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**Saranya R**  
Asst. Prof, Dept of Medical  
Surgical Nursing, Sree  
Narayana Nursing College,  
Stonehousepet Nellore.

**Stellasuguna Kumari**  
Professor cum Programme  
Coordinator, Chettinad  
Hospital & Research Institute  
Kelambakam Kanchipuram  
(d.t).

## Effectiveness of structured teaching programme on knowledge of antioxidant diet among cardiac patients

**Saranya R, Stellasuguna Kumari**

### Abstract

**Introduction:** Antioxidants are natural substances that exist as vitamins, minerals, and other compounds in foods. They are believed that helps to prevent disease by fighting substances called "free radicals" that are produced when our body uses oxygen.

**Methodology:** A Quantitative research approach and one group pretest – posttest research design was selected. The study includes 60 patients selected by purposive sampling techniques. The study was conducted in Chettinad hospital and research institute at Kelambakkam. Structured questionnaire was used to collect the data by interview schedule.

**Results:** The results revealed that there was a significant difference between mean pre test scores and mean post test scores of knowledge regarding antioxidant diet among cardiac patients. The pretest mean knowledge score is 6.18 with SD 2.37 and the post test mean score is 12.73 with SD 1.59. The calculated value of paired 't' is 24.22 which is statistically significant at  $P < 0.01$  level.

**Conclusion:** The study concludes that the structured teaching programme is effective in enhancing the knowledge regarding antioxidant diet among cardiac patients.

**Keywords:** Effectiveness, structured teaching programmer, knowledge, cardiac patients, antioxidant diet.

### 1. Introduction

Health is the level of functional and metabolic efficiency of a living being. In human, it is the general condition of a person in mind, body and spirit, usually meaning to be free from illness, injury or pain. Health care interventions and a person's surroundings a number of factors are known to influence the health status of individuals including their background lifestyle and economic and social condition. These are referred to as "determinants of health". An antioxidant is a natural defense substance which produced into body to control free radicals. It is a molecule capable of slowing or preventing the oxidation of other molecule. Oxidation is a chemical reaction that transfer electron. It is proved that a diet rich in antioxidant can help prevent the cardiac disease. It slow down cell damage and may improve immune function and keep the heart healthy in three important way (i.e.) they prevent blood clots, protection against oxidation of LDL (bad cholesterol) and lower blood pressure. The cardiac disease has become a major killer of mankind. With vast changes in the lifestyle of people, cardiac problems are increasing day by day in our country also the cardiovascular disease are becoming a leading cause of morbidity and mortality among cardiovascular disease in that coronary artery disease has become the most important cause of pre matured death and disability in the population in some countries on death among three man around the age of 55 year is due to cardiovascular disease.

### Statement of the Problem

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge of Antioxidant Diet among Cardiac Patients in a Selected Tertiary Hospital in Tamilnadu, India.

### 2. Objectives

- To assess the pre test level of knowledge on antioxidant diet among cardiac Patients.
- To assess the post test level of knowledge on antioxidant diet among cardiac patients.
- To compare the pre and post test levels of knowledge of antioxidant diet among cardiac patients.

### Correspondence:

**Saranya R**  
Asst. Prof, Dept of Medical  
Surgical Nursing, Sree  
Narayana Nursing College,  
Stonehousepet Nellore.

- To associate the post test knowledge on antioxidant diet among cardiac patients with selected demographic variables.

**Hypothesis**

- **H1:** There will be significant difference between mean post test score and pre test score of knowledge regarding antioxidant diet among cardiac patients.
- **H2:** There is a significant association of post test knowledge regarding antioxidant diet among cardiac patients with selected demographic variables.

**Assumptions**

- Patients with cardiac disease may have some knowledge regarding the importance of antioxidant diet.
- Structured teaching programe on antioxidant diet for patient with cardiac disease may help in enhancing their knowledge.

**Materials and Methods:** A Quantitative research approach and pre-experimental - one group pre test post test design was adopted. The study subjects were Cardiac patients attending cardiac outpatient department in Chettinad hospital and Research Institute, at Kelambakkam, at kanchipuram district

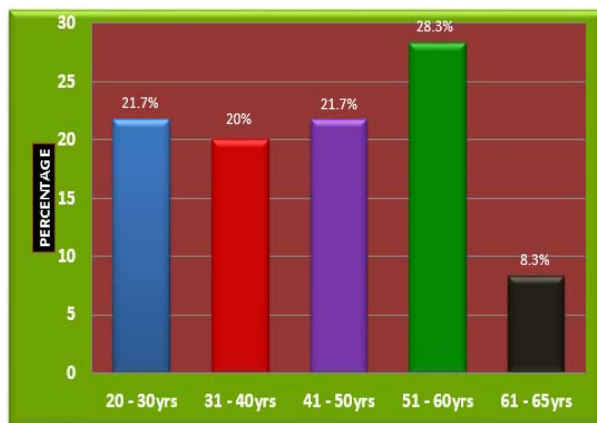
**2.1 Sample Size:** 60 cardiac patients of (20-65yrs) were selected by purposive sampling technique.

Data were obtained by the following methods:

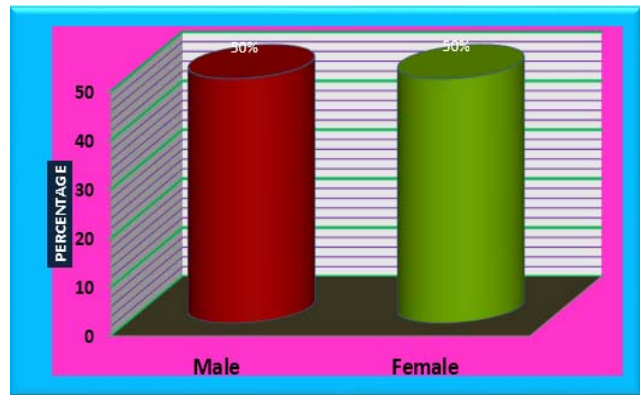
B) Semi structured Questionnaire was used to assess the knowledge of cardiac patients. The study period was one month, October 2011. The data entry & analysis was done, using the Microsoft excel. Results were presented as percentage of number of cardiac patients with correct Responses. Mean and standard deviation of knowledge scores (at 95% Confidence Intervals).

**2.2 Ethical Clearance:** There was no drug administration or invasive procedure involved in the study. A written permission was obtained from the institutional authority and ethical committee. Written informed consent was obtained from mothers who participated in the study and Confidentiality and anonymity of the subjects was maintained throughout the study.

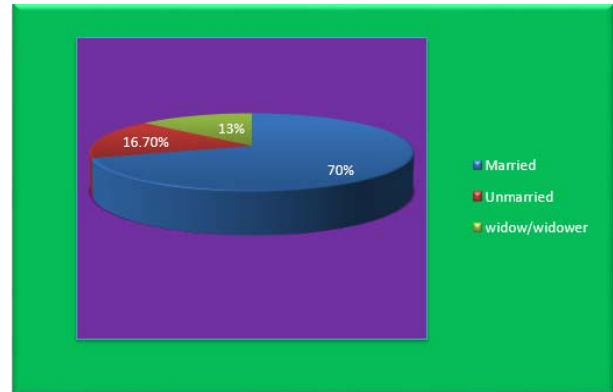
**3. Results**



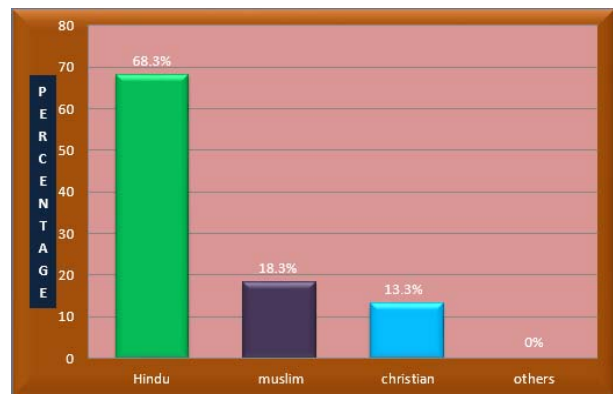
**Fig 1:** percentage distribution of samples with reference to age



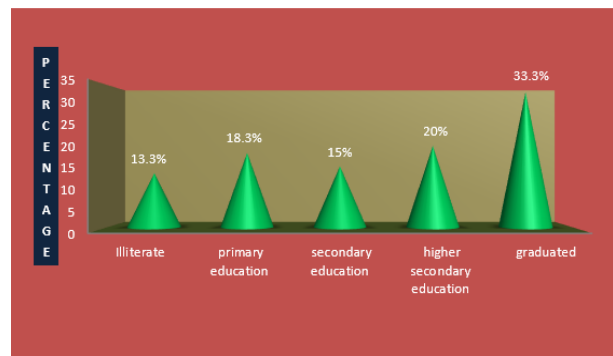
**Fig 2:** percentage distribution of sample with gender



**Fig 3:** Percentage distribution of sample with marital status



**Fig 4:** Percentage distribution of cardiac patients according to their religion



**Fig 5:** percentage distribution of cardiac patients according to their education

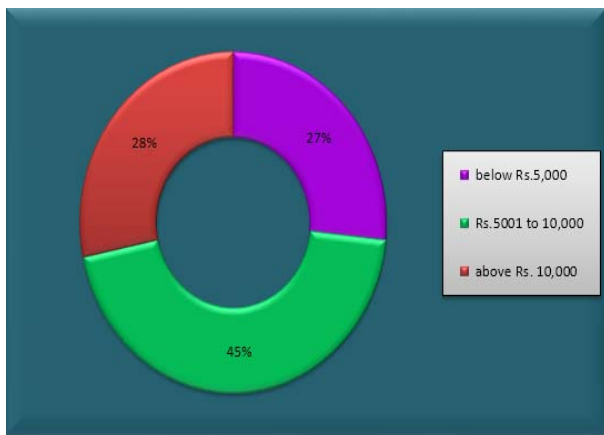


Fig 6: percentage distribution of samples according to their income

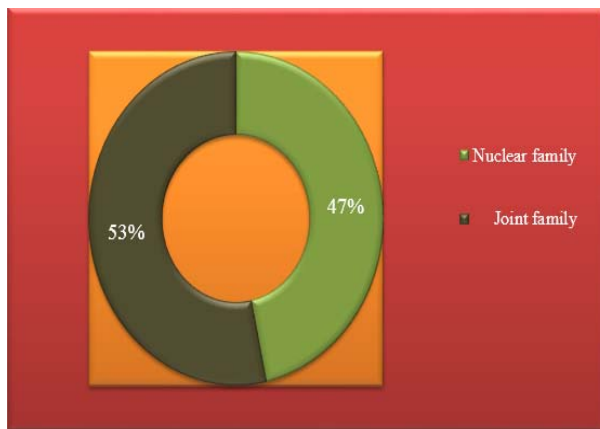


Fig 9: percentage distribution for type of family

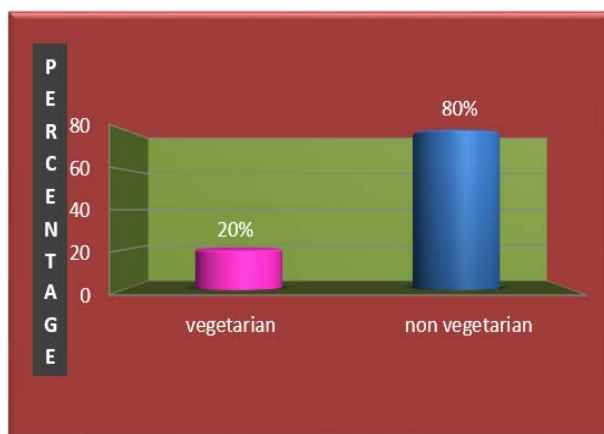


Fig 7: percentage distribution of sample with dietary pattern

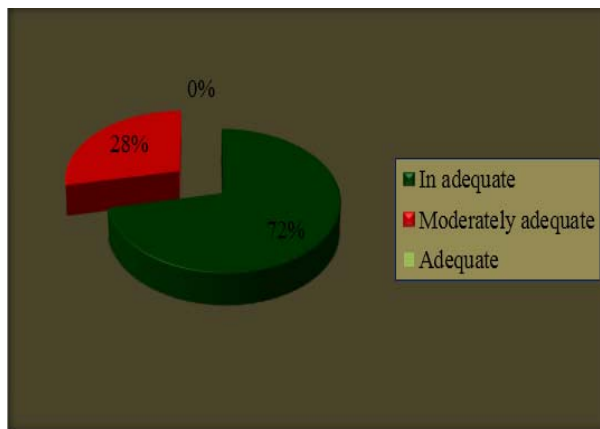


Fig 10: percentage distribution of the pre test level of knowledge on antioxidant diet

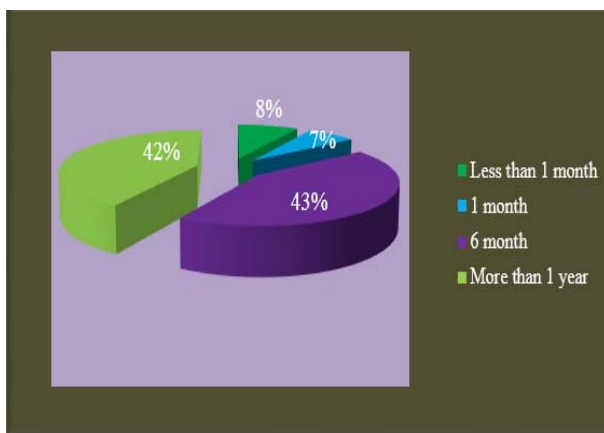


Fig 8: Percentage distribution of cardiac patients according to their duration of illness

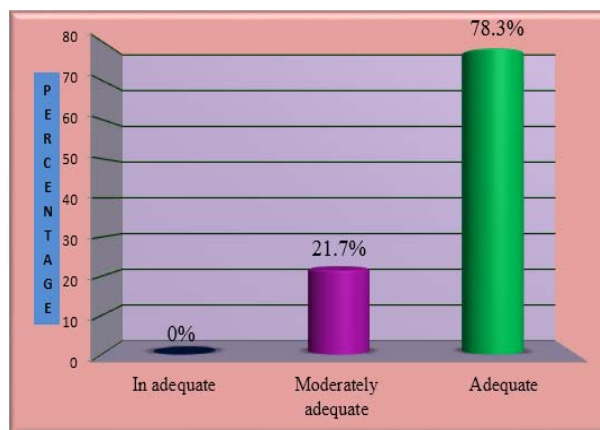


Fig 11: percentage of the level of post test knowledge regarding knowledge of antioxidant diet

Table 1: Comparison of Pre and Post Test Mean, Standard Deviation and Paired T Test Value of the Patients Regarding Knowledge of Antioxidant Diet

Test	Knowledge		Paired t test
	Mean	SD	
Pre test	6.1833	2.37567	t = 24.22 P = 0.01 Significant
Post test	12.73	1.593	

The analysis reveals that with respect to knowledge the mean value 6.18 with SD 2.37 of pre test and the mean value of 12.73 with SD 1.59 of post test projects 't' value as 24.22 is Statistically significant at P = 0.01 level.

**Table 2:** Association between Post Test Knowledge and With Selected Demographic Variables

N =60

Demographic Variables	Post Test Knowledge						Chi Square Test	
	In Adequate		Moderate		Adequate			
	N	%	N	%	N	%		
Age	20 - 30 Yrs	0	0	1	1.7	12	20	X <sup>2</sup> =3.332P= 0.123 Non-Significant
	31 - 40 Yrs	0	0	2	3.3	10	16.6	
	41 - 50 Yrs	0	0	4	6.7	9	15	
	51 - 60 Yrs	0	0	4	6.7	13	21.6	
	61 - 65 Yrs	0	0	2	3.3	3	5	
Gender	Male	0	0	8	13.3	22	36.6	X <sup>2</sup> =0.884P=0.347 Non-Significant
	Female	0	0	5	8.3	25	41.6	
Marital Status	Married	0	0	9	15	33	55	X <sup>2</sup> =6.551P=0.018 Significant
	Unmarried	0	0	0	0	10	16.6	
	Divorced	0	0	0	0	0	0	
	Widow/ Widower	0	0	4	6.7	4	6.7	
Religion	Hindu	0	0	8	13.3	33	55	X <sup>2</sup> =1.373P= 0.470 Non-Significant
	Muslim	0	0	2	3.3	9	15	
	Christian	0	0	3	5	5	8.3	
	Others	0	0	0	0	0	0	
Education	Illiterate	0	0	3	5	5	8.3	X <sup>2</sup> =2.650 P= 0.431 Non-Significant
	Primary Education	0	0	2	3.3	9	15	
	Secondary Education	0	0	2	3.3	7	11.6	
	Higher Secondary	0	0	1	1.7	11	18.3	
	Graduated	0	0	5	8.3	15	25	
Income/ Month	Below Rs.5,000	0	0	5	8.3	11	18.3	X <sup>2</sup> =1.647P=0.439 Non-Significant
	Rs.5001 To 10,000	0	0	4	6.7	23	38.3	
	Above Rs. 10,000	0	0	4	6.7	13	21.6	
Diet	Vegetarian	0	0	5	8.3	7	11.6	X <sup>2</sup> =3.535P=0.0530 Significant
	Non Vegetarian	0	0	8	13.3	40	66.6	
Duration of Having Illness	Less Than 1 Month	0	0	0	0	5	8.3	X <sup>2</sup> =6.120P=0.545 Non-Significant
	1 Month	0	0	0	0	4	6.7	
	6 Month	0	0	4	6.7	22	36.6	
	More Than 1 Year	0	0	9	15	16	26.6	
Type of Family	Nuclear Family	0	0	5	8.3	23	38.3	X <sup>2</sup> =0.449P=0.503 Non-Significant
	Joint Family	0	0	8	13.3	24	40	

The above table reveals that there is significant association between the knowledge and the demographic variables of marital status and dietary pattern. There is no association with respect to other demographic variables.

**4. Discussion:** The findings are discussed based on the demographic characteristics, objectives of the study.

**Description about Demographic Data**

Among 60 samples, In relation to age of cardiac patients 17(28.3%) were between 51-60 years. In relation to gender 30(50%) were male and 30(50%) were female. In relation to marital status 42(70%) were married. In relation to religion 41(68.3%) were Hindu. In relation to Family income 27(45%) were earn salary of Rs.5001-10,000. In relation to education 20(33.3%) were graduated. In relation to Dietary pattern 48(80%) were non-Vegetarians. In relation to duration of illness 26(43.3%) having illness from 6 months onwards. In relation to type of family 32(53%) were lives in joint family.

**Findings related to pre test level of knowledge on antioxidant diet among cardiac Patients**

The study shows that the patients knowledge in per test were having average of moderately adequate 28.3%, inadequate 71.7% and none of them have adequate knowledge regarding antioxidant diet.

In the available literature a study conducted by Nikhil pandyan (2010)<sup>[8]</sup> in Bangalore. The main aim of the study was to assess the knowledge regarding role of antioxidant diet among CAD patients. And found Self instructional module provided through the study it was beneficial to the patients by improving their knowledge regarding role of antioxidant diet and also the findings of the study emphasize the importance of teaching programme given to the patients in order to prevent the occurrence of complication of CAD. The pre test knowledge score was 37% and after the module the maximum samples were got adequate knowledge 85%.

**Findings related to post test level of knowledge on antioxidant diet among cardiac patients**

The findings of the study revealed a significantly increase in the post test knowledge score after structured teaching programme. The analysis reveals that moderately adequate 21.7% and 78.3% patients have adequate knowledge in post test.

In the available literature a study conducted by willam jack in 2005 at US on antioxidant diet two days educational session. The study findings shows that the post test mean score of knowledge (81.45%) is higher than the pre test score (48.47%) after the educational session. The obtained paired 't' value is 28.17, which is significant at p<0.05 level. They concluded that the education session was more effective.

### **Comparison of pre and post test levels of knowledge of antioxidant diet among cardiac patients**

The findings revealed that comparison between the knowledge score before and after STP on antioxidant diet is computed by Karl Pearson correlation co-efficient, and it is denoted significance  $p < 0.01$ . In the present study it was concluded that the research hypothesis was accepted. That there is a significant difference between mean post test scores and mean pre test scores of knowledge regarding antioxidant diet among cardiac patients.

A similar study was conducted by Mahadev Prasad (2009) in Bangalore and found that the study help the investigator to know the existing knowledge of cardiac patients on antioxidant diet. Also, administration of planned teaching programme helps to improve their knowledge on antioxidant diet and its significance in preventing the further complications of CVD. The study finding shows after giving the teaching programme. Which is significant at  $p < 0.05$  level.

### **Findings related to association between post test knowledge of cardiac patients with selected demographic variables.**

The findings of the study reveal that significant increases in the knowledge of patients in post tests, out of several demographic variables education were significantly associated with knowledge on antioxidant diet. Hence the research hypothesis was accepted that there will be a significant association between the post test knowledge of cardiac patient with selected demographic variables such as marital status and dietary pattern and rejected for age, gender, income/month, educational status, type of family, duration of illness and religion.

A similar study was conducted by Mahadev Prasad (2009) in Bangalore and found that the study was significant with selected demographic variables and which is significant at  $p < 0.05$  level.

### **5. Conclusion**

The present study assessed the level of knowledge on antioxidant diet among cardiac patient. The study revealed that structured teaching programme is effective in increase the knowledge on antioxidant diet among cardiac patient. The findings of the study revealed a significantly increased in the post test knowledge scores after structured teaching.

### **6. Recommendations**

1. A similar study can be conducted in large sample.
2. An experimental study can be done to assess the effectiveness of STP in improving the knowledge and attitude regarding antioxidant diet among cardiac patient.
3. A study can be conducted in ward setting.

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