of further cardiovascular disease progression. As a result, understanding the impact of lifestyle choices on health status is critical.[7]

All major guidelines emphasize the essential of lifestyle management as the cornerstone of primary and secondary the preventing atherosclerotic cardiovascular disease (ASCVD). Despite this, lifestyle management is poorly implemented. Smoking cessation, weight loss, nutritional changes, increased physical inactivity, and stress management are all examples of lifestyle modifications.[8]

NEED FOR THE STUDY

Cardiovascular diseases (CVDs) are the world's leading cause of death, killing 17.9 million people each year. An unhealthy diet, physical inactivity, tobacco use, and harmful alcohol use are the most important behavioural risk factors for heart disease and stroke. People may have high blood pressure, high blood glucose, high blood lipids, and be overweight or obese as a result of behavioural risk factors.[3]

The researcher observed many people with cardiac risk in the hospital and community.

Despite their education, they were unconcerned about 'what to eat, what not to eat' in order to keep their hearts healthy. Hypertensive medications strictly followed, but not practicing the modified diet plan except a reduction in salt consumption. It is the responsibility of a nurse to educate the community regarding this serious problem. Thus the researcher felt there is a public health need to create awareness about an exhibition cum information education and communication (IEC). It provides information regarding 'Heart friendly Diet' for the people with cardiac risk. The Heart Friendly Diet means demonstration of numerous way that benefits for lowering blood pressure. Exhibition mean displaying of heart friendly diet such as Fruits, Vegetables, Whole Grains and dairy product and seafoods which contains vitamin and minerals, protein, High fibre, low calories and healthy fats by distribution of IEC- information education and communication material like pamphlets which help to create awareness disseminate information on heart friendly diet which may result in less difficulty and a higher success rate. So, the researcher conducted a study to evaluate the Effectiveness of Exhibition cum Information Education and Communication (EXPO-IEC) on Knowledge and Practice regarding Heart Friendly Diet among general public with cardiac risk in selected community area at Puducherry.

STATEMENT OF THE PROBLEM
A Study to evaluate the Effectiveness of Exhibition cum Information Education and Communication (EXPO-IEC) on Knowledge and Practice regarding Heart Friendly Diet among general public with cardiac risk in selected community area, Puducherry.

OBJECTIVES OF THE STUDY
1. To identify the Cardiac risk among general public by using WHO cardiac risk chart in selected community area Puducherry.

2. To assess the pre –test and post-test level of knowledge regarding Heart Friendly Diet among general public with cardiac risk.
3. To assess the pre- test and post- test level of practice regarding Heart Friendly Diet among general public with cardiac risk.
4. To evaluate the effectiveness of EXPO-IEC regarding Heart Friendly Diet among general public with cardiac risk.
5. To correlate the post- test level of knowledge and practice regarding Heart Friendly Diet among general public with cardiac risk.
6. To associate the post -test level of knowledge and practice regarding Heart Friendly Diet among general public with cardiac risk with their selected screening and demographic variables.

HYPOTHESES
H1: There is a significant difference between the pre and post-test level of knowledge and practice regarding Heart Friendly Diet among general public with cardiac risk.
H2: There is a significant correlation between knowledge with practice regarding Heart Friendly Diet among general public with cardiac risk.
H3: There is a significant association between post-test level of knowledge and practice regarding Heart Friendly Diet among cardiac risk general public with their selected screening and demographic variable.

MATERIALS & METHODS
The research approach and design selected for this study was quantitative approach and Pre experimental one group pretest posttest group design. The study setting was selected community area at Lawspet, Puducherry. The sample size was 50 which was selected purposive sampling technique. Pretest was done to assess the level of knowledge and practice on heart friendly diet with the help of self-structured questionnaire. Section: A It consist of Standardized screening tool

such as age, Gender, Habit, BMI, systolic pressure and cardiac risk colour coding by using WHO cardiac risk charts. Section: B It consist of demographic variables such as age in year, gender, occupation, monthly income, Religion, Habits, Dietary pattern, co-morbidity, and family history of cardiac disease. Section C: It consists of 30 multiple choice self-structured questionnaire to assess the level of knowledge regarding the Heart Friendly diet. In 30 questions related cardiovascular disease and risk factors and 23 question based on Heart friendly diet which includes the importance of taking

vegetables, fruits, wholegrains and fats, normal daily intake cholesterol, normal daily intake of calories, food should be added, restricted and avoided. Section D: It consists of 10 self -structured questions to assess the Expressed knowledge on Practice regarding heart friendly diet. It consists of foods should be added, restricted and avoided among General public with cardiac risk. Exhibition cum Information Education and Communication (EXPO-IEC) was conducted. Posttest was done on the 7th day using the same tool.

STATISTICAL ANALYSIS

Table 1: Frequency and Percentage distribution of screening for cardiac risk amonggeneral public with cardiac risk. N=50

Screening Variables	f	%
Age		
40 – 44	9	18.0
45 – 49	10	20.0
50 – 54	9	18.0
55 – 59	8	16.0
60 – 64	10	20.0
65 – 69	3	6.0
70 – 74	1	2.0
Gender		
Male	12	24.0
Female	38	76.0
Habit		
Smoker	8	16.0
Non smoker	42	84.0
BMI		
<20	-	-
20 – 24	28	56.0
25 – 29	17	34.0
30 – 35	5	10.0
>35	-	-
Systolic Blood Pressure		
<120	-	-
120 – 139	29	58.0
140 – 159	14	28.0
160 – 179	7	14.0
>180	-	-
Color Coding		
Green - <5%	20	40.0
Yellow – 5% - <10%	20	40.0
Orange – 10% - <20%	8	16.0
Red – 20% - <30%	2	4.0
Deep Red - <30%	-	-

'Table 1 shows the frequency and percentage distribution of general public with cardiac risk. Majority 10(20%) were aged between 45 – 49 years, 10(20%) were aged between 60 – 64 years, 38(76%) were female, 42(84%) were non -smoker, 28(56%) were BMI between 20-24 kg/m2, 29(58%) had systolic blood pressure between 120-139 mm of Hg, 20(40%) were colour coding of green (< 5%), 20(40%) were colour coding of yellow (5%-<10%).

Table 2: Frequency and percentage distribution of demographic variables ofgeneral public with cardiac risk. N = 50

Demographic Variables	f	%
Age		
40-44	9	18.0
45-49	10	20.0
50-54	9	18.0
55-59	8	16.0
60–64	10	20.0
65–69	3	6.0
70–74	1	2.0
Gender		
Male	12	24.0
Female	38	76.0
Education		
No formal education	1	2.0
Primary education	23	46.0
Secondary education	14	28.0
Higher secondary	4	8.0
Graduate	8	16.0
Occupation		
Coolie	7	14.0
House wife	35	70.0
Agriculture	-	-
Private employee	4	8.0
Government employee	4	8.0
Unemployee	-	-
Monthly income		
Below Rs.5000/-	-	-
Rs.5001 – 15,000/-	41	82.0
Rs.15,001 – 25,000/-	2	4.0
Above Rs.25,000/-	7	14.0
Religion		
Hindu	42	84.0
Muslim	2	4.0
Christian	6	12.0
Others	-	-
Habits		
Smoking	8	16.0
Alcohol	-	-
Hans chewing	-	-
Betal leaf chewing	-	-
Nil	42	84.0
Demographic Variables	f	%
Dietary pattern		
Vegetarian	8	16.0
Non-vegetarian	42	84.0
Family history of cardiovascular disease		
Yes	6	12.0
No	44	88.0

Table 2 shows the frequency and distribution of the general public with cardiac risk. Majority 10(20%) were aged between 45 – 49 years, 10(20%) were aged between 60 – 64 years, 38(76%) were female, 23(46%) had primary education, 35(70%) were housewife, 41(82%) had monthly income of Rs.5001 – 15000, 42(84%) were Hindus, 42(84%) had no habits, 42(84%) were non-vegetarian and 44(88%) had no family history of cardiovascular disease.

Table 3: Frequency and Percentage distribution of pretest and posttest level of knowledge regarding heart friendly diet among general public with cardiac risk. N = 50

Level of Knowledge	Pretest		Post Test	
	f	%	f	%
Inadequate knowledge	31	62.0	0	0
Moderately adequate knowledge	12	24.0	22	44.0
Adequate knowledge	7	14.0	28	56.0

Table 3 reveals the frequency and percentage distribution of pretest and posttest level of knowledge among general public with cardiac risk. In the pretest, 31(62%) had inadequate knowledge, 12(24%) had moderately adequate knowledge and 7(14%) had adequate knowledge regarding heart friendly diet

among general people with cardiac risk. In the post test, 28(56%) had adequate knowledge and 22(44%) had moderately adequate knowledge.

Table 4: Frequency and percentage distribution of pretest and posttest level of practice regarding heart friendly diet among general public with cardiac risk N = 50

Level of Practice	Pretest		Post Test	
	f	%	f	%
Inadequate practice	33	66.0	1	2.0
Adequate practice	17	34.0	49	98.0

The Table 4 reveals the frequency and percentage distribution of pretest and posttest level of practice among general public with cardiac risk. In the pretest, 33(66%) had inadequate practice and 17(34%) had adequate practice regarding heart friendly diet among people with cardiac risk. In the post test, 49(98%) had adequate practice and 1 (2%) had inadequate practice regarding heart friendly diet.

Table 5: Effectiveness of Exhibition cum Information Education and Communication (EXPO-IEC) on Knowledge and Practice regarding Heart Friendly Diet among general public with cardiac risk. N = 50

Variables	Pretest		Post Test		Mean Difference	Paired 't' Test Value
	Mean	S. D	Mean	S. D		
Knowledge	10.90	8.05	22.18	6.0	11.28 (37.6%)	t=13.597 p=0.0001, S***
Practice	13.40	6.85	25.40	5.49	12.0 (40%)	t=13.627 p=0.0001, S***

***p<0.001, S – Significant

Table 5 reveals that the pretest mean score of knowledge was 10.90 ± 8.05 and the posttest mean score of knowledge was 22.18 ± 6.0. The calculated paired 't' test value of t=13.597 was found to be statistically significant at p<0.001 level which clearly show significant improvement in the level of knowledge in the post test. After the administration of Exhibition cum Information Education and Communication (EXPO-IEC) among general public with cardiac risk there was significant improvement in the post test level of knowledge regarding Heart Friendly Diet which was evident from the mean improvement knowledge score of 11.28 (37.6%). The pretest median score of

knowledge was 7.0 and the posttest median score of knowledge was 24.0.

Table 4.5 also reveals that the pretest mean score of practice was 13.40 ± 6.85 and the posttest mean score of practice was 25.40 ± 5.49. The calculated paired 't' test value of t=13.627 was found to be statistically significant at p<0.001 level which clearly show significant improvement in the level of practice in the post test. After the administration of Exhibition cum Information Education and Communication (EXPO- IEC) among general public with cardiac risk there was significant improvement in the post test level of practice regarding Heart Friendly Diet which was evident from the mean improvement practice score of 12.0 and (40%). The pretest median score of practice was 10.0 and the posttest median score of practice was 30.0.

Table 6: Correlation between the posttest level of knowledge and practice regardingheart friendly diet among general public with cardiac risk. N = 50

Variables	Mean	S. D	Karl Pearson's Correlation Value
Knowledge	22.18	6.0	r = 0.444
Practice	25.40	5.49	p=0.001, S***

***p≤0.001, S - Significant

Table 6 reveals that the posttest mean score of knowledge was 22.18 ± 6.0 and the posttest mean score of practice was 25.40 ± 5.49. The calculated Karl Pearson's Correlation Value of r = 0.444 revealed that there was a positive correlation which was found to be statistically significant at p≤0.001 level. This clearly infers that when the knowledge on heart friendly diet among general public with cardiac risk increases their practice level also increases.

Table 7 reveals that the screening variable age (χ^2=17.172, p=0.009) had shown statistically significant association with posttest level of knowledge regarding heart friendly diet among general public with cardiac risk at p<0.01 level. The other demographic variables did not show significant association with posttest level of knowledge regarding heart friendly diet among general public with cardiac risk.

Table 7: Association of posttest level of knowledge regarding heart friendly diet among general public with cardiac risk with screening variables. N = 50

Demographic Variables	Moderately Adequate		Adequate		Chi-Square
	f	%	f	%	
Age					
40 – 44	3	6.0	6	6.0	χ^2=17.172 d.f=6 p = 0.009 S**
45 – 49	3	6.0	7	7.0	
50 – 54	1	2.0	8	8.0	
55 – 59	6	12.0	2	2.0	
60 – 64	8	16.0	2	2.0	
65 – 69	0	0	3	3.0	
70 – 74	1	2.0	0	0	
Gender					χ^2=0.231 d.f=1 p = 0.631 N.S
Male	6	12.0	6	12.0	
Female	16	32.0	22	44.0	
Habit					χ^2=0.163 d.f=1 p = 0.686 N.S
Smoker	3	6.0	5	10.0	
Non smoker	19	38.0	23	46.0	
BMI					
<20	-	-	-	-	χ^2=0.154 d.f=2 p = 0.926 N.S
20 – 24	13	26.0	15	30.0	
25 – 29	7	14.0	10	20.0	
30 – 35	2	4.0	3	6.0	
>35	-	-	-	-	
Systolic Blood Pressure					
<120	-	-	-	-	χ^2=0.609 d.f=2 p = 0.738 N.S
120 – 139	14	28.0	15	30.0	
140 – 159	5	10.0	9	18.0	
160 – 179	3	6.0	4	8.0	
>180	-	-	-	-	
Color Coding					
Green - <5%	6	12.0	14	28.0	χ^2=3.024 d.f=3 p = 0.388 N.S
Yellow – 5% - <10%	10	20.0	10	20.0	
Orange – 10% - <20%	5	10.0	3	6.0	
Red – 20% - <30%	1	2.0	1	2.0	
Deep Red - <30%	-	-	-	-	

**p<0.01, S – Significant, N.S – Not Significant

Table 8: Association of posttest level of practice regarding heart friendly diet among general public with cardiac risk with screening variables. N = 50

Demographic Variables	Inadequate		Adequate		Chi-Square
	f	%	f	%	
Age					
40 – 44	0	0	9	18.0	χ^2=4.082 d.f=6 p = 0.666 N.S
45 – 49	0	0	10	20.0	
50 – 54	0	0	9	18.0	
55 – 59	0	0	8	16.0	
60 – 64	1	2.0	9	18.0	
65 – 69	0	0	3	6.0	
70 – 74	0	0	1	2.0	
Gender					χ^2=3.231 d.f=1 p = 0.072 N.S
Male	1	2.0	11	22.0	
Female	0	0	38	76.0	
Habit					χ^2=0.194 d.f=1 p = 0.659 N.S
Smoker	0	0	8	16.0	
Non smoker	1	2.0	41	82.0	
BMI					
<20	-	-	-	-	χ^2=9.184 d.f=2 p = 0.010 S*
20 – 24	0	0	28	56.0	
25 – 29	0	0	17	34.0	
30 – 35	1	2.0	4	8.0	
>35	-	-	-	-	
Systolic Blood Pressure					
<120	-	-	-	-	χ^2=0.739 d.f=2 p = 0.691 N.S
120 – 139	1	2.0	28	56.0	
140 – 159	0	0	14	28.0	
160 – 179	0	0	7	14.0	
>180	-	-	-	-	
Color Coding					
Green - <5%	0	0	20	40.0	

Yellow – 5% - <10%	0	0	20	40.0	χ^2=5.357
Orange – 10% - <20%	1	2.0	7	14.0	d.f=3
Red – 20% - <30%	0	0	2	4.0	p = 0.147N.S
Deep Red - <30%	-	-	-	-	

*p<0.05, S – Significant, N.S – Not Significant

Table 8 reveals that the screening variable BMI (χ^2=9.184, p =0.010) had shown significant association with posttest level of practice regarding heart friendly diet among general public with cardiac risk and the other demographic variables did not show significant association with posttest level of practice regarding heart friendly diet among general public with cardiac risk.

Table 9: Association of posttest level of knowledge regarding heart friendly dietamong general public with cardiac risk with their selected demographic variables. N = 50

Demographic Variables	Moderately Adequate		Adequate		Chi-Square
	f	%	f	%	
Age					
40-44	3	6.0	6	6.0	
45-49	3	6.0	7	7.0	χ^2=17.172
50–54	1	2.0	8	8.0	d.f=6
55–59	6	12.0	2	2.0	p = 0.009
60-64	8	16.0	2	2.0	S**
65-69	0	0	3	3.0	
70-74	1	2.0	0	0	
Gender					χ^2=0.231
Male	6	12.0	6	12.0	d.f=1
Female	16	32.0	22	44.0	p = 0.631N.S
Education					
No formal education	1	2.0	0	0	
Primary education	16	32.0	7	14.0	χ^2=17.192
Secondary education	5	10.0	9	18.0	d.f=4
Higher secondary	0	0	4	8.0	p = 0.002
Graduate	0	0	8	16.0	S**
Occupation					
Coolie	4	8.0	3	6.0	
House wife	15	30.0	20	40.0	χ^2=1.154
Agriculture	-	-	-	-	d.f=3
Private employee	2	4.0	2	4.0	p = 0.764N.S
Government employee	1	2.0	3	6.0	
Unemployed	-	-	-	-	
Monthly income					
Below Rs.5000/-	-	-	-	-	χ^2=1.666
Rs.5001 – 15,000/-	19	38.0	22	44.0	d.f=2
Rs.15,001 – 25,000/-	0	0	2	4.0	p = 0.435N.S
Above Rs.25,000/-	3	6.0	4	8.0	
Religion					
Hindu	19	38.0	23	46.0	χ^2=1.685
Muslim	0	0	2	4.0	d.f=2
Christian	3	6.0	3	6.0	p = 0.431N.S
Others	-	-	-	-	
Habits					
Smoking	3	6.0	5	10.0	χ^2=0.163
Alcohol	-	-	-	-	d.f=1
Hans chewing	-	-	-	-	p = 0.686N.S
Betal leaf chewing	-	-	-	-	
Nil	19	38.0	23	46.0	
Dietary pattern					χ^2=0.139
Vegetarian	4	8.0	4	8.0	d.f=1
Non-vegetarian	18	36.0	24	48.0	p = 0.709N.S
Family history of cardiovascular disease					χ^2=5.357 d.f=1
Yes	0	0	6	12.0	p = 0.021
No	22	44.0	22	44.0	S*

**p<0.01, *p<0.05, S – Significant, N.S – Not Significant

Table 9 reveals that the demographic variable age (χ^2=17.172, p = 0.009), education (χ^2=17.192, p=0.002) and family history of cardiovascular disease (χ^2=5.357, p=0.021) had shown statistically significant association with posttest level of knowledge regarding heart friendly diet among general public with cardiac risk. The other demographic variables did not show significant association with posttest level of practice regarding heart friendly diet among general public with cardiac risk.

Table 10: Association of posttest level of practice regarding heart friendly diet among general public with cardiac risk with their selected demographic variables. N = 50

Demographic Variables	Inadequate		Adequate		Chi-Square
	f	%	f	%	
Age					χ^2=4.082 d.f=6 p = 0.666N.S
40 – 44	0	0	9	18.0	
45 – 49	0	0	10	20.0	
50 – 54	0	0	9	18.0	
55 – 59	0	0	8	16.0	
60 - 64	1	2.0	9	18.0	
65 – 69	0	0	3	6.0	
70 - 74	0	0	1	2.0	
Gender					χ^2=3.231 d.f=1 p = 0.072N.S
Male	1	2.0	11	22.0	
Female	0	0	38	76.0	
Education					χ^2=1.198 d.f=4 p = 0.878N.S
No formal education	0	0	1	2.0	
Primary education	1	2.0	22	44.0	
Secondary education	0	0	14	28.0	
Higher secondary	0	0	4	8.0	
Graduate	0	0	8	12.0	
Occupation					χ^2=11.735 d.f=3 p = 0.008 S**
Coolie	0	0	7	14.0	
House wife	0	0	35	70.0	
Agriculture	-	-	-	-	
Private employee	1	2.0	3	6.0	
Government employee	0	0	4	8.0	
Unemployee	-	-	-	-	
Monthly income					χ^2=6.268 d.f=2 p = 0.044 S*
Below Rs.5000/-	-	-	-	-	
Rs.5001 – 15,000/-	0	0	41	82.0	
Rs.15,001 – 25,000/-	0	0	2	4.0	
Above Rs.25,000/-	1	2.0	6	12.0	
Religion					χ^2=0.194 d.f=2 p = 0.907N.S
Hindu	1	2.0	41	82.0	
Muslim	0	0	2	4.0	
Christian	0	0	6	12.0	
Others	-	-	-	-	
Habits					χ^2=0.065 d.f=1 p = 0.799N.S
Smoking	0	0	3	6.0	
Alcohol	-	-	-	-	
Hans chewing	-	-	-	-	
Betal leaf chewing	-	-	-	-	
Nil	1	2.0	46	92.0	
Dietary pattern					χ^2=0.194 d.f=1 p = 0.659N.S
Vegetarian	0	0	8	16.0	
Non-vegetarian	1	2.0	41	82.0	
Family history of cardiovascular disease					χ^2=-0.139 d.f=1 p = 0.709N.S
Yes	0	0	6	12.0	
No	1	2.0	43	86.0	

**p<0.01, *p<0.01, S – Significant, N.S – Not Significant

Table 10 shows that the demographic variables occupation (χ^2=11.735, p=0.008) and monthly income (χ^2=6.268, p=0.044) had shown statistically significant association with posttest level of practice regarding heart friendly diet among general public with cardiac risk at p<0.01 and p<0.05 level respectively and the other

demographic variables did not show significant association with posttest level of practice regarding heart friendly diet among general public with cardiac risk.

DISCUSSION
NURSING IMPLICATION
The findings of the study had implication, guidelines and suggestions for different branches of Nursing profession (i.e.) Nursing Services, Nursing Education, Nursing Administration and Nursing Research.

Nursing Services
Nursing personnel are at the best position to identify unmet needs of the cardiac risk people, especially at rural area. Information thus obtained can be used in planning interventional strategies specific to people with cardiac risk needs. The hospital management should create awareness among the general public cardiac risk and other health care personnel about heart friendly and about its risk factors. The nursing service has to motivate the general public with cardiac risk to follow proper steps of heart friendly diet. This opportunity should be utilized by the hospital management by giving prompt and adequate information to the general public with cardiac risk regarding heart friendly diet by the use of electronic media, AV aids and education materials.

Nursing Education
The future Nurses are trained to provide preventive, curative and promotive health care services. During the training period, the Nursing students should be prepared with the holistic health care approach. The nurse educators should be well prepared with adequate knowledge to give prompt information to the general public with cardiac risk, other workers and public on heart friendly diet In service education can be planned to the general public with cardiac risk and other health care workers at various levels to enable them to improve their knowledge and practice and also to gain skills in heart friendly diet.

Nursing Administration
Nursing administrations must plan to encounter the requirement of the heart friendly diet to prevent the cardiac complications. Administrations can plan to conduct many CNE and in-service education to empower the staff nurses and to promote the quality nursing care. The nurse administrators at various levels of health care delivery system should focus their attention to make public and health workers conscious about the harmful effect of unhealthy practices. Administrators should organize in service education programmes, refresher courses and workshops for health care personals and encourage them to participate in these activities.

Nursing Research
Researcher motivate students to do more research in heart friendly diet. Researcher promote the health of the general public with cardiac risk by motivating them. Researchers to conduct same study with different variables on a large scale.

CONCLUSION
The study result proved that the Effectiveness of Exhibition cum Information Education and Communication (EXPO-IEC) on Knowledge and Practice regarding Heart Friendly Diet among general public with cardiac risk. So, this method of selected exhibition cum information education and communication on heart friendly diet can be promoted by people in their day-to-day activities in hospital settings and community settings.

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