

## **“Evaluate the effectiveness of Self-Instructional Module on knowledge regarding antioxidant among cardiac patients in selected hospitals at Udaipur city, Rajasthan.”**

Mr. Karan Singh Rajput<sup>1</sup>, Mr. Aakash Chavda<sup>2</sup>,

<sup>(1)</sup>RN-Medical Surgical Nursing, Rajasthan, India.)

<sup>(2)</sup> Associate professor, & HOD Dept of Medical Surgical Nursing, Geetanjali College of Nursing Udaipur, Geetanjali university Udaipur, Rajasthan, India.)

Corresponding author: Mr. Karan Singh Rajput

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**Abstract :** A quasi experimental One group pre-test post-test study to assess the effectiveness of Self Instructional Module on knowledge regarding antioxidant among cardiac patients in selected hospitals at Udaipur City, Rajasthan by using purposive sampling technique. The tool comprised of by using structured knowledge questionnaire. The pretest was conducted and the Self Instructional Module was administered. The post test was conducted after one week. The data obtained were analyzed by using differential and inferential statistics. The mean post-test knowledge score is 24.56 (81.86%) was greater than the mean pre-test knowledge score 10.72 (35.72%). The enhancement in the knowledge of respondents was 13.84 (46.13%) . The data further represents that the ‘z’ value of 57.38 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was a difference in the pre-test and post-test knowledge score of respondents and the self-instructional module was effective in improving the knowledge score of cardiac patients on antioxidant.

**Key words** – Self Instructional Module, Knowledge, Anti oxidants, Cardiac Patients.

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### **I. Introduction**

Anti-oxidants are the substance that inhibit the oxidation and can prevent or slow damage to cell caused by free radicals. Anti oxidants is also know as “free-radicals Scavengers”. Antioxidants that are well know are enzymes and others substance such as Vitamin C, Vitamin E and beta Carotene that counteract the damaging effect of oxidation. Antioxidants neutralize free radicals in our bodies and thus boost our health. Antioxidants ate natural and man-made substance found in many food including fruits and vegetables. Antioxidants are widely used as supplements in diet and have been investigated for prevention of diseases such as cancer, coronary heart disease and so on. Various research studies concluded that clinical use of antioxidants vitamin supplementation may help to prevent coronary heart disease. Epidemiologic studies also showed that lower Coronary Heart disease morbidity and mortality found in person who consume large amount of antioxidants in food or as a supplement. Recents studies suggested that supplementation with antioxidant vitamin C & Vitamin E have benefit in Coronary Heart disease They also boost the immune system, protect memory, protect joints, reduce muscle soreness and fatigue, and strengthen blood vessels. Vitamin A keeps bones and eyes healthy. Vitamin C promotes collagen production beneath the skin, delaying the formation of wrinkles and facilitating the growth of healthy skin cells. Vitamin E helps to heal sunburns, improve blood flow and stimulate hair growth.<sup>3</sup> It has observed that an increase in antioxidant level limits the clinical expression of CAD. Individuals with high dietary intakes of vitamin C, vitamin E and  $\beta$ -carotene have a lower risk of CAD and may have a greater life expectancy. Currently antioxidant supplementation for the primary and secondary prevention of CVD is in progress. The Heart Outcomes Protection (HOP) study is investigating vitamin E supplementation in men and women with known CAD, and the Women's Health Study (WHS) is a primary prevention trial of vitamin E and  $\beta$ -carotene. A combination of vitamin E, vitamin C and  $\beta$ -carotene is being used in the Supplementation Vitamins, Minerals, and Antioxidant (SU.VI.MAX) trial in France, the Women's Antioxidant Cardiovascular Disease Trial (WACDT) in the USA and in the Heart Protection Study Oxford, UK. This will provide more reliable data and help to define the role of antioxidants as primary and secondary preventive measures for cardiovascular disease.

## II. Research Elaborations

Statement of problem –

“Evaluate the effectiveness of Self-Instructional Module on knowledge regarding antioxidant among cardiac patients in selected hospitals at Udaipur city, Rajasthan.”

## III. Objectives

1. To assess the knowledge score of cardiac patients regarding antioxidant.
2. To evaluate the effectiveness of self-instructional module on knowledge of cardiac patients regarding antioxidant.
3. To find the association between pre-test knowledge score with selected socio-demographic variables.

## IV. Hypothesis

**H<sub>1</sub>:** There is a significant difference between pre-test and post-test knowledge score of cardiac patients regarding antioxidant.

**H<sub>2</sub>:** There is a significant association between pre-test knowledge score with selected socio- demographic variables.

## V. Materials and Methods

Population – Cardiac Patients

Sample-Cardiac Patients in selected hospitals at Udaipur City.

Sample Size – 120 Cardiac Patients.

Setting –Geetanjali and Pacific Medical College and Hospital, Udaipur Rajasthan, India

The conceptual framework for the present study was based on WHO System Model.

## VI. Research Design

The research design selected for the present study was a Pre-experimental (one group pre-test post-test research design).

Group	Pre-test	Intervention	Post-test
	O <sub>1</sub>	x	O <sub>2</sub>

**Table 1** :Quasi experimental one group pre test and post-test research design.

The interpretations of the symbol are as below:

O<sub>1</sub> = Assessment of knowledge by pre-test.

X= Self Instructional Module on cardiac patients regarding antioxidant.

O<sub>2</sub> = Assessment of knowledge by post-test.

## Ethical Consideration

After obtaining permission from research committee of Geetanjali College of Nursing, prior permission was obtained from nursing superintendent and medical superintendent of Geetanjali and Pacific Medical College and Hospital, Udaipur Rajasthan, India.Consent was taken from each participant who had participated in the study.

## Description Of The Tool

The structured knowledge questionnaire consisted of two parts i.e .Part –I & II .

Part I: Consist of selected demographic variables are age, gender, habitat, dietary pattern, educational status, occupational status, religion, duration of illness and sources of information regarding antioxidant.

Part II: Consist of structured knowledge questionnaire on antioxidant among cardiac patients. This section consists of 30 items on selected aspects. The selected aspects are:

- Knowledge on heart and cardiovascular disease (05)
- Introduction and definition of antioxidant (08)
- Action and indication of antioxidant (08)
- Source and types of antioxidant (07)
- Effect of cooking of antioxidant (01)
- Risk of high dose of antioxidant supplement (01)

Each items had only one correct response and each correct response was scored one. The total possible score of the structured knowledge questionnaire was 30. The same questionnaire was used for the assessment of knowledge level in pre and post-test.

**Data Collection and Data Analysis**

The data was presented under the following sections

**Section I:** Description of socio-demographic variables of Respondents.

**Section II:** Findings related to area wise knowledge scores of respondents regarding antioxidant among cardiac patients.

**Section III:** Findings related to association between pre-test knowledge score with selected socio-demographic variables.

**VII. Result**

**Table 2: Area wise pre-test knowledge score of respondents on antioxidant among cardiac patients**

**N=120**

Area	Maximum Score	Mean	Mean Percentage	Standard Deviation
<b>Knowledge about C.V.D</b>	5	1.96	39.17	0.90
<b>Introduction and definition</b>	8	2.98	37.19	1.14
<b>Action and indication</b>	8	2.61	32.60	1.01
<b>Source and types</b>	7	2.33	33.33	1.03
<b>Effect of cooking</b>	1	0.38	37.50	0.49
<b>Risk of high dose</b>	1	0.47	46.67	0.50
<b>Total</b>	<b>30</b>	<b>10.72</b>	<b>35.72</b>	<b>2.01</b>

Table 2 projected that in pre-test the maximum mean percentage obtained by the respondents was 39.17% with SD of 0.90 in the aspect of knowledge about heart and cardio vascular disease, 37.19% with SD of 1.14 in the aspect of Introduction and definition of antioxidant ,32.60% with SD of 1.01 in the aspect of action and indication of antioxidant, 33.33% with SD of 1.03 in the aspect of source and types of antioxidant, 37.50% with SD of 0.49 in the aspect of effect of cooking of antioxidant, 46.67 with SD of 0.50 in the aspect of risk of high dose of antioxidant.

**Table 3: Area wise post-test knowledge score of respondents on antioxidant among cardiac patients**

**N=120**

Area	Maximum Score	Mean	Mean Percentage	Standard Deviation
<b>Knowledge about C.V.D</b>	5	3.94	78.83	0.52
<b>Introduction and definition</b>	8	6.39	79.9	0.92
<b>Action and indication</b>	8	6.57	82.08	0.86
<b>Source and types</b>	7	5.96	85.12	0.83
<b>Effect of cooking</b>	1	0.88	87.50	0.33
<b>Risk of high dose</b>	1	0.83	82.5	0.38
<b>TOTAL</b>	<b>30</b>	<b>24.56</b>	<b>81.86</b>	<b>1.70</b>

Table 3 revealed that in post-test the maximum mean percentage obtained by the respondents was 78.83% with SD of 0.52 in the aspect of knowledge about heart and cardio vascular disease, 79.90% with SD of 0.92 in the aspect of Introduction and definition of antioxidant ,82.08% with SD of 0.86 in the aspect of action and indication of antioxidant, 85.12% with SD of 0.83 in the aspect of source and types of antioxidant, 87.50% with SD of 0.33 in the aspect of effect of cooking of antioxidant & 82.50% with SD of 0.38 in the aspect of risk of high dose of antioxidant supplement.

**Table 4: Distribution of respondents by the Level of Knowledge regarding antioxidant among cardiac patients**

**N=120**

Level of knowledge	Score	Frequency		Percentage (%)	
		Pre test	Post test	Pre test	Post test
<b>Inadequate knowledge (0-50%)</b>	0-14	116	00	96.67	00
<b>Moderately knowledge (51-75%)</b>	15-22	04	12	3.33	10
<b>Adequate knowledge (76-100%)</b>	23-30	00	108	00	90
<b>Total</b>	<b>30</b>	<b>120</b>	<b>120</b>	<b>100</b>	<b>100</b>

Table 4: depicted that the pre-test and post-test knowledge level of cardiac patients regarding antioxidant. The result showed that in pre-test none of the respondents had adequate knowledge, 3.33% had moderate knowledge, and 96.67% had inadequate knowledge and in post-test 90.00% had adequate knowledge, 10.00% had moderate knowledge and none of the respondent had inadequate knowledge regarding use of self-instructional module on antioxidant among cardiac patients.

**Table 5: Effectiveness of self-instructional module regarding antioxidant among cardiac patients**

N=120

Knowledge	Mean	Mean Percentage (%)	SD	Enhancement	Enhancement Percentage (%)	df	Z Value	Inference
Pre-test	10.72	35.72	2.01	13.84	46.13%	119	57.38	S*
Post-test	24.56	81.86	1.70					

Table 5 revealed that the mean post-test knowledge score is 24.56 (81.86%) was greater than the mean pre-test knowledge score 10.72 (35.72%). The above table also depicted that the enhancement in the knowledge of respondents is 13.84 (46.13%) supporting the post-test knowledge score are higher than the pre-test knowledge score. The data further represents that the ‘z’ value of 57.38 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was a difference in the pre-test and post-test knowledge score of respondents and the self-instructional module was effective in improving the knowledge score of cardiac patients on antioxidant.

**H<sub>1</sub>:** There was a significant difference between the pre and post-test knowledge score of cardiac patients on the use of self-instructional module on antioxidant. A hypothesis was tested at 0.05 levels. The calculated ‘z’ value 57.38 was significantly higher than the table value 1.96 at 0.05 level. This indicates that there was a significant difference between pre-test and post-test knowledge score. Hence, the research hypothesis H<sub>1</sub> was proved and accepted.

**H<sub>2</sub>:** There is a significant association between pre-test knowledge score with selected socio-demographic variables

The Chi-square test was carried out to determine the association between the pre-test knowledge and socio-demographic variables such as age, gender, habitat, dietary pattern, educational status, occupational status, religion, duration of illness and sources of information regarding antioxidant.

There was significant association between pre-test knowledge score with selected socio-demographic variables such as dietary pattern ( $\chi^2=3.93$ ) was significant at 0.05 level and there were no significant association between pre-test knowledge score with socio-demographic variables such as age in years ( $\chi^2=1.96$ ), habitat ( $\chi^2=0.55$ ), gender ( $\chi^2=1.97$ ), educational status ( $\chi^2=0.45$ ), religion ( $\chi^2=0.49$ ), sources of information ( $\chi^2=2.55$ ), duration of illness ( $\chi^2=1.03$ ) and occupational status ( $\chi^2=4.15$ ). Hence, the research hypothesis H<sub>2</sub> was accepted.

## VII. Conclusion

The overall comparison of pre and post-test knowledge scores on antioxidant among cardiac patients shows that the mean post-test knowledge score is 24.56 (81.86 %) was greater than the mean pre-test knowledge scores 10.72 (35.72 %). The enhancement in the knowledge level of respondents was 13.84 indicates gain in knowledge by respondents. The data further represent that the Z value of 57.38 was significantly higher than the table value at 0.05 level. This indicates that there was significant difference in pre-test and post-test knowledge score of respondents and that the self-instructional module was effective in improving the knowledge level of Cardiac patients on antioxidant among cardiac patients

## Reference

- [1]. Painter M F. Antioxidant [Internet]. 2012 [cited 2012 July 23]. Available from: <http://www.Antioxidant/introduction%20Antioxidants.htm>
- [2]. Mandal A. Antioxidant Health Effects [Internet]. 2012 [cited 2012 Nov 1]. Available from: <http://www.kraftbrands.com/sites/KraftNutrition/PDF/knu-Article-For-Professionals-08-spring.pdf> Antioxidants: Fitness and nutrition. 2012.
- [3]. Available from: <http://www.Antioxidant/benefits.htm>
- [4]. Done Nuttall SL, Kendall MJ, Martin U. Antioxidant therapy for the prevention of cardiovascular disease. Q J Med. 2004; 92: 239-244.
- [5]. Sheela krishnaswamy. Diet for a healthy heart. The new Indian express, Health. 2007 Sep; 2
- [6]. Lewis, Colier, Heitkemper, Dirksen. Medical surgical nursing. 6<sup>th</sup> ed. Mosby publications; 2000. 812-820.

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