EFFECTIVENESS OF CARDIAC HEALTH AWARENESS PROGRAM ON PRACTICES REGARDING PREVENTION OF CARDIOVASCULAR DISEASE (CVD) AMONG PREMENOPAUSAL WOMEN IN SELECTED AREAS OF BENGALURU

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DOI: <http://doi.org/10.47211/trr.2020.v06i01.018>

ABSTRACT

This study was aimed to assess effectiveness of cardiac health awareness program on practices regarding prevention of cardiovascular disease (CVD) among premenopausal women in selected areas of Bengaluru. Methodology: Quasi experimental pretest posttest control group design was used. Non-probability purposive sampling technique to select 100 in each experimental and control group who met the inclusion and exclusion criteria. Pre-test was administered using self-reported checklist for control and experimental group. Cardiac health awareness program was administered to the experimental group. After seven days and three months of administration of Cardiac health awareness program post-test was conducted using the same self-reported checklist for both groups. Results: The findings of the study revealed that regarding pretest among experimental group during pretest 51 had poor level of practice, 49 had average level of practice and none had good level of knowledge on practice which was improved after intervention with majority posttest I and posttest II with majority 71 and 72 of the subjects had average level of practice, 29 and 25 has good level of practice and none in posttest I and 3 in posttest II had poor level of practice respectively. Among control group during pretest almost 54 had poor level of practices and there was no improvement found in posttest I and II. Calculated F value within experimental group was 131.985 whereas within control group was 1.2384. Unpaired t test between experimental and control group showed significant difference with t value 11.62 ($p < 0.0001$) and 11.01 ($p < 0.0001$) in posttest I and posttest II respectively revealing that there was significant difference between experimental group and control group. Thus, it proves that Cardiac health awareness program was effective. Conclusion: Cardiac health awareness program was effective in improving the practices among premenopausal women.

Key words: effectiveness, practices, Cardiac health awareness program, premenopausal women.

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INTRODUCTION

Global statistics on cardiovascular disease prevention and control states that cardiovascular diseases are the main cause of mortality and morbidity in the world. An estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths and out of which death due to heart attack and stroke were about 85%. In little- and average-revenue nations it is seen that mortality due to CVD is about one third. In 2019, under the age of 70 years there were about 17 million premature deaths because of noncommunicable diseases, of which 38% were due to CVDs. (WHO-CVDs, 2020)

In India 44.1% are current daily tobacco smokers, 25.2% are physically inactive, and 2.6% intake excessive alcohol are the reasons of the various risks' factors for CVD. ("Noncommunicable diseases country profiles 2011", n.d.). The occurrence of cardiovascular risk factors in rural India were smoking and increased blood pressure (20%), corpulence (4.4%), high total cholesterol or low-density fat protein cholesterol (12%) and high blood glucose (3.7%). By eliminating behavior threat such as unhealthy diet, tobacco use, fatness, somatic idleness and destructive use of alcohol most of cardiovascular deaths can be prevented. (Chow et al., 2007). WHO fact sheet about deaths in India because of Non-communicable diseases (NCDs) were 60% including CVDs which accounts for over a quarter (26%) of these deaths. Some of the CVD related risks factors in adults in India are due to smoke tobacco was among 15% of the population, 4.3 liters of pure alcohol consumed per person, just over a fifth (21.1%) have hypertension which can increase risk of heart attack, heart failure, kidney disease or stroke. (Fact sheet, 2017).

After menopause there can be increase in the risk for health problems for women due to decline in estrogen level. Menopause is accompanied by an increased prevalence of complications like heart disease, osteoporosis, and obesity. Hazards of cardiovascular disease is much lower among young women compared to young men, but after menopause women catch up the risk. The significant influence of abdominal adiposity and fatness on chronic disease like diabetes and cardiovascular disease which also affect the quality of life. Exact risk awareness, training and interpretation programs featuring obesity hazards and supporting maintainable routine lifestyle changes are required, especially during menopause. Larger number of women die because of cardiovascular diseases than from any other illness. Since coronary artery disease (CAD) among premenopausal ladies is seen hardly so it has been neglected. (Krishnan, 2012). Hence the researcher felt the need to assess the practice regarding prevention of cardiovascular disease (CVD) among premenopausal women in selected areas of Bengaluru and administer cardiac health awareness program.

OBJECTIVES OF THE STUDY:

1. To assess the pre-test level of practice regarding prevention of cardiovascular disease (CVD) among premenopausal women in experimental and control group.
2. To evaluate the effectiveness of cardiac health awareness program on practice regarding prevention of cardiovascular disease (CVD) among premenopausal women in experimental and control group.
3. To find the association between the practice regarding prevention of cardiovascular disease (CVD) among premenopausal women and their selected demographic in experimental and control group.

HYPOTHESIS:

All Hypotheses will be tested at 0.05 level of significance.

H₁: There will be significant difference in the practice scores of the premenopausal women before and after administration of the cardiac health awareness program regarding prevention of CVD between experimental and control group.

H₂: There will be significant association between the practices scores of the premenopausal women before and after administration of the cardiac health awareness program regarding prevention of CVD in experimental and control group.

METHODOLOGY

Quasi experimental pretest posttest control group design is used to evaluate the effectiveness of cardiac health awareness program. Non-probability purposive sampling technique to select the sales executives for administration of educational package. The samples consisted of 200 premenopausal women 100 in each experimental and control group who met the inclusion and exclusion criteria. Based on the objectives of the study, demographic proforma and self-reported checklist were developed by the researcher to collect the required data from subjects. The Pilot study was conducted and results concluded that there was significant difference in the practices scores among premenopausal women and cardiac health awareness program was effective in improving the practices among premenopausal women. The research tools were found to be feasible and practicable. No further changes were done in the tool after the pilot study. Ethical clearance was obtained from ethical committee.

Pre-test was administered using self-reported checklist for control and experimental group. Cardiac health awareness program was administered to the experimental group. The program was administered for once a week for 30mins for 3 weeks to the samples in experimental group. No teaching was provided to the control group. After seven days and three months of administration of Cardiac health awareness program post-test was conducted using the same tool in both groups. The subjects were comfortable and co-operated well during the intervention. The investigator expressed her sincere gratitude for their co-operation. And as a token of gratitude the researcher administered cardiac health awareness program to control group.

RESULTS

The results revealed the following findings

DESCRIPTION OF THE SAMPLE CHARACTERISTICS

Regarding age of the premenopausal women in experimental and control group, maximum number of the subjects 43 (43%) and 39 (39%) were in the age group of 41 – 42 years, 24 (24%) and 27 (27%) were in the age group of 43– 44 years, 15 (15%) and 20 (20%) were in the age group of 45 – 46 years and least 9 (9%) and 8 (8%) were in the age group of 49 – 50 years and least 9 (9%) and 6 (6%) were in the age group of 47 – 48 years respectively.

Considering the religion, most 65 (65%) and 72 (72%) of them were Hindus, 22 (22%) and 18 (18%) were Muslims and remaining 13 (13%) and 10 (10%) were Christian in experimental and control group respectively.

Most 74 (74%) and 72 (72%) of the premenopausal women are married, 16 (16%) and 11 (11%) were widower, 7 (7%) and 13 (13%) were unmarried and least 3 (3%) and 4 (4%) were divorcee or living separately in both experiential and control group respectively.

Considering the educational qualification in experimental and control group, most 29 (29%) each of the premenopausal women had education till high school, 27 (27%) and 21 (21%) had primary education, 14 (14%) and 23 (23%) had no formal education, 17 (17%) and 16 (16%) were graduates and remaining 13 (13%) and 11 (11%) had education till PUC respectively.

Regarding occupational status of premenopausal women, majority 47 (47%) and 59 (59%) of them were homemaker, 31 (31%) and 25 (25%) were having their own business, and remaining 22 (22%) and 16 (16%) were professionals in both experiential and control group respectively.

With respect to monthly income of the family, majority 66 (66%) and 73 (73%) had income 10,000 to 15,000, 26 (26%) and 14 (14%) had income 5000 to 10000, and remaining 8 (8%) and 13 (13%) had income more than 15,000 and none had income below 5000 in both experiential and control group respectively.

Considering the family history of cardiac disease both in experimental and control group, majority 76 (76%) and 86 (86%) had no history of cardiac disease in the family and only 24 (24%) and 14 (14%) had no history of cardiac disease in the family respectively.

Majority 93 (93%) and 91 (91%) were not hypertensive whereas only 7 (7%) and 9 (9%) were diagnosed as hypertensive in both experiential and control group respectively.

Majority 87 (13%) and 89 (89%) were not diagnosed with diabetes mellitus whereas only 13 (13%) and 11 (11%) were diagnosed with diabetes mellitus in both experiential and control group respectively.

Regarding source of previous knowledge about CVD, 74 (74%) and 72 (28%) had no information and 26 (26%) and 28 (28%) had information about CVD in both experimental and control group respectively. The source of information in experimental and control group were through mass media among 16 (16%) and 13 (13%), 7 (7%) and 8 (8%) was through health personal and least 4 (4%) and 7 (7%) through friends in both experiential and control group respectively.

Table 1: Frequency and percentage distribution according to the pre-test and post-test level of practice among premenopausal women.

Level of expected practices	Experimental group						Control group					
	Pretest		Post test I				Pretest		Post test I			
	f	%	f	%	f	%	f	%	f	%	f	%
Good	0	0	21	21	29	29	0	0	0	0	0	0
Average	10	10	79	79	71	71	17	17	19	19	17	17
Poor	90	90	0	0	0	0	83	83	81	81	83	83

Data in table 1 reveals that among experimental group during pretest almost 51 (51%) had poor level of practice, 49 (49%) had average level of practice and none had good level of practice. But there was improvement in level of

practice after administration of cardiac health awareness program in posttest I and posttest II with majority 71 (71%) and 72 (72%) of the subjects had average level of practice, 29 (29%) and 25 (25%) has good level of practice and none in posttest I and 3 (3%) in posttest II had poor level of practice respectively.

Among control group during pretest almost 54 (54%) had average level of practice, 46 (46%) had poor level of practice and none had good level of practice. In post test I and post test II majority 58 (58%) and 42 (42%) of the subjects had average level of practice, 42 (42%) and 44 (44%) had poor level of practice and none in post test I and post test II had good level of practice respectively.

Table 2: Repeated measures ANOVA showing sum of squares, mean square, F value and p value of scores of practices among premenopausal women within experimental and control group

Source		Sum of squares	df	Mean squares	F value	p value	Inference
Experimental group	Between treatments	734.06	2	367.03	131.985	<0.00001	Significant
	Within treatments	1179.22	297	3.9704			
Control group	Between treatments	0.14	2	0.07	1.2384	0.29213	Not Significant
	Within treatments	758.99	297	2.5556			

F (2,297) = 2.996 at 0.05 level of significance

Data in table 2 shows that the calculated F value, within experimental group (F= 131.985) whereas within control group (F= 1.2384). Hence the null hypothesis H_{01} was rejected and research hypothesis was accepted. Therefore, cardiac health awareness program was effective on practices about prevention of CVD among premenopausal women. Post hoc analysis in experimental group revealed that a significance changes in total practices from pre to post test I ($p < 0.05$) and pre to post test II ($p < 0.05$) but no significant changes between post test I to post test II ($p > 0.05$). In control group there was no significant changes in total practices from pre to post test I ($p > 0.05$), pre to post test II ($p > 0.05$) and post test I to post test II ($p > 0.05$).

Table 3: Repeated measures ANOVA showing sum of squares, mean square, F value and p value of scores of knowledge on practices among premenopausal women between experimental and control group.

Source		Sum of squares	df	Mean squares	F value	p value	Inference
Experimental group and control group	Between treatments	1026.66	3	342.22	125.51	<0.00001	Significant
	Within treatments	6547.34	396	16.5337			

Calculated F value, between experimental group and control group was 125.51 which was greater than the table value at 0.05 level of significance. The table also shows that the p value obtained is less than 0.00001. Proving that cardiac health awareness program was effective

Table 4: Unpaired t test showing the practice scores across Pre and Post test between experimental and control group.

Time	Group	Mean difference	t value	p Value	Inference
Pre test	Experimental group	-0.27	1.15	0.252	Not Significant
	Control group				
Post test I	Experimental group	3.09	11.62	0.0001	Significant
	Control group				
Post test II	Experimental group	2.91	11.01	0.0001	Significant
	Control group				

Table 4 revealed that in pretest there was no significant difference between experimental and control group with t value 1.15 ($p = 0.252$), where as in the post I and post test II there was significant difference between the experimental group and control group where t value was 11.62 ($p < 0.0001$) and 11.01 ($p < 0.0001$) respectively revealing that there

was significant difference between experimental group and control group. Thus, it proves that cardiac health awareness program was effective.

Regarding Association reveals that that there was association between practice scores and demographic variable like monthly income of the family ($\chi^2 = 4.24$; $p < 0.05$) in control group whereas there was no association between other demographic variables in experimental group

DISCUSSION

In the present study investigator found that regarding pretest among experimental group during pretest 51 had poor level of practice, 49 had average level of practice and none had good level of knowledge on practice. Calculated F value was $F = 131.985$ ($p < 0.00001$) in experimental group whereas calculated F value, within control group F value was 1.2384 ($p > 0.05$). Between experimental and control group there was significant difference in post test I (t value 11.62 ($p < 0.0001$) and post test II (t value 11.01 ($p < 0.0001$). Thus, it proves that cardiac health awareness program was effective.

The findings can be discussed with a research was conducted in Udaipur among 402 patients with metabolic syndrome on KAP towards health actions and CVD risk. Regarding lifestyle practices of the MS patients, it was found that only 9% of the patients were following the doctor's advice and adopting good lifestyle practices. (Verma et al., 2019). It is also similar to a study done in 2012 in Mumbai, which found that despite known hypertensive status, patients were following poor practices. (Mahajan, 2012).

It can also be discussed with a study done in Dehradun, India where there was significant difference between pre-test post-test knowledge scores in experimental group only ($t_{29} = 13.717$, $p < 0.05$), the effectiveness of planned teaching programme between experimental group and control group ($t_{58} = 12.179$, $p < 0.05$) was highly significant. It was concluded that the planned teaching program was an effective strategy which can help administrative employees to increase their knowledge and preventive health behaviour regarding risk factors of CAD. (Kumar, 2013)

CONCLUSION

The mean post –test practice score was found to be significantly higher than the pretest score. Calculated F value was greater than the tabled value in experimental group whereas calculated F value, within control group was lesser than the tabled value. Between experimental and control group there was significant difference in post test I and post test II. Thus, it proves that Cardiac health awareness program was effective in improving the practices on prevention of CVD.

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