

“A Study To Evaluate The Effectiveness Of Orientation Programme On Knowledge And Anxiety Among Patients Undergoing Coronary Angiography At Krishna Hospital, Karad.”

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Abstract

Context: Coronary angiography is a procedure that uses contrast dye, usually containing iodine, and x-ray picture to detect blockage on coronary arteries that are caused by plaque buildup. Due to lack of knowledge patients can get anxiety during the procedure. **Aim-** To evaluate effectiveness of orientation programme on knowledge and anxiety among patients undergoing coronary angiography in Krishna hospital, Karad. **Setting and design:** The one group pre-test, post-test design included 45 samples undergoing coronary angiography at Krishna hospital, Karad. **Materials and methods-** Sampling technique used for the study was non-probability convenience sampling technique and collected data were analyzed by using Instat software. **Result-** In pre-test mean knowledge score of subjects was 13.56 and post-test had 22.29. Mean knowledge score showed that significant difference between knowledge score. The ‘t’ value is 15.97 with ‘P’ value is < 0.0001. Pre-test mean anxiety score of subjects was 20.16 and post-test was 13.04. The ‘t’ value is 13.18 with ‘P’ value < 0.0001. which reveals that orientation programme improved patient’s knowledge and reduced their anxiety regarding coronary angiography. **Conclusion-** On the whole, conducting this study was a learning experience for the investigator. The result of the study showed that orientation programme was highly effective to improve knowledge and reduce the level of anxiety among patients undergoing coronary angiography regarding procedure of coronary angiography.

Keywords Effectiveness, Orientation Programme, Anxiety, Knowledge, Coronary Angiography.

Introduction

Heart is a vital organ of our body. If anything goes wrong with circulatory system then it leads to risk for anxiety. Coronary artery disease (CAD) is the leading cause of the death in the world. In 2015, CAD affected 110 million people and resulted in 8.9 deaths. An estimated 17.9 million people died from CVD in 2016 [1]. Cardiac ailments killed more Indians in 2016 (28%) than any other non-communicable disease. Deaths due to CVD in India increased from 1.3 million in 1990 to 2.8 million in 2016 according to study, ‘The changing pattern of cardiovascular disease and their risk factors in the states of India: The global burden of disease study 1990 -2016. Over all 17.9 million people died from CVD in 2016 representing 31 % of all global deaths of these deaths 85 % are due to heart attack and stroke [2]. Coronary angiography remains gold standard for detecting clinically significant atherosclerotic CAD. Coronary angiography allows visualization of the coronary arteries and helps to determine the treatment and prognosis. In this procedure that uses contrast dye, usually containing iodine and x-ray picture to detect blockage in the coronary arteries caused by the plaque build-up. These blockages prevent your heart from getting nutrients and oxygen [3].

Moderate amount of heart blockage is typically that in 40-70 % range. 50 % narrowing of the vessel diameter doesn’t need stent, artery should be clogged at least 70% before a stent should be placed [4]. In order to manage this dreadful disease, many newer diagnostic and therapeutic measures have been developed keeping in pace with modern technology. One of such measures is coronary angiography. Coronary angiography remains the most definitive diagnostic and therapeutic intervention for the management of patients with cardiac diseases [5]. When someone is anxious, their body reacts in ways that can put an extra strain

on their heart. The physical symptoms of anxiety can be especially damaging among individuals with existing cardiac disease [6]. High levels of anxiety are associated with worse outcomes in coronary artery disease patients [7]. Patients need to be adequately assessed, well-educated and prepared both clinically and psychologically before the procedure. Orienting the patients with adequate information regarding the pre, intra and post procedural care can reduce the anxiety in the patient and enhance a speedy recovery.

Need for the study

Cardiovascular disease is one of the leading causes of the death globally. As it brings disability and limitation to their day-to-day activity. Suspicion of having some heart problem may create enormous anxiety to the patient. Many patients think that they are going to die any time without any warning sign. Accepting the diagnosis is very difficult and a struggle between life and death. Most of them don't know that their problem is not much dangerous and life threatening and easily can be corrected so, patient orientation is an important nursing function [8]. CVD is a number one cause of death globally, taking an estimated 17.9 million lives each year. An estimated 31% of all deaths worldwide. In 2016, the estimated prevalence of CVDs in India was 54.5 million. One in 4 deaths in India are now because of CVDs with ischemic heart disease and stroke [9]. Today men, women and children are at risk, and 80% of the burden is in low- and middle-income countries. By 2020 heart disease and stroke will become leading cause of both death and disability worldwide [10]. Advances in technologies have made the responsibilities and function of physician and nurses more complex. The physical preparation of patient is considered extremely important and meeting informational need is all the more important in psychological preparation of patient. Teaching and orientation are essential functions of the nurse and nurses need to care with holistic approach where all aspects physical, emotional, social, spiritual are included. Nurses in 21st century are coming up with ideas of extended roles [11]. Beckerman A. 1995 conducted a study to evaluate the experience of patients undergoing cardiac catheterization shows that participants experienced feeling of loss of physical and personal self, increased fear of unknown. This indicates the need for educating and orienting the patients [12]. It was found that even highly educated patients also have little knowledge about heart disease and coronary angiography. Many were having excessive anxiety and developed uncontrolled hypertension in Cath lab. Many patients were found restless and experienced palpitations when they are about to undergo procedure. In order to reduce anxiety patient need to be adequately assessed, well educated, and prepared both clinically and psychologically before the procedure. Orienting the patient with adequate information will help to reduce anxiety level among patient.

Problem Statement

“A study to evaluate the effectiveness of orientation programme on knowledge and anxiety among patients undergoing coronary angiography at Krishna hospital, Karad.”

OBJECTIVES:

- 1) To assess knowledge among patient before and after administration of orientation programme.
- 2) To assess anxiety level of patient before and after administration of orientation programme.
- 3) To evaluate the effectiveness of orientation programme in terms of increase in knowledge
- 4) To evaluate the effectiveness of orientation programme in terms of Anxiety reduction.
- 5) To assess the association between socio-demographic variables and knowledge among patients undergoing coronary angiography.
- 6) To assess the association between socio-demographic variables and anxiety among patients undergoing coronary angiography.

Subjects and Methods-

In this study, Evaluative research approach was used to evaluate the effectiveness of orientation programme on knowledge and anxiety among patients undergoing coronary angiography. In this study pre-experimental pre-test and post-test design was adapted. The study included total 45 patients from Krishna hospital, Karad.

The study included only those patients who are undergoing coronary angiography at Krishna hospital, Karad, willing to participate in the study, both male and female, those were not willing to participate were excluded from study.

Data were collected by using Structured questionnaire consist of 25 questions and anxiety scale. The tool was organized into following three main sections as:

SECTION A: Demographic variables, this section is consisting of demographic variables like age, sex, education, occupation, family yearly income, dietary pattern, habit of smoking, habit of alcohol consumption and habit of exercise. The baseline data will

be collected using semi structured interview schedule.

SECTION B: Structured questionnaire to assess knowledge among patients undergoing coronary angiography. The questions will be under the subheadings related to anatomy and physiology of heart, coronary angiography and post procedure care and coronary artery disease.

Section B – Part (A) – Knowledge of subjects regarding coronary angiography.

This part of the tool consisted of 5 items on knowledge of subjects regarding coronary angiography.

Section B – Part (B) - Knowledge of subjects regarding coronary artery disease.

This part of the tool is consisted of 10 items on knowledge of subjects regarding coronary artery disease.

Section B – Part (C) – knowledge of subjects regarding anatomy and physiology of heart.

This part of tool is consisted of 10 items on knowledge of subjects regarding anatomy and physiology of heart.

There will be 25 statements where the correct answers will be scored 1 and each wrong answer will be scored 0.

SECTION C: anxiety scale will be used to measure anxiety of patients undergoing coronary angiography.

All the data were collected by the investigator. Prior to the data collection, the study was approved by the institution ethical committee. A letter from chairman of institutional ethical committee KIMSDU, Karad was obtained after presentation and approval. Written consent was obtained from subjects before data collection. The subjects confirmed to keep data confidential.

Statistical analysis-

All the data were computed and the answers were coded in Microsoft excel spreadsheet. The data were analyzed by various tools in Microsoft excel, statistical analysis was performed using Instat software.

Result-

Section 1:

This section deals with description of socio demographic variables of patients. The data on the sample characteristics were analyzed using descriptive statistics and presented in terms of frequency, percentage, depicted with diagram. The data obtained from the sample are presented in terms of Patient's age, sex, marital status, religion, residence, annual income, educational status, occupation, bad habits, dietary pattern, habit of exercise.

Table 1: Frequency and Percentage Distribution of Demographic Variables of the Caregivers.

SR. NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE (%)
1.	Age		
A.	30 – 40 Years	4	8.89
B.	41 – 50 Years	9	20
C.	51 -60 Years	10	22.22
D.	Above 60 Years	22	48.89

2.	Gender		
A.	Male	28	62.22
B.	Female	17	37.76
C.	Other	0	0
3.	Religion		
A.	Hindu	43	95.56

SR NO.	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE (%)
B.	Muslim	2	4.44
C.	Christian	0	0
D.	Others	0	0
4.	Annual income		
A.	40,000 – 50,000	3	6.67
B.	50,000- 1 lakh	9	20
C.	1 lakh- 2 lakh	12	26.66
D.	2 lakh and above	21	46.47
5.	Residence		
A.	Urban	12	26.66
B.	Rural	33	73.34
6.	Education		
A.	Illiterate	6	13.34
B.	Primary	13	28.88
C.	SSC/HSC	18	40
D.	Graduate and more	8	17.78
7.	Occupation		
A.	House-wife	10	22.23
B.	Farmer	19	42.23

SR NO.	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE (%)
C.	Job	12	26.66
D.	Business	4	8.88
8.	Bad habits		
A.	Tobacco	4	8.89
B.	Smoking	6	13.34
C.	Alcohol	10	22.22
D.	None	25	55.55
9.	Dietary habits		
A.	Veg	7	15.56
B.	Non-veg	0	0
C.	Mixed	38	84.44
10.	Habit of exercise		
A.	Yes	17	37.78
B.	No	28	62.22

Section 2: It deals with the analysis of data related to knowledge of subjects regarding coronaryangiography.

Table 2: Distribution of Frequency and Percentage of Pre-Test Knowledge score regarding coronaryangiography before administration of orientation programme.

Aera of analysis	Knowledge regarding coronary angiography	Pre – Test	
		F	%
Knowledge regarding coronary angiography before administration of orientation programme	Poor (0-8)	6	13.33%
	Average (9-18)	33	73.34%
	Good (19-25)	6	13.33%
Total		45	100%

The above Table depicts that pre -test knowledge score regarding coronary angiography before administration of orientation programme. The pre-test knowledge shows that majority of patients 33 (73.34%) had average level knowledge, 6 (13.33%) patients had good knowledge, 6 (13.33%) had poor knowledge.

Table 3: Distribution of Frequency and Percentage of Post-Test Knowledge score regarding coronaryangiography after administration of orientation programme.

Aera of analysis	Knowledge regarding coronary angiography	Post – Test	
		F	%
Knowledge regarding coronary angiography after administration of orientation programme	Poor (0-8)	0	0%
	Average (9-18)	1	2.22%
	Good (19-25)	44	97.78%
Total		45	100%

The above Table shows that post -test knowledge score regarding coronary angiography after administration of orientation programme. The post-test knowledge shows that majority of patients 44 (97.78%) had good level knowledge, 1 (2.22%) patient had average knowledge, 0 (0%) had poor knowledge.

Table 4: Distribution of Frequency and Percentage of Pre-Test and Post-Test Knowledge Score of patients undergoing coronary angiography.

The below table shows the comparison of pre-test and post-test knowledge of patients regarding coronary angiography. The pre-test table shows that majority of patients 33(73.34%) had average level of knowledge, whereas 6 (13.33%) had poor level of knowledge, 6(13.33%) had good level of knowledge before administration of orientation programme. The post-test table shows that, majority of patients 44(97.78%) had good level of knowledge, whereas 2 (2.22%) had average level of knowledge and 0(0%) patients had poor level of knowledge regarding coronary angiography after administration of orientation programme.

Pre-test		Post-test	
F	%	F	%
6	13.33	0	0
33	73.34	1	2.22
6	13.33	44	97.78

Table 5: Mean Median and Standard Deviation of Knowledge of patients regarding coronary angiography.

SR NO.	Area of analysis	Mean	Median	SD	Paired 't' value	'P' value
1.	Pre-test	13.56	14	4.46	15.973	<0.0001
2.	Post-test	22.29	23	1.28		

Above table depicts that comparison of pre-test and post-test mean, median and standard deviation of knowledge of patients regarding coronary angiography. The pre-test table shows that, mean 13.56, median 14, and standard deviation 4.46. The post-test table shows that, mean 22.29, median 23, and standard deviation 1.28.

Table 6: Distribution of Frequency and Percentage of Pre-Test and Post-Test anxiety Score of patients regarding coronary angiography.

The below table depicts the comparison of pre-orientation and post-orientation anxiety among patients regarding coronary angiography. The pre-test table shows that majority of patients 40(88.89%) had moderate level of anxiety, whereas 4 (8.89%) had severe level of anxiety, 1(2.22%) had mild level of anxiety and 0(0%) had no anxiety before administration of orientation programme. The post-test table shows that, 25(55.56%) had moderate level of anxiety, whereas 20 (44.44%) had mild level of anxiety, 0(0%) patients had severe level of anxiety and 0(0%) patients had very severe level of anxiety regarding coronary angiography after administration of orientation programme.

		Pre-test anxiety		Post-test anxiety	
Areas of analysis	Anxiety regarding coronary angiography	F	%	F	%
Level of anxiety regarding	No anxiety (0)	0	0%	0	0%

coronary angiography before and after administration of orientation programme (pre and post anxiety)					
	Mild (1-12)	1	2.22%	20	44.44%
	Moderate (13-29)	40	88.89%	25	55.56%
	Severe (25-29)	4	8.89%	0	0%
	Very severe (37-48)	0	0%	0	0%

Table 7: Mean Median and Standard Deviation of anxiety Level of patients regarding coronaryangiography.

SR NO.	Area of analysis	Mean	Median	SD	Paired 't' value	'P' value
1.	Pre-orientation anxiety	20.16	21	3.59	13.184	<0.0001
2.	Post-orientation anxiety	13.04	13	2.76		

Above table depicts that comparison of pre-orientation anxiety and post-orientation anxiety mean, median and standard deviation of patients regarding coronary angiography. The pre-orientation anxiety table shows that, mean 13.56, median 14, and standard deviation 4.46. The post-orientation anxiety table shows that, mean 22.29, median 23, and standard deviation 1.28.

Table 8: Association between the Demographic Variables and Knowledge Score of patients regarding coronary angiography.

Sr.no	Demographic data	Good		Average		Poor		Chi square	'P' value
		F	%	F	%	F	%		
1.	Age								
A.	31-40 Years	2	4.44	2	4.44	0	0	9.929	0.1277 NA
B.	41-50 Years	1	2.22	8	17.78	0	0		
C.	51- 60 Years	0	0	9	20	1	2.22		
D.	61 & Above	3	6.66	14	31.12	5	11.12		
2.	Gender								
A.	Male	1	2.22	23	51.11	4	8.89	6.132	0.0466 SA
B.	Female	5	11.12	10	22.22	2	4.44		
C.	Others	0	0	0	0	0	0		
3	Annual Income								
A.	40,000-50,000	0	0	3	6.66	0	0	6.834	0.3364
B.	50,000- 1 Lakh	0	0	6	13.33	3	6.66		
C.	1 Lakh – 2 Lakh	3	6.66	8	17.77	1	2.22		
D.	2 Lakh & Above	3	6.66	16	35.55	2	4.44		

4 .	EDUCATION							2.595	0.8577 NA
A.	Illiterate	0	0	5	11.12	1	2.22		
B.	Primary	1	2.22	9	20	2	4.44		
C.	Secondary/Higher Sec.	4	8.89	12	26.67	2	4.44		
D	Graduate and above	1	2.22	7	15.56	1	2.22		
5.	Bad Habit								

A.	Tobacco	0	0	4	8.89	0	0	6.968	0.3238	
B.	Smoking	0	0	6	13.32	0	0			NA
C.	Alcohol	2	4.44	5	11.12	3	6.67			
D.	None	4	8.89	18	40	3	6.67			
6.	Dietary pattern							1.284	0.5262	
A.	Veg	1	2.22	6	13.33	0	0			NA
B.	Non- veg	0	0	0	0	0	0			
C.	Mixed	5	11.12	27	60	6	13.33			
7.	Exercise							4.521	0.1043	
A.	Yes	2	4.44	15	33.33	0	0			NA
B.	No	4	8.89	18	40	6	13.33			

Table no 8 shows the association of knowledge level of patients regarding coronary angiography with aselected demographic variable, using chi square test. The analysis revealed that there is an association between the knowledge of patients regarding coronary angiography with gender ($x^2 = 6.132$).

There was no association found between knowledge of patients regarding coronary angiography with age ($x^2 = 9.929$), annual income ($x^2 = 6.834$), education ($x^2 = 2.595$), bad habits ($x^2 = 6.968$), dietary pattern ($x^2 = 1.284$), exercise ($x^2 = 4.521$).

Table 9: Association between the Demographic Variables and Anxiety Score of patients regarding coronary angiography.

Sr. no	Demogr aphic data	No anxiety		Mild		Moderate		severe		Very severe		Chi square	'P' value
		F	%	F	%	F	%	F	%	F	%		
1.	Age												
A.	31-40 Years	0	0	0	0	4	8.89	0	0	0	0	4.426	0.6192
B.	41-50 Years	0	0	0	0	7	15.56	2	4.44	0	0		
C.	51- 60 Years	0	0	0	0	10	22.22	0	0	0	0		

D.	61 & Above	0	0	1	2.22	19	42.23	2	4.44	0	0		NA
2.	Gender												
A.	Male	0	0	0	0	26	57.77	2	4.44	0	0	2.033	0.3619
B.	Female	0	0	1	2.22	14	31.11	2	4.44	0	0		
C.	Others	0	0	0	0	0	0	0	0	0	0		
3	Annual Income												
A.	40,000-50,000	0	0	0	0	2	4.44	1	2.22	0	0	10.656	0.0996
B.	50,000-1 Lakh	0	0	1	2.22	6	13.34	2	4.44	0	0		
C.	1 Lakh – 2 Lakh	0	0	0	0	11	24.45	1	2.22	0	0		
D.	2 Lakh & Above	0	0	0	0	21	46.67	0	0	0	0		

SR N O.	Demographic variable	No anxiety		Mild		Moderate		Severe		Very severe		Chi Square	'p' value
		F	%	F	%	F	%	F	%	F	%		
4.	Education												
A.	Illiterate	0	0	0	0	2	4.44	1	2.22	0	0	5.082	0.5334
B.	Primary	0	0	0	0	6	13.34	2	4.44	0	0		
C.	Secondary/Higher Sec.	0	0	0	0	11	24.45	1	2.22	0	0		
D.	Graduate and above	0	0	1	2.22	21	46.67	0	0	0	0		

5.	Bad Habit												
A.	Tobacco	0	0	0	0	4	8.89	0	0	0	0	2.183	0.9022
B.	Smoking	0	0	0	0	6	13.34	0	0	0	0		
C.	None	0	0	1	2.22	21	46.67	3	6.66	0	0		
D.													
6.	Dietary pattern												
A.	Veg	0	0	0	0	6	13.34	1	2.22	0	0	0.4652	0.7925
B.	Non- veg	0	0	0	0	0	0	0	0	0	0		
C.													
7.	Exercise												
A.	Yes	0	0	0	0	17	37.77	0	0	0	0	3.415	0.1813
B.	No	0	0	1	2.22	23	51.11	4	8.89	0	0		

Table no 9 shows the association of anxiety level of patients regarding coronary angiography with a selected demographic variable, using chi square test.

There was no association found between anxiety of patients regarding coronary angiography with age ($\chi^2 = 4.426$), gender ($\chi^2 = 2.033$) annual income ($\chi^2 = 10.656$), education ($\chi^2 = 5.082$), bad habits ($\chi^2 = 2.183$), dietary pattern ($\chi^2 = 0.4652$), exercise ($\chi^2 = 3.415$).

Discussion

Major findings of the study are as follows-

Distribution of demographic variables of patients admitted in Krishna hospital, Karad. The description of demographic characteristics revealed that out of 45 patients.

- Majority of patients 22(48.89%) belong to age group 61 years and above, 10 (22.22%) patients belong to age group 51-60 years, 9 (20%) patients belong to age group 41-50 years and 4 (8.89%) patients belong to the age group of 31-40 years.
- Most of patients 28 (62.22%) were male, 17(37.78%) were female, 0 (0%) were others.
- Majority of patients 43 (95.56%) were Hindu, 2(4.44%) were Muslim, 0 (0%) were others.
- Maximum number of patients 33 (73.34%) were from rural area, 12 (26.66%) from urban area.
- Annual income of patients 6 (13.4%) were 40,000 – 50,000, 10 (22.23%) 50,000- 1 lakh, 12 (26.66%) 1lakh – 2 lakh, 17 (37.77%) above 2 lakhs.
- Patient's educational status 5 (11.12%) were illiterate, 13 (28.89%) have taken primary education, 19 (42.22%) have taken secondary & higher secondary education, 8 (17.77%) were graduate and more.
- Most of patients 19 (42.23%) were farmers, 10 (22.23%) were housewives, 12 (26.66%) are doing job, 4 (8.88%) are doing business.

- Majority of patients 26 (57.77%) were not having any bad habits, 6 (13.34%) were having habit of tobacco chewing, 5 (11.12%) were having habit of smoking, 8 (17.77%) were alcohol consumers.
- Maximum number of patients 37 (82.23%) were veg and non-veg food consumers, 8 (17.77%) were vegetarians, 0 (0%) were only non-vegetarians.
- Majority of patients 31 (68.89%) are not doing exercise, 14 (31.11%) are doing exercise.

Structured knowledge questionnaire to assess knowledge among patients undergoing coronary angiography.

Findings were related to pre-test and post-test knowledge score of patients on coronary angiography.

- The pre-test knowledge shows that majority of patients 33 (73.34%) had average level knowledge, 6 (13.33%) patients had good knowledge, 6 (13.33%) had poor knowledge.
- The post-test knowledge shows that majority of patients 44 (97.78%) had good level knowledge, 1 (2.22%) patient had average knowledge, 0 (0%) had poor knowledge.

anxiety scale to assess level of anxiety among patients undergoing coronary angiography.

Findings were related to pre-orientation and post-orientation anxiety score of patients regarding coronary angiography.

- The pre-orientation anxiety score shows that majority of patients 40 (88.89%) had moderate level of anxiety, whereas 4 (8.89%) had severe level of anxiety, 1 (2.22%) had mild level of anxiety and 0 (0%) had no anxiety before administration of orientation programme.
- The post-orientation anxiety score shows that, 25 (55.56%) had moderate level of anxiety, whereas 20 (44.44%) had mild level of anxiety, 0 (0%) patients had severe level of anxiety and 0 (0%) patients had very severe level of anxiety regarding coronary angiography after administration of orientation programme.
- The pre-test score shows that, mean 13.56, median 14, and standard deviation 4.46.
- The post-test table shows that, mean 22.29, median 23, and standard deviation 1.28.
- The pre-orientation anxiety score shows that, mean 13.56, median 14, and standard deviation 4.46.
- The post-orientation anxiety score shows that, mean 22.29, median 23, and standard deviation 1.28.
- The analysis revealed that there is an association between the knowledge of patients regarding coronary angiography with gender ($\chi^2 = 6.132$).
- There was no association found between knowledge of patients regarding coronary angiography with age ($\chi^2 = 9.929$), annual income ($\chi^2 = 6.834$), education ($\chi^2 = 2.595$), bad habits ($\chi^2 = 6.968$), dietary pattern ($\chi^2 = 1.284$), exercise ($\chi^2 = 4.521$).
- The analysis revealed that there was no association found between anxiety of patients regarding coronary angiography with age ($\chi^2 = 4.426$), gender ($\chi^2 = 2.033$), annual income ($\chi^2 = 10.656$), education ($\chi^2 = 5.082$), bad habits ($\chi^2 = 2.183$), dietary pattern ($\chi^2 = 0.4652$), exercise ($\chi^2 = 3.415$).

Conclusion-

Objective 1: To assess knowledge among patient before and after administration of orientation programme. Findings show that, orientation programme is very effective method to improve patient's knowledge regarding coronary angiography.

Objective 2: To assess anxiety level of patient before and after administration of orientation programme. Findings show that, orientation programme is very effective method to reduce patient's level of anxiety regarding coronary angiography.

Objective 3: To evaluate the effectiveness of orientation programme in terms of increase in knowledge. Finding shows that there is significant increase in knowledge of patients regarding coronary angiography after administration of orientation programme.

Objective 4: To evaluate the effectiveness of orientation programme in terms of anxiety reduction.

Finding shows that there is significant reduction in level of anxiety among patients regarding coronary angiography after administration of orientation programme. Hence, orientation programme is very effective in anxiety reduction of patients regarding coronary angiography.

Objective 5: To assess the association between socio-demographic variables and knowledge among patients undergoing coronary angiography.

The analysis revealed that there is an association between the knowledge of patients regarding coronary angiography with gender ($\chi^2 = 6.132$). There was no association found between knowledge of patients regarding coronary angiography with age ($\chi^2 = 9.929$), annual income ($\chi^2 = 6.834$), education ($\chi^2 = 2.595$), bad habits ($\chi^2 = 6.968$), dietary pattern ($\chi^2 = 1.284$), exercise ($\chi^2 = 4.521$).

Objective 6: To assess the association between socio-demographic variables and anxiety among patients undergoing coronary angiography.

The analysis revealed that there was no association found between anxiety of patients regarding coronary angiography with age ($\chi^2 = 4.426$), gender ($\chi^2 = 2.033$), annual income ($\chi^2 = 10.656$), education ($\chi^2 = 5.082$), bad habits ($\chi^2 = 2.183$), dietary pattern ($\chi^2 = 0.4652$), exercise ($\chi^2 = 3.415$).

Nursing Implications –

The findings of the study have the following implications in the nursing practice, nursing education, nursing research and nursing administration.

Nursing Practice –

The vital function of the nurse is to provide health education for promotion of health of patients. Nurse can teach this knowledge on patients to improve their knowledge and reduce anxiety. Patient's knowledge improvement reduces the level of anxiety among them and ultimately reduces burden on health care. Nurse can provide orientation to patients to improve their knowledge and reduce anxiety.

Nursing Education-

Nursing students minimize the burden on health care givers in hospital through assessment and plan of care. Nursing educators can implement orientation programme to teach student nurses about quality coronary angiography. Nursing students use this knowledge and practice in clinical areas.

Nursing Research-

These research findings utilized for conducting various research on the effectiveness of orientation programme on knowledge and anxiety among patient. This research can be a review of literature for further studies on different aspects of coronary angiography. The nurses can conduct in detail and further exploration research studies related to coronary angiography.

Nursing Administration-

The findings of the study show need to educate the patients regarding coronary angiography. Nurse administrators use the study findings to improve patient's knowledge and reduce patient's anxiety regarding coronary angiography. Nurse administrator can organize in-service education programme for staff/ cath lab nurses. Nurse administrator directs staff nurses to provide health education, create awareness.

Recommendations-

Based on the findings and objectives the following recommendations for future research-

- 1) A similar study can be conducted for larger samples for valid generalization.
- 2) A similar study can be conducted to assess the effectiveness of video teaching.
- 4) A similar study can be conducted to assess the knowledge, anxiety and attitude of patients regarding coronary angiography.

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