

**“A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE OF STAFF NURSES
REGARDING CODE BLUE IN SELECTED HOSPITAL IN THE CITY IN A VIEW TO
DEVELOP AN INFORMATION BOOKLET.”**

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Abstract:

Medical emergencies are commonly encountered in the hospital settings. The main purpose of these emergency codes is to provide a emergency message to the specialized and trained hospital staff during emergency situations without creating panic in and around the hospital. A descriptive qualitative approach with survey design was used for this study. 50 staff nurses working in the hospital were selected using Purposive sampling technique. Duration of the study was 30 days. A structured questionnaire was used to assess the knowledge level. Descriptive and inferential statistics were used to analyse the data. This study showed that the staff nurses had poor knowledge about Code blue. The significant association was found between the Experience, Area of work, BLS course, Delivery of CPR and Knowledge score of staff nurses. So it is concluded that there is a need to train nurses about the hospital emergency codes and their implementation. Based on the findings of the study a detailed information booklet was prepared and distributed among staff nurses in the hospital.

Keywords: Code blue, knowledge, staff nurses, information booklet



INTRODUCTION

Medical emergencies are commonly encountered in the hospital settings. "Emergency medical codes" are now used in many high-tech health-care establishments during these emergency situations; the purpose of these codes is to provide an emergency message to the specialized and trained hospital staff during emergency situations without creating panic in and around the hospital.⁽¹⁾ Numerous guidelines for unifying the codes internationally exist. "Code blue" (CB) is a popular hospital emergency code, which is used by hospitals to alert their emergency response team of any cardio respiratory arrest.⁽²⁾ The term was first used in the Bethany Medical Center in the State of Kansas in the early 1990s. The aim of CB is to confirm that trained resuscitators are dispatched to the victim within the shortest possible time, without disturbing the traditional functioning of the remainder of the hospital. Most victims of cardiac arrest tend to survive if the intervention is early, in terms of emergency procedure (CPR), defibrillation, and advance care.⁽³⁾ The incidence of in-hospital cardio-respiratory arrest has been estimated to be 1–5 events per 1000 annual hospital admissions, but survival to hospital discharge rate could be a mere 0.42%. This shows the effect of diverse factors within the ultimate outcome of resuscitation.⁽⁴⁾

Recognition and Activation of Emergency Response: Pulse detection alone is commonly unreliable, even when performed by trained Rescuer, and it's going to require additional times. Consequently, rescuers should start CPR immediately if the adult victim is unresponsive or not Breathing normally.⁽⁵⁾

Chest compressions: The prompt initiation of effective chest compressions may be a fundamental aspect of resuscitation. CPR improves the victim's chance of Survival by providing heart and brain circulation. Rescuer should be a specialised in delivering top quality CPR. Providing chest compression of adequate rate (at least 100/min), Providing chest compression of adequate depth Adults: a compressions depth of at least 2 inches (5cm) Infant and kids: a depth of at least one third the anterior –posterior (AP) diameter of chest or about 1 ½ inches (4cm) in infants and About 2 inches in children.

Airway and Ventilations: Opening the airway (with a head tilt chin lift or jaw thrust) followed by Rescue breaths can improve oxygenation and ventilations.⁽⁶⁾

Defibrillation: The victim's chance of survival decreases with an increasing interval between the arrest and defibrillation. Thus, early defibrillation remains the Cornerstone for arrhythmia and pulseless ventricular tachycardia. Hospital strategies should aggressively work to scale back the interval between Arrest and defibrillation.⁽⁷⁾

ORGANIZATION OF THE FINDINGS

The data was analyzed and presented in the following section:

1. Section 1: Description of samples according to demographic data.
2. Section 2: Description of data to assess the knowledge of staff nurses regarding code blue.

SECTION I: DISTRIBUTION OF DATA ACCORDING TO AGE GROUP

**Table 1: Frequency and percentage distribution of staff according to Age groups
n=50**

Sr. No.	Variable	Frequency	Percentage
1	Age Group		
	21 to 25 years	28	56%
	26 to 30 years	18	36%
	31 to 35 years	4	8%
2	Gender		
	Female	30	60%
	Male	20	40%
3	Education		
	GNM	24	48%
	B.BSc	17	34%
	P.B.BSc	9	18%
4	Years of experience		
	0 to 1 year	17	34%
	2 to 5 years	26	52%
	5 to 6 years	7	14%
	Above 10 years	0	0%
5	Area of work		
	ICU	20	40%
	Non ICU	30	60%
6	BLS course		
	Yes	8	16%
	No	42	84%
7	Delivered CPR		
	Yes	21	42%

NEED FOR THE STUDY

Code blue refers to medical situation during which a patient suffers cardiac or respiratory arrest and requires immediate CPR (CPR). Some systems are developed to support these kinds of situations. Code blue could be a popular hospital emergency code which is employed by hospital to alert their emergency response team of any cardiac arrest. ⁽⁸⁾

Critical care Nurses must assess and take care of patients with heart problems that aim Severity from arrhythmias to heart transplant. Nurses must be ready to immediately assist in treating or initially diagnose a sudden life-threatening Emergency. Code blue team monitor patient for any signs of a change in Condition, administer medication help with basic care need and work with the cardiologist to develop a thought of action for patient care. ⁽⁹⁾

Critical care Nurses must acquire specialized skills including ECG Monitoring, Defibrillation, Emergency medication, CPR Techniques. Code blue team are liable for identifying emergency situations and to initiate methods for treating emergency situation. Each nurse should be responsive to Emergency situation, medication, methods of CPR, rate, depth of compressions, ventilation and defibrillation. Hence the investigator planned to conduct a study to assess the knowledge of nursing staff regarding code blue in a view to develop an information booklet. ⁽¹⁰⁾

METHODOLOGY

A descriptive qualitative approach with survey design was used for this study. 50 staff nurses working in the hospital were selected using Purposive sampling technique. Duration of the study was 30 days. A structured questionnaire was used to assess the knowledge level. Descriptive and inferential statistics were used to analyse the data.

RESULTS AND DISCUSSION

The purpose of analysis is to reduce the data to an intelligible and interpretable form so that the relation of research of research problem can be studied. Statistical analysis deals with analysis and interpretation of the data collected from 50 staff nurses between the age group of 21 to 35 years. The data was analysed according to the objectives of study which were:

PRIMARY OBJECTIVE

1. To assess the knowledge of nurses regarding code blue in selected hospital in the city.
2. To find out the association of knowledge of code blue score with selected demographic variables among staff nurses working in selected hospital of in the city.

SECONDARY OBJECTIVE

1. To develop information booklet for nurses regarding code blue.

No	29	58%
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**SECTION II: FREQUENCY AND PERCENTAGE DISTRIBUTION OF STAFF
ACCORDING TO KNOWLEDGE LEVEL**

n=50

Table 1: Frequency and percentage distribution of staff according to knowledge level

Knowledge	Number	Percentage
Poor (0-10)	21	42%
Average (11-20)	19	38%
Good (21-30)	10	20%
Total	50	100%

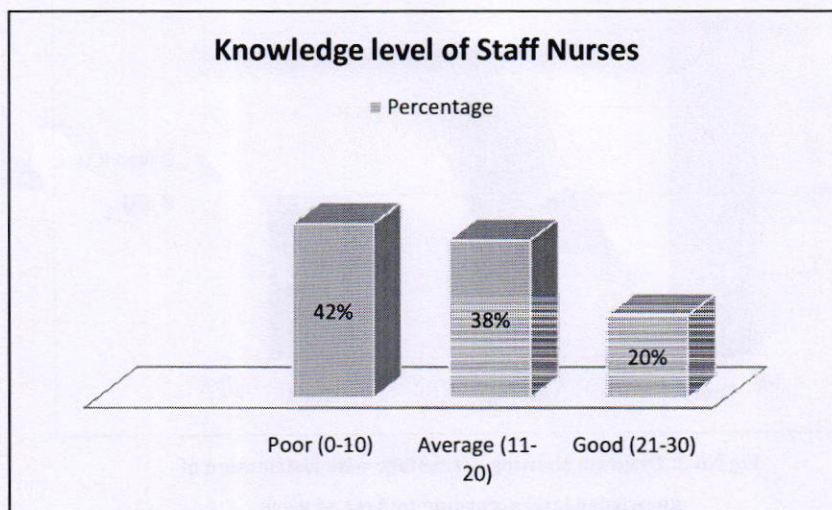


Fig No.1: Diagram showing percentage wise distribution of knowledge level

SECTION III: ASSOCIATIONS

Sr	Variable	X ²	Significance
1	Age Group	3.56	Not Significant
2	Gender	0.066	Not Significant
3	Education	5.856	Not Significant
4	Experience	11.50	Significant
5	Area of work	6.77	Significant
6	BLS course	27.32	Significant
7	Delivered CPR	11.29	Significant

Association between the Area of work and knowledge of code blue

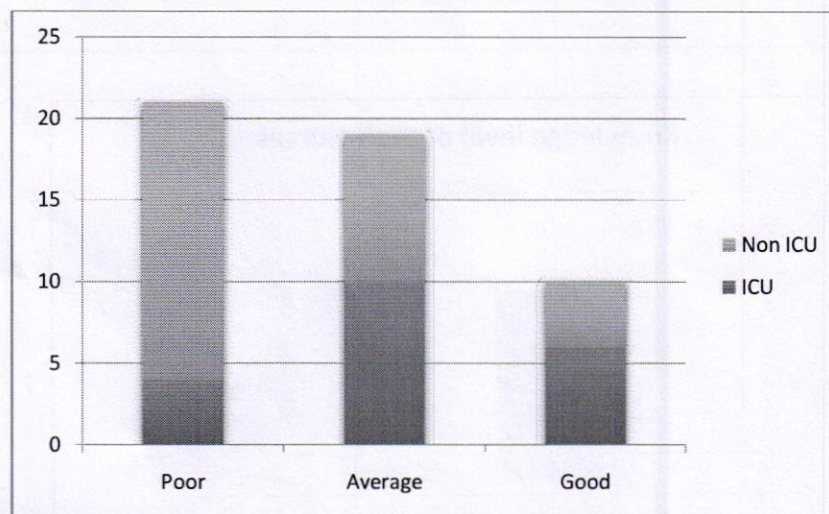


Fig No 2: Diagram showing percentage wise distribution of knowledge level according to Area of work

A Significant association was seen between the Area of work and knowledge of code blue ($p = 0.034$). Out of 20 participants with experience in ICU, 4 had poor knowledge (20%). 10 participants had average knowledge (50%)- majority, and 6 had good knowledge (30%). Out of total 30 participants with No ICU experience, 17 had poor knowledge (56.66%)- majority, 9 had average knowledge (30%) and 4 had good knowledge (13.33%).

Association between the BLS course and knowledge of code blue

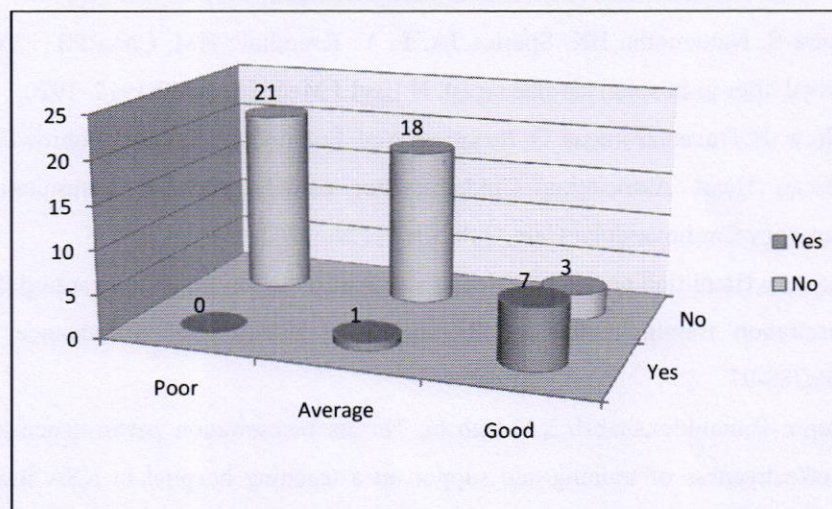


Fig No 3: Diagram showing percentage wise distribution of knowledge level according to BLS course

A Significant association was seen between the BLS Course and knowledge of code blue ($p = <0.0001$). Out of 8 participants with who did BLS course, none had poor knowledge (00%). 1 participant had average knowledge (12.5%) and 7 (majority) had good knowledge (87.5%). Out of total 42 participants who didn't do BLS course, 21 (majority) had poor knowledge (50%), 18 had average knowledge (42.85%) and 3 had good knowledge (7.14%).

MAJOR FINDING OF THE STUDY

This study showed that the staff nurses had poor knowledge about Code blue. The significant association was found between the Experience, Area of work, BLS course, Delivery of CPR and Knowledge score of staff nurses.

CONCLUSION

Based on the findings of the study following conclusion were drawn. Nurses have poor knowledge about code blue guidelines. Younger age group had higher mean knowledge than that of older age group. There is a need to train nurses about the hospital emergency codes and their implementation. Based on the findings of the study a detailed information booklet was prepared which included information such as meaning of code blue, indications, initiating a Rapid Response and Code Blue, Code blue team members and role of each team, equipment used in code blue, end of code and Post Resuscitation Care.

BIBLIOGRAPHY

- 1) Girotra S, Nallamothu BK, Spertus JA, Li Y, Krumholz HM, Chan PS. Trends in survival after in-hospital cardiac arrest. *N Engl J Med* 2012;367:1912–1920.
- 2) Andrew H.Travers,Thmoas D Reaation And Emergency, BentlyJ.BobrowEtc 2010 Amrican Heart Association Guideline For cardiopulmonary Resuscitation and Emergency Cardiovascular Care, Published 2 Nov 2010.
- 3) Rosemary Hamiltion,nurses knowledge and skill retention following cardiopulmonary resuscitation training,review of literature,Sept 2015,journal of advance nursing 51(3);288-97
- 4) Ouseph, B,mohidin,s,tabsh,2,Al-Hebshi, Nurses resuscitation performance:study on the effectiveness of training and support at a teaching hospital in KSA internation journal of cardiovascular and cerebrovascular disease 3(4):21-27,2015
- 5) Srinivas Monangi et al.Saudi J Anaesth“Analysis of functioning and efficiency of a code blue system in a tertiary care hospital” PMC article jun 2018;12(2):245-249.
- 6) Kubra EvrenSahin Timur Mese, The effect of the duration of the procedure on the risk of complication during August 2020. *Turkish journal of Thoracic and cardiovascular surgery* 28(3):467-473 DOI: 10.5606/tgkdc.dergisi.2020.19057
- 7) Code Blueprint: Physician and Rn Co Leadership of “Code Blue” improves Team Oerformance. Abstract Published at Hospital Medicine 2015, March 29- April 1, National Harbor, Md.Abstract 265 *Journal of hospital Medicine*, Vol 10
- 8) Srinivas Monangi et al.Saudi J Anaesth Analysis of functioning and efficiency of a code blue system in a tertiary care hospital PMC article jun 2018;12(2):245-249.
- 9) Yu Huang¹,Qing He,Li J Yang,Guan J Liu,Alexander Jones. Cardiopulmonary resuscitation (CPR) plus delayed defibrillation versus immediate defibrillation for out-of-hospital cardiacarest
Sep12;2014(9):CD009803.doi:10.1002/14651858.CD009803.
- 10) Bryan McNally¹,Rachel Robb,Monica Mehta,Kimberly Vellano,Amy LValderrama,Paula W Yoon,Comilla Sasson,Allison Crouch,Amanda BrayPerez,Robert Merritt,(2005), Out-of-hospital cardiac arrest surveillance -- Cardiac Arrest Registry to Enhance Survival (CARES). 2011 Jul 29;60(8):page no.1-19.

**“EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON KNOWLEDGE
LEVEL REGARDING HOME CARE MANAGEMENT FOR MYOCARDIAL
INFARCTION AMONG CAREGIVERS OF PATIENT’S ADMITTED IN
CARDIOLOGY DEPARTMENT IN SELECTED HOSPITAL”**

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ABSTRACT

The quasi-experimental research study showed the effectiveness of Self Instructional Module on knowledge level regarding homecare management for Myocardial Infarction among caregivers of patient’s admitted in cardiology department in selected hospital. A total of 25 samples were selected using the purposive sampling technique. A structured questionnaire was used to assess the knowledge level. The quasi-experimental works were performed by using Self Instructional Module on knowledge level regarding home care management. All statistical analysis were performed by using descriptive and inferential statistics. The data collection and analysis were based on the objectives and hypothesis. The assessment of pretest knowledge scores of caregivers showed that majority of subjects i.e. 2(8%) belongs to excellent category, 7(28%) belongs to very good category, 6(24%) belongs to good category, 6(24%) belongs to poor category and 4(16%) belong to very poor category. In post-test the majority of subjects knowledge level 7(28%) belongs to excellent category, 8(32%) belongs to very good category, 6(24%) belongs to good category, 4(16%) belongs to poor category. The level of knowledge during pre-test and post-test were compared to prove the effectiveness of Self Instructional Module using paired “t” test $t=13.66^*$, $t(24)= 1.71$, ($P<0.05$). Analysis of socio-demographic variables showed a significant association between types of family with knowledge score at 5% level ($P>0.05$).

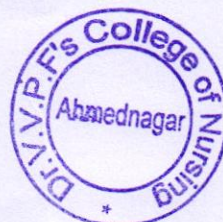
Keywords: - Self Instructional Module, Myocardial Infarction

1. INTRODUCTION

The heart is one of the body's most important organs. Essentially a pump of blood, Oxygenated blood provides the human body with energy and is essential to keep your body healthy.

The incidence of myocardial infarction (MI) in the world varies greatly. According to a Spanish study, the crude coronary heart disease (CHD) incidence rate was 300.6/100,000 person-years for men and 47.9/100,000 person-years for women. The incidence of Myocardial Infarction in India is 64.37/1000 people in men aged 29-69 years, alcohol intake led to 30% lower CHD incidence.¹

CVDs are the number 1 cause of death globally: more people die annually from CVDs than from any other cause. An estimated 17.9 million people died from CVDs in 2016, representing 31% of all global deaths. Of these deaths, 85% are due to heart attack and stroke. Over three-quarters of CVD deaths take place in low- and middle-income countries. Out of the 17 million premature deaths (under the age of 70) due to non-communicable diseases in 2015, 82% are in low- and middle-income countries, and 37% are caused by CVDs. Most cardiovascular diseases can be



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prevented by addressing behavioral risk factors such as tobacco use, unhealthy diet and obesity, physical inactivity, and harmful use of alcohol using population-wide strategies. People with cardiovascular disease or who are at high cardiovascular risk (due to the presence of one or more risk factors such as hypertension, diabetes, hyperlipidemia, or already established disease) need early detection and management using counseling and medicines, as appropriate.²

M.I has been labeled as the single largest killer disease in the world. 40 million persons in India are estimated to suffering from M.I. The hospital prevalence of M.I in India was reported to be 6% - 23%, while community prevalence was reported to be 6.5% and 4.5% in urban men and women respectively. World Health Organization has predicted that by 2015, India will have 100 million or 60% of the world's heart patients. Among the Indian population, CVD has been reported at a very young age and is a serious form.³

Myocardial infarction is also known as a heart attack occurs when the blood supply to the part of the heart is interrupted. This is most commonly due to the occlusion of a coronary artery following the rupture of vulnerable atherosclerosis plaque. Which is an unstable collection of lipids and white blood cells in the wall of the artery, resulting in ischemia and oxygen shortage if left untreated for a sufficient period. Can cause damage and/or death of heart muscle tissue. One of the major goals of care for the client with acute myocardial infarction is rehabilitation and change the lifestyle of the patient through education. The study was conducted to evaluate the "Effectiveness of self-instructional module on knowledge level regarding home care management for myocardial infarction among caregivers of patient's admitted in cardiology department in selected hospital"⁴

India has gone up from 1.5% in 1960's to about 13% at present in the urban population. The increasing incidence is a part of the epidemiological transition characterized by changing lifestyles. Cardiovascular disease had gone up from 2% two decades ago to 9% now in India. Even in rural areas, there is a considerable increase in the number of cases. The Jayadeva Institute of cardiology, Bangalore had conducted 300 free camps for a cardiac checkup so far and had treated about 1.42 lakh outpatients.⁵

Delaying treatment times for clients suffering an acute M.I. potentially poses a disadvantage for receiving occlusion elimination therapies. (Carolyn H, 2009) The nurses do not have adequate knowledge to interpret E.C.G. The electrodes placed on the patients by nurses were often not in the correct anatomic site which causes changes in the E.C.G. morphology and leads to misdiagnosis. The lead selected by many nurses to monitor patients is diagnostically inferior to other available leads and the lead placement is often inaccurate.⁶

A study was conducted on serum lipids and lipoproteins following acute MI in women. Serum lipids and lipoprotein electrophoresis were studied in 12 female patients following acute myocardial infarction, during the recovery, and the following discharge from the hospital. All were on normal hospital diet 'calculated to maintain the weight'. No significant changes occurred in serum lipids at any time but the lipoprotein pattern changed in 4 patients following recovery from the acute episode.⁷

A study was conducted to assess the effectiveness of the self-instructional module on knowledge regarding the topic of emergency management of myocardial. A total of 60 staff nurses were selected, the data was collected by using a non-probability convenient sampling technique. 1st pre-test knowledge questionnaire was administered and then SIM was given to the staff nurses. After 7 days post-test was taken from the same sample. The study findings were the mean score of pre-test was 41.43% and the mean score of post-test was 74.63%. the changes in the score were statistically significant ($p > 0.05$) indicating that the SIM was effective in improving the knowledge of staff nurses on management of MI. the result of this study highlight the need for continuing education of staff nurses in emergency management of MI. ⁸

2. METHODOLOGY

A quasi-experimental design was used for the present study & 25 caregivers were selected using the purposive sampling technique. A structured questionnaire was used to assess the knowledge level. Self Instructional Module was used to determine variation between pretest and posttest knowledge scores. Descriptive and inferential statistics were used to analyze the data.

3. RESULTS AND DISCUSSION

Analysis and interpretation of data involve the objective material in the possession of the researcher and his subjective reactions and desire to derive from the data the inherent meanings in that relation to the problem. This chapter deals with the analysis and interpretation of data collected to evaluate the effectiveness of the Self-instructional module regarding home care management of myocardial infarction among caregivers of patients. The purpose of this analysis is to reduce the data to a manageable and interpretable form so that the research problem can be studied and tested.

The analysis and interpretation of data of this study are based on data collected through Structured knowledge questionnaires from caregivers (N=25). The results were computed using descriptive and inferential statistics based on the following objectives. The level of significance was set at 0.05%.

OBJECTIVES

1. To assess the knowledge level regarding home care management of myocardial infarction among caregivers of patients.
2. To assess the effectiveness of the self-instructional module regarding home care management of myocardial infarction on knowledge level among caregivers of patients.
3. To find out the association of knowledge level regarding home care management of myocardial infarction with selected baseline Performa among caregivers of patients.

PRESENTATION OF THE DATA

To begin with, the data was entered in a master sheet, for tabulation and statistical processing. To find the relationship, the data were tabulated, analyzed, and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

Section 1: Description of Socio-demographic characteristics of respondents under study.

Section 2: Description of knowledge level regarding home care management of myocardial infarction among caregivers of patients.

Section 3: Description of the effectiveness of self-instructional module regarding home care management of myocardial infarction on knowledge level among caregivers of patients.

Section 4: Description of Association of knowledge level regarding home care management of myocardial infarction with selected baseline Performa among caregivers of patients.

SECTION-I DESCRIPTION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE CAREGIVERS

Table 1: Frequency and percentage distribution of the baseline Performa

n=25

Sr. No.	Variable	Frequency	Percentage
1	Age		
	18- 28	11	44.00%
	29-38	6	24.00%
	39-48	4	16.00%
	48 and above	4	16.00%
2	Gender		
	Male	18	72.00%
	Female	7	28.00%
3	Religion		
	Hindu	20	80.00%
	Muslim	1	4.00%
	Christian	4	16.00%
	Other	0	20.00%
4	Types of Family		
	Joint family	19	76.00%
	Nuclear Family	6	24.00%
5	Education		
	Secondary Education	10	40.00%
	Senior Secondary Education	6	24.00%
	UG	4	16.00%
	PG and above	5	20.00%
6	Occupation		
	Business	8	32.00%
	Service	7	28.00%
	Daily basis	6	24.00%
	Unemployed	4	16.00%
7	Relation with patient		
	Spouse	7	28.00%
	Blood relation	13	52.00%
	Hired person	4	16.00%
	Neighbour	1	4.00%

SECTION 2: DESCRIPTION OF KNOWLEDGE LEVEL REGARDING HOME CARE MANAGEMENT OF MYOCARDIAL INFARCTION AMONG CAREGIVERS OF PATIENTS.

Table no. 2: Description of aspect-wise and overall knowledge scores of respondents in the pre-test.

n=25

SR. NO	ITEMS	PRE-TEST		
		MEAN	SD	MEAN %
1	General knowledge related to heart disease	2.96	5.87	12.86
2	General information about Life style modification	1.2	4.25	7.05
3	Knowledge related to dietary modification & weight loss	5.48	5.94	26.09
4	Knowledge related home care management of myocardial infarction	2.64	4.42	16.5
5	Knowledge related to habits	2.36	4.82	11.8

Table No 2: The above table shows the pre-test knowledge score of respondents on home care management of MI. The highest mean percentage was seen in the aspect of Knowledge related to dietary modification & weight loss that is 26.09, followed by 16.5% in Knowledge related home care management of myocardial infarction, 12.86% in General knowledge related to heart disease, 11.8% in the aspect of Knowledge related to habits, 7.05% in the aspect of General information about Lifestyle modification.

Table no. 3: Description of aspect-wise and overall knowledge scores of respondents in post-test.

n=25

SR. NO	ITEMS	POST-TEST		
		MEAN	SD	MEAN %
1	General knowledge related to heart disease	4.4	8.05	18.33
2	General information about Life style modification	1.36	4.52	7.55
3	Knowledge related to dietary modification & weight loss	6.52	6.74	31.04
4	Knowledge related home care management of myocardial infarction	3.56	4.83	17.52
5	Knowledge related to habits	3.48	6.57	15

Table No. 3: The above table shows the post-test knowledge score of respondents on home care management of MI. The highest mean percentage was seen in the aspect of Knowledge related to dietary modification & weight loss that is 31.04%, followed by 18.33% in General knowledge related to heart disease, 17.52% in Knowledge related home care management of myocardial infarction, 15% in the aspect of Knowledge related to habits, 7.55% in the aspect of General information about Lifestyle modification.

Table No. 4: Overall level of Knowledge score regarding home care management for myocardial infarction

n=25

	KNOWLEDGE SCORE									
	VERY POOR		POOR		GOOD		VERY GOOD		EXCELLENT	
	F	%	F	%	F	%	F	%	F	%
PRE-TEST	4	16	6	24	6	24	7	28	2	8
POST-TEST	0	0	4	16	6	24	8	32	7	28

Above table no. 4 shows the level of knowledge in pre-test and post-test assessment. In the pre-test the majority of subject 7(28%) belongs to the very good category, 6(24%) belongs to the good category, 6(24%) belongs to the poor category, 4(16%) belongs to a very poor category and 2(8%) belongs to excellent category.

In the post-test the majority of subject 8(32%) belongs to the very good category, 7(28%) belongs to the excellent category, 6(24%) belongs to the good category, 4(16%) belongs to poor category.

SECTION 3: DESCRIPTION OF EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE REGARDING HOME CARE MANAGEMENT OF MYOCARDIAL INFARCTION ON KNOWLEDGE LEVEL AMONG CAREGIVERS OF PATIENTS.

Table No. 5: Assessment of knowledge mean pre and post Self-Instructional Module

n=25

	Assessment of knowledge mean pre and post-Self-Instructional Module					
	Mean	SD	Mean %	df	Level of Significant	Paired 't' test
pre-test	14.64	7.11	56.3	24	0.05	t=13.66*
post-test	19.56	6.48	67.45			

t (24) =1.71 P=<0.05

*Significant

The data presented in the above table shows that the pre-test total means percentage reading of Knowledge score was 56.3% with a mean \pm SD of 14.64 \pm 7.11 and post-test reading of knowledge score is increased by mean percentage 67.45% with a mean \pm SD of 19.56 \pm 6.48 after the Self-Instructional Module.

The "t" value is 13.66 were found more than the table value 1.71, $p < 0.05$ with the degree of freedom 24.

Hence researcher rejects the null hypothesis and accepts the research hypothesis. It can be concluded that the use of the Self-Instructional Module is found to be effective and helpful in improving the home care management of myocardial Infarction among caregivers of patients.

SECTION 4: DESCRIPTION OF ASSOCIATION OF KNOWLEDGE LEVEL REGARDING HOME CARE MANAGEMENT OF MYOCARDIAL INFARCTION WITH SELECTED BASELINE PERFORMA AMONG CAREGIVERS OF PATIENTS.

Table 6: Association between selected Baseline Performa and Knowledge score regarding home care management for myocardial infarction

n=25

Sr. No.	Variables	χ^2	Level of significant
1	Age	0.009	Not Significant
2	Gender	1.884	Not Significant
3	Religion	0.042	Not Significant
4	Types of family	7.672*	Significant*
5	Education	0.114	Not Significant
6	Occupation	0.259	Not Significant
7	Relation with patient	0.042	Not Significant

 $\chi^2(1) = 3.84, P < 0.05$

Chi-square values were calculated to find out the association knowledge level regarding home care management of myocardial infarction with their selected baseline Performa. The study findings reveal that there was a significant association of knowledge level regarding home care management of myocardial infarction with their selected baseline Performa-like types of family ($\chi^2 = 7.672$) which is Significant.

DISCUSSION

Section I: Description of Socio-demographic characteristics of respondents under study:

In the present study that most of the responders 44% belonged to the 18–28-year age group, 24% belonged to the 29–38-year age group, 16% belonged to the 38-48-year age group, and 16 % belonged to the 48 and above year age group.

In a similar study, the majority 48.4% of the respondents fall between the age of 21 -30 years, 46.6% of the respondents fall between 31-40 years and 5% of the respondents fall between 41-50 years of age.⁸

In the present study, the majority 72 % of the responders were males, and the remaining 28% of the respondents were females.

In a similar study, the majority 88.4% of the responders were females, and the remaining 11.6% of the respondents are males.⁸

In the present study, most of the responders 80% were Hindu, 16% were Christian, and 4% were Muslim.

In a similar study, the majority 60%of the respondents are Hindus, 21.6% of the respondents were Muslims, and the remaining 18.4% of the respondents were Christians. ⁶

In the present study, 40 % of responders were having Secondary Education, 24% were having Senior Secondary Education, 20% were having PG and above, and 16% were Having Undergraduate.

In a similar study, the majority 61.7% of the respondents were BSC, 30% of the respondents were MSC, 6.7% of respondents were GNM, and the remaining 1.6% of respondent's education was above graduation. ⁶

Section II: Description of knowledge level regarding home care management of myocardial infarction among caregivers of patients.

A present study revealed that the pre-test total mean percentage reading of Knowledge score was 56.3% with a mean \pm SD of 14.64 ± 7.11 and post-test reading of knowledge score is increased by mean percentage 67.45% with a mean \pm SD of 19.56 ± 6.48 after the Self-Instructional Module. there was a considerable improvement of knowledge after the SIM on home care management for MI and is statistically established as significant.

The above result is supported by a similar study conducted to assess the effectiveness of SIM on knowledge Regarding emergency management of MI. That the overall knowledge in the pre-test is 41.43%, which shows that there is a lack of information among pregnant women regarding the management of MI. although some staff nurses had moderate knowledge (3.3%), and the majority of them had inadequate knowledge (96.7%) regarding management for MI. there was a considerable improvement of knowledge after the SIM on emergency management on MI and is statistically established as significant. The overall post-test score was 74.62% with 32.51% mean percentage knowledge enhancement. ⁸

Section III: Description of the effectiveness of self-instructional module regarding home care management of myocardial infarction on knowledge level among caregivers of patients.

A present study revealed that the pre-test total mean percentage reading of Knowledge score was 56.3% with a mean \pm SD of 14.64 ± 7.11 and post-test reading of knowledge score is increased by mean percentage 67.45% with a mean \pm SD of 19.56 ± 6.48 after the Self-Instructional Module. The "t" value is 13.66* were found

more than the table value 1.71, $p < 0.05$ with the degree of freedom 24. Hence researcher rejects the null hypothesis and accepts the research hypothesis. It can be concluded that the use of the Self-Instructional Module is found to be effective and helpful in improving the home care management of myocardial Infarction among caregivers of patient's.

The above result is supported by a similar comparative study conducted to assess knowledge and reported incidence of cardiac-related symptoms among patients with nurse's knowledge and estimated incidence of symptoms of MI. Retrospective collection of patient data by means of a postal questionnaire and postal survey of hospital nurses. The result shows the percentage of nurses who correctly estimated the incidence of symptoms was low, 25% of nurses did not make any correct estimates, and the mean number of correct estimates was not associated with nurses' experience or qualifications. The overall mean score for the knowledge scale was 9.6 (SD 1.9) for nurses, which was significantly higher ($t=7.5$, $p < 0.001$) than that for patients (mean 7.9, SD 2.3); the nurses' score was not significantly associated with experience or place of work. The study concluded Nurses should be provided with sound knowledge on cardiac symptoms and risks so that they can educate patients accordingly and, in particular, can correct misconceptions about the condition, prognosis, and appropriate lifestyle changes. Advanced -training personnel should recognize the need to enhance nurses' skills in patient education and rehabilitation; the importance of these skills also should be recognized in first-level training.⁷

Section IV: Description of Association of knowledge level regarding home care management of myocardial infarction with selected baseline Performa among caregivers of patient's.

In the present study association among Socio-demographic variables analyzed in this study, 7.672* Types of family were found significant with pre-test knowledge scores at 5% level. There was no association between 0.009* Age, 1.884* gender, 0.042* religion, 0.114* education, 0.259* occupation, and 0.042* relation home care management of myocardial infarction and the pre-test knowledge scores.

The above result is supported by a similar study conducted to assess the effectiveness of SIM on knowledge Regarding emergency management of MI. Among Socio-demographic variables analyzed in this study, 6.03* age in years, 15.63* years of experience, 7.84* area of experience, and 6.94* religion was found significant with post-test knowledge scores at 5% level. There was no association between 1.08 education 2.44 gender and 6.41 source of information on the management of a patient with MI and the post-test knowledge scores.⁸

The above result is supported by a similar study conducted to assess the effectiveness of SIM on knowledge Regarding emergency management of MI. the result shows that a Highly significant difference found between the pre-test and post-test knowledge scores ($P < 0.01$) but no a significant association was found between the post-test knowledge scores when compared with the demographic variables of staff nurses ($P < 0.05$).⁶

Testing the Hypotheses: (at 0.05 level pf significance)

H₁ - There will be a significant effect of self-instructional module on knowledge level on home care management of myocardial infarction among caregivers.

In this study, the overall pre-test mean knowledge score was 56.3% and the post-test score was 67.45% knowledge enhancement. The hypotheses **H₁** stated in the study is accepted since there was significant change found between the pre-test and post-test knowledge scores of caregivers regarding home care management for myocardial infarction among caregivers of patient's at $P < 0.05$ level (5%), there was a significant improvement in knowledge scores of caregivers after administration of SIM on home care management for myocardial infarction.

In this study, the overall pre-test means knowledge score was 41.43% and the post-test score was 74.62% with 32.51% mean percentage knowledge enhancement. The hypotheses **H₁** stated in the study is accepted since there was significant change found between the pre-test and post-test knowledge scores of staff nurses regarding the management of a patient with MI at $P < 0.05$ level (5%), there was a significant improvement in knowledge scores of staff nurses after administration of SIM on the management of a patient with MI.⁸

H₂ - There will be a significant association of knowledge level on myocardial infarction and selected baseline Performa.

The investigator accepts hypothesis **H₂** for significant association between types of family and knowledge scores. But the investigator rejects hypothesis **H₂** with few non-significant socio-demographic variables such as age, gender, religion, education, occupation, and relation with patient and knowledge scores.

The above result is supported by a similar study conducted to evaluate the effectiveness of structured teaching programs on the prevention of MI among 80 women age group of 18-45 years in a selected rural area, Chennai. The study findings revealed that the overall knowledge mean value in experimental design was 48.69 with a standard deviation of 17.41 whereas in the control group the mean value was only 5.36 with a standard deviation of 11.94. After the structured teaching program, the paired 't' value was 17.69 with the ($p < 0.001$) which is highly significant. A study concluded that there is an improvement in knowledge on MI among women. There is an association of level of knowledge scores with that of age and education of women.⁵

4. CONCLUSION

The finding of this study showed that the self instructional module was effective as evidenced by the result of post-test knowledge score which was more than pre-test score. This study has proved that Self Instructional Module helped to increase the knowledge level regarding home care management of myocardial infarction among caregivers of Patients, Hence based on the findings, it was concluded that different methods of teaching can be used to improve the knowledge of caregivers which will help in minimizing complications associated with the Myocardial Infarction at home. Ultimately it will help to improve the quality of life among the patients with Myocardial Infarction.

REFERENCES

1. Vinay R, Prasannalakshmi R, Nikita C. Risk factors for acute myocardial infarction in the coastal region of India: A case-control study [Internet]. Who. int. 2017 [cited 20 November 2019]. Available from: [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
2. Cardiovascular diseases (CVDs) [Internet]. Who.int. 2020 [cited 20 November 2019]. Available from: [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
3. Krishnan M. Coronary heart disease and risk factors in India – On the brink of an epidemic?. Indian Heart Journal. 2012;64(4):364-367.
4. En.wikipedia.org.2021. Myocardial infarction - Wikipedia. [online] Available at: <https://en.wikipedia.org/wiki/Myocardial_infarction
5. Mendoza W, Miranda J. Global Shifts in Cardiovascular Disease, the Epidemiologic Transition, and Other Contributing Factors. Cardiology Clinics. 2017;35(1):1-12.

6. Xavier B. Effectiveness of Self Instructional Module regarding Emergency Management of the patient with Myocardial Infarction on Knowledge among Staff Nurses. IOSR Journal of Nursing and Health Science. 2013;2(6):14-19.
7. Birchwood, online 2008, "Serum lipids and Lipo protein following acute MI", Nov 14:38(47).
8. Jacob s. Effectiveness of Self-Instructional Module regarding Emergency Management of patient with Myocardial Infarction on Knowledge among Staff Nurses. IOSR Journal of Nursing and Health Science. 2018;2(6):14-19.

**“EFFECTS OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING EMERGENCY
MANAGEMENT OF CONVULSION AMONG CARE GIVERS OF PATIENT WITH EPILEPSY IN
SELECTED HOSPITAL”**

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ABSTRACT

BACKGROUND AND PURPOSE: There are studies conducted on knowledge and attitude on epilepsy. Epilepsy is a common chronic neurological disorder characterized by recurrent unprovoked convulsion. It is also known as a seizure disorder that affects approximately 1% of the general population. Epilepsy was found to be the second leading neurologic problem in both urban and rural population. **OBJECTIVES:** 1. To assess the knowledge level regarding emergency management of convulsion patient with epilepsy among caregivers in view to develop information booklet. 2. To assess the effectiveness of information booklet on knowledge regarding emergency management of convulsion patient with epilepsy among caregivers. 3. To find out the association between knowledge level regarding emergency management of convulsion patient with epilepsy. **DESIGN:** A quasi-experimental design was used for the present study & 50 caregivers were selected using the purposive sampling technique. A structured questionnaire was used to assess the knowledge level. Descriptive and inferential statistics were used to analyze the data. **RESULT:** The analysis and the data were based on the objective and hypothesis. Both descriptive and inferential statistics were used for data analysis. the assessment of pre-test knowledge level of caregivers regarding emergency management of convulsion of patients with epilepsy, shows that In pre- test the majority of knowledge level subject 5(10%) belongs to the very good category, 21(42%) belongs to the good category, 15(30%) belongs to the poor category, 8(16%) belongs to a very poor category and 1(2%) belongs to excellent category. In the post-test the majority of knowledge level subject 43(86%) belongs to the very good category, 5(10%) belongs to the excellent category, 1(2%) belongs to the good category, 1(2%) belongs to poor category. The level of knowledge during pre-test and post-test are compared to prove the effects of the Information booklet using paired “t” test, $t=2.953^*$, $t(49)=2.00$, $P<0.05$. Analysis of socio-demographic variables showed significant association between types of family with knowledge score at 5% level ($P>0.05$).

Conclusion: The finding of the study shows that majority of knowledge level subject 43(86%) belongs to the very good category, 5(10%) belongs to the excellent category, 1(2%) belongs to the good category, 1(2%) belongs to poor category. The level of knowledge during pre-test and post- test is compared to prove the effects of the Information regarding emergency management of convulsion. The study concluded that there is a significant increase in the knowledge level among caregivers after administered the Information booklet.

Keywords:- Information booklet, Epilepsy



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1. INTRODUCTION

The neurological disorders are diseases of the central and peripheral nervous system. In other words the brain, nerve roots, cranial nerves, neuromuscular junction, peripheral nerves, autonomic nervous system, and muscles. These disorders include epilepsy, Alzheimer disease, cerebrovascular diseases including stroke, migraine and headache, multiple sclerosis, Parkinson's disease, neuroinfections, brain tumors, traumatic disorders due to head trauma, and neurological disorders from malnutrition.¹

Epilepsy is the very common neurological disorder. Epilepsy is the tendency to have seizures that start in the brain. The brain uses electrical signals to pass messages between brain cells. If these signals are disrupted, this can lead to a convulsion. Epilepsy is usually diagnosed when someone has had more than one convulsion. convulsion can affect your feelings, awareness or movement. Different types of convulsion involve different things. These may include confusion, strange feelings, repetitive movements, 'blank' moments where you are briefly unconscious, muscle jerks, sudden falls, or jerking movements while unconscious.

There are many different kinds of epilepsy, different types of convulsions. Some convulsions are harmless and barely noticeable. Others can be life-threatening. Because epilepsy disrupts brain activity, its effects can trickle down to affect just about every part of the body.

2. METHODOLOGY

A quasi-experimental design was used for the present study & 50 caregivers were selected using the purposive sampling technique. A structured questionnaire was used to assess the knowledge level. Information booklet was used to determine variation between pre test and post test knowledge score. Descriptive and inferential statistics were used to analyze the data.

3. RESULTS AND DISCUSSION

This chapter deals with the detailed discussion on the finding of the study interpreted from the analysis. A comparison with various other studies is done with the current findings of the study and related suggestions are stated to improve it further.

OBJECTIVES

1. To assess the knowledge level regarding emergency management of convulsion patient with epilepsy among caregivers in view to develop information booklet.
2. To assess the effectiveness of information booklet on knowledge regarding emergency management of convulsion patient with epilepsy among caregivers.
3. To find out the association between knowledge level regarding emergency management of convulsion patient with epilepsy.

PRESENTATION OF THE DATA

To begin with, the data was entered in a master sheet, for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

Section 4.1: Description of Socio-demographic characteristics of respondents under study.

Section 4.2: Description of knowledge level regarding emergency management of convulsion among care givers of patient.

Section 4.3: Description of effects of Information booklet regarding emergency management of convulsion on knowledge level among care givers of patients.

Section 4.4: Description of Association of knowledge level regarding emergency management of convulsion with selected baseline Performa among care givers of patients.

4.1 DESCRIPTION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE CAREGIVERS

Table 3: Frequency and percentage distribution of the baseline Performa

n=50

Sr. No.	Variable	Frequency	Percentage
1	Age		
	18- 28	04	8%
	29-38	20	40%
	39-48	10	20%
2	48 and above	16	32%
	Gender		
	Male	19	38%
3	Female	31	62%
	Religion		
	Hindu	11	22%
	Muslim	18	36%
4	Christian	14	28%
	Other	07	14%
	Types of Family		
5	Joint family	34	68%
	Nuclear Family	16	32%
6	Education		
	Secondary Education	31	62%
	Senior Secondary Education	18	36%
	UG	01	2%
7	PG and above	00	0%
	Occupation		
	Business	16	32%
	Service	17	34%
	Daily basis	10	20%
8	Unemployed	07	14%
	Relation with patient		
	Spouse	29	58%
	Blood relation	21	42%
9	Hired person	00	0%
	Neighbor	00	0%

4.2 SECTION 2: DESCRIPTION OF KNOWLEDGE LEVEL REGARDING EMERGENCY MANAGEMENT OF CONVULSION PATIENT WITH EPILEPSY AMONG CAREGIVERS OF PATIENTS.

Table no. 2: Description of aspect-wise and overall knowledge scores of respondents in the pre-test and post-test.

n=50

SR. NO	ITEMS NO.	PRETEST			POSTTEST		
		MEAN	SD	MEAN %	MEAN	SD	MEAN %
1	Definition and risk factors	1.32	9.23	8.80%	1.9	13.41	9.50%
2	Types, clinical features and diagnosis	1.14	7.97	7.60%	2.2	15.4	11%
3	Management and complications	1.42	9.93	10.14%	2.96	20.71	14.09%
4	Health education	1.16	8.11	7.73%	1.82	12.73	9.57%

Overall level of Knowledge score regarding Emergency management of convulsion.

n=50

	KNOWLEDGE SCORE									
	VERY POOR		POOR		GOOD		VERY GOOD		EXCELLENT	
	F	%	F	%	F	%	F	%	F	%
PRE-TEST	8	16%	15	30%	21	42%	5	10%	1	2%
POST-TEST	0	0%	1	2%	1	2%	43	86%	5	10%

Above table no. 6 shows the level of knowledge in pre-test and post-test assessment. In the pre-test the majority of subject 5(10%) belongs to the very good category, 21(42%) belongs to the good category, 15(30%) belongs to the poor category, 8(16%) belongs to a very poor category and 1(2%) belongs to excellent category.

In the post-test the majority of subject 43(86%) belongs to the very good category, 5(10%) belongs to the excellent category, 1(2%) belongs to the good category, 1(2%) belongs to poor category.

4.3 section 3: DESCRIPTION OF EFFECTS OF INFORMATION BOOKLET REGARDING EMERGENCY MANAGEMENT OF CONVULSION ON KNOWLEDGE LEVEL AMONG CAREGIVERS OF PATIENTS.

Table no. 5: Assessment of knowledge mean pre and post information booklet

n=50

	Assessment of mean pre and post information booklet					
	Mean	SD	Mean %	df	Level of Significant	Paired 't' test
pre-test	10.72	4.48	51.04%	49	0.05	t=2.953*
post-test	18.56	2.18	84.36%			

t(49)=2.0086

P=<0.05

*Significant

SECTION 4.4: DESCRIPTION OF ASSOCIATION OF KNOWLEDGE LEVEL REGARDING EMERGENCY MANAGEMENT OF CONVULSION PATIENT WITH EPILEPSY WITH SELECTED BASELINE PERFORMA AMONG CAREGIVERS OF PATIENTS

Association between selected Baseline Performa and Knowledge score regarding emergency management of convulsion patient with convulsion.

Sr. No.	Variables	Chi-Square Value	Level of significant
1	Age	0.79	Not Significant
2	Gender	0.139	Not Significant
3	Religion	0.191	Not Significant
4	Types of family	0.0005	Not Significant
5	Education	4.827*	Significant*
6	Occupation	0.149	Not Significant
7	Relation with patient	0.045	Not Significant

n=50

$$\chi^2(1) = 3.84, P < 0.05$$

Chi-square values were calculated to find out the association knowledge level regarding emergency management of convulsion patient with epilepsy with their selected baseline Performa. The study findings reveal that there was a significant association of knowledge level regarding emergency management of convulsion patient with epilepsy with their selected baseline Performa like Education ($\chi^2 = 4.827$) which is Significant.

4. CONCLUSION

This chapter presents the conclusions drawn, implications, and recommendations. The main aim of the study was to assess the existing knowledge of caregivers on emergency management of convulsion patient with epilepsy and to conduct a information booklet regarding emergency management of convulsion patient with epilepsy. The information booklet contains information regarding the introduction of Epilepsy, the term Epilepsy, risk factors, types and clinical features of Epilepsy, healthy habits, convulsion monitoring, emergency management of convulsion, preventions of convulsion and role of caregivers.

The following conclusions were drawn based on the findings of the study:

1. The pre-test knowledge score among caregiver's falls in very good 10% knowledge score, and post-test score among caregivers falls in very good 86% knowledge score.
2. There was a significant enhancement in the knowledge of caregivers after conducting Information booklet on emergency management of epilepsy.
3. There was a significant association between pre-test knowledge scores and selected demographic variables such as Education at 0.05level.
4. The findings of the study revealed that there was no significant association between pre-test knowledge score and selected demographic variables such as age, gender, religion, types of family, occupation, and relation with patient at 0.05level.

REFERENCES

1. Online Q&A Updated May 2016 <https://www.who.int/features/qa/55/en/>
2. <https://www.epilepsysociety.org.uk/introduction-epilepsy#.XnhVpfpR3IU>
3. 20 June 2019 <https://www.who.int/news-room/fact-sheets/detail/epilepsy>
4. Timothy J. Legg, PhD, PsyD on August 15, 2017 — Written by Stephanie Watson <https://www.healthline.com/health/epilepsy/effects-on-body#1>

5. Sergievsky Center, Columbia University, New York, New York, U.S.A.; †Laboratory of Neurological Disorders, Institute for Pharmacological Research “Mario Negri,” Milano, Italy; and ‡Epilepsy Center, University of Milano-Bicocca, Monza, Italy

Effectiveness of Exercise Based Cardiac Rehabilitation on Selected Cardiac Parameters among Postoperated CABG Patient in Selected hospital

IJSN
Volume 9, Number 1
© Red Flower Publication Pvt. Ltd

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Abstract

Background: As the concept of nursing is changing fast, nursing is not only caring for the sick but takes care for prevention of illness, promotion and maintenance of health. The nurses multiple roles in cardiac rehabilitation have a "spider in the web like" character and depending on the phase of the patients recovery he/she acts as a counsellor, a coach an educator. The study conducted with the aim and objectives of observing the effect of exercise based cardiac rehabilitation on selected cardiac parameters respectively. (1) Heart rate (2) Respiratory rate (3) Blood pressure (4) Saturation of peripheral oxygen (5) Mean arterial pressure (6) Rate pressure product.

Material and Method: A pre-experimental one group-pre-test post-test design study was selected for the study 40 samples were selected by non probability purposive sampling technique, among hospital admitted patient those who full filled the inclusion criteriasuch as postoperated CABG patient who has completed 48 hours after surgery, admitted in selected cardiac unit, with stable regimen, both male and female patients was included. Exclusion criteria were patient with severe critical condition, strict bed rest advised and unconscious patient. Exercise based cardiac rehabilitation activity such as warm up exercise, diaphragmatic breathing exercise, active exercise of extremities, positioning, coughing, huffing, incentive spirometry and ambulation were administered to the patient as per the scheduled duration. Modified observational checklist was used to assess the selected cardiac parameters during pre & post-test. Baseline data was collected from patient records. Validity done and reliability of checklist is 0.98.

Result: Showed that *t*-value of effectiveness of exercise based cardiac rehabilitation on selected cardiac parameters ($t = 3.46$ with df_{19}) were found more than table value 2.09 at 0.05 level significant.

Inference: Hence the exercise based cardiac rehabilitation was found to be effective in terms of cardiac parameters for post CABG Patient.

Conclusion: Hence the study finding revealed that the exercise based cardiac rehabilitation found to be effective and helpful in improving the cardiac functioning and parameter among postoperated CABG patient. Prolong or continuous performance of selected exercises will help the patient to maintain the cardiac health.

Keywords: Postoperated CABG; Exercise based cardiac rehabilitation; Cardiac parameters; Saturation of peripheral oxygen; Mean arterial pressure and Rate pressure product.

How to cite this article:

Mighila M Nair, Amol C Temkar, Suresh T Saravade. Effectiveness of Exercise Based Cardiac Rehabilitation on Selected Cardiac Parameters among Postoperated CABG Patient in Selected hospital. Indian J Surg Nurs. 2020;9(1):31-36.

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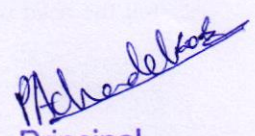
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Received on 01.02.2020, Accepted on 03.02.2020

Introduction

Human heart is an organ that pumps blood throughout the body via the circulatory system, supplying oxygen & nutrients to the tissues and removing carbon dioxide and other wastes.¹ Coronary heart disease is epidemic in India and is one of the major causes of disease burden and




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deaths, many factors leading to cardiovascular disease can be controlled or modified.² Cardiac rehabilitation is becoming an integral part of comprehensive care it can be lifesaving and goal oriented process that enables people with acute or chronic disorders where teaches the cardiac client how to be more active and make lifestyle changes.³ Cardiac rehabilitation programmes are intended to enhance the effect of acute treatment actions and to prevent risk factors by involving medical evaluation, supervised exercise, education and counselling of patients into the specific recognized phases which helps patients to lead an improvement in their wellbeing and recovery.⁴ Coronary artery bypass graft means an operation carried out to bypass a coronary artery narrowed by the atherosclerosis using a graft from a healthy saphenous vein or an internal mammary artery.⁵ Thus the findings of study signifies that there is effectiveness of exercise based cardiac rehabilitation on selected cardiac parameters where the cardiac rehabilitation exercise significantly improves functional capacity and some hemodynamic responses such as resting and maximum systolic and diastolic blood pressure, resting and maximum heart rate, ejection fraction and rate pressure product. Exercise based cardiac rehabilitation (ECR) is the activity requiring physical effort which is done especially as supervised or unsupervised inpatient, outpatient or community or home based intervention which is well documented, effective and safe especially to improve health return to more active lifestyle and to prevent or diminish postoperative complications.⁶ Physical therapy treatment is often prescribed and the physiological parameters are targeted by the pillars of cardiac rehabilitation which include actionable themes of improvement in exercises such as warm-up exercise, early mobilization range of motion exercise, deep breathing and incentive Spirometry exercises which shows improvement in maintaining blood pressure, heart rate, respiratory rate, oxygen saturation and rate pressure product.⁷ It is observed that a very less emphasis is given on rehabilitation of patient with coronary artery bypass graft. On the other hand the incidence of cardiovascular disease related morbidity is increased up to the high. Many services, studies and reviews identified the mortality due to unplanned cardiac rehabilitation of the postoperated coronary artery bypass graft patients. It is revealed that the failure rate of coronary artery bypass graft is associated with lack of awareness and knowledge regarding cardiac rehabilitation. So by considering the seriousness the researcher felt the need to conduct a study on exercise based

cardiac rehabilitation to promote awareness and improves cardiac function in patient postoperated with coronary artery bypass graft.

Problem Statement

Effectiveness of exercise based cardiac rehabilitation on selected cardiac parameters among postoperated CABG patient in selected hospital.

Objectives of the Study

1. To assess the effect of exercise based cardiac rehabilitation on selected cardiac parameters of postoperated CABG patients.
2. To find the relationship between pre and post exercise based cardiac rehabilitation on selected cardiac parameters among postoperated CABG patients.
3. To find out the association between post exercise based cardiac rehabilitation on selected cardiac parameters with selected demographic variables.

Hypothesis

(All hypothesis will be tested at 0.05 level of significance).

2. H_0 : There will be no significant effect of exercise based cardiac rehabilitation on Selected cardiac parameters of postoperated CABG patients.
3. H_1 : There will be significant effect of exercise based cardiac rehabilitation on Selected cardiac parameters of postoperated CABG patients.

Ethical Aspect

To obtain ethical committee approval for conducting research study, permission was taken from institutional ethics committee. Written informed consent was taken from the patient after informing details regarding research study, its benefits and effect of participation in the research study.

Conceptual Frame Work

Conceptual framework for present study is based on Imogene King goal attainment theory. King goal attainment theory has four major concepts of human beings, health, environment and nursing. The major concepts phenomenon are described as perception, judgement, action, interaction, transaction and feedback.

examination of publications relevant to the research project. A literature review is an account of what has been already established or published on particular research topic by accredited scholars and researchers. A review of literature is helpful to gain deeper insight of the research topic. An extensive review of related literature enable the researcher to develop the conceptual frame work, tool, selection of research design and plan for data analysis. Review of literature for the present study is divided under two aspects. A. Review related to phlebitis. B. Review related to prevention of phlebitis.

Materials and methods

Research approach: Researcher selected experimental approach for this research study.

Research design

Research design adopted for the present study is quasi experimental two group's post-test only controls group research design.

Research study setting

Research study setting for the present study was oncology ward of selected hospital.

Population: The study population was patient undergoing chemotherapy admitted in oncology ward of selected hospital.

Sample size: In this study the sample size consisted of 100 patients who were undergoing chemotherapy in selected hospital.

Sampling technique: the sample drawn for the present study with simple random sampling technique.

Method of selection of study subjects

Inclusion criteria: The patient receiving chemotherapy who are,

1. Between the age 18 to 65 years of both gender
2. Able to follow instructions

Table No. 2: Intervention schedule.

Sr. No.	Nursing intervention	Day 1	Day 2	Day 3	Final score
1.	Cold application given at 9am.				
2.	Ns flush given before and after giving IV medication.	Post-test done after intervention at 6pm	Post-test done after intervention at 6pm	Post-test done after intervention at 6pm	Final score was aggregated according to three days score.
3.	MgSO ₄ local application done at 2pm.				

3. Receiving chemotherapy through IV cannula.

Exclusion criteria: The patient receiving chemotherapy who are,

1. Already developed phlebitis at IV infusion site.
2. Suffering with peripheral vascular disorder.
3. Receiving chemotherapy through central venous catheter or port A catheters.
4. Tool consists of baseline Performa and visual infusion phlebitis scale.

Tool: Tool consists of baseline Performa and visual infusion phlebitis scale.

Section A: Baseline Performa.

Section B: Standardized visual infusion phlebitis scale for assessing the phlebitis.

The assessment of phlebitis done with help of visual infusion phlebitis scale. In the VIP scale assessment done by following criteria.

- (a) Healthy IV site -0
- (b) Possible first sign of phlebitis -1
- (c) Early stage of phlebitis-2
- (d) Medium stage of phlebitis-3
- (e) Advance stage of phlebitis-4
- (f) Advanced stage of thrombophlebitis-5

Intervention

Table No. 1: Intervention.

Sr. No.	Intervention	Frequency	Duration
1.	Cold Application (ice pack)	During injection administration on IV site	15 min
2.	Ns flush 5ml	Before and after injection every time	-
3.	MgSO ₄ (20mg) + Glycerine (100ml) local application	In afternoon at 2pm.	15 min

The nursing intervention schedule is followed for 3 days.

Method of analysis

The data obtained was analyzed and interpreted by descriptive and inferential statistics based on the objective of the study.

Result

Analysis of the first section revealed that Majority (40%) of chemotherapy patient under study were joint family in control group and Experimental group (52%) of them were joint family. Highest percentage (72%) of samples had 16,194Rs.-21,591Rs income in control group and 64% of samples had 16,194Rs-21,591Rs income in experimental group. The findings show that in control group (50%) of them had 2nd stage of cancer in experimental group (52%) of them had 2nd stage of cancer. Majority (80%) of them not had any systemic disease in control group and Experimental group (64%) of them not had any systemic disease.

Effect of hospital existing practice for prevention of phlebitis among patient receiving chemotherapy.

Findings shows that in control group 16 (32%) of them had healthy iv site (score-0), 16 (32%) of them had possible first sign of phlebitis (score-1), 12 (24%) of them had early stage of phlebitis(score-2), 4 (8%) of them had medium stage of phlebitis (score-3), 2 (4%) of them had advance stage of phlebitis (score-4) and 0 (0%) of them had advance stages of thrombophlebitis (score-5). The mean score, SD± of selected chemotherapy receiving patient in post-test of control group. The mean score of post-test was 30 and SD±was 1.08.

Assess the effect of nursing intervention on prevention of phlebitis among patient receiving chemotherapy.

Findings shows that in experimental group 34 (68%) of them had healthy iv site (score-0), 10 (20%) of them had possible first sign of phlebitis (score-1), 4 (8%) of them had early stage of phlebitis (score-2), 2 (4%) of them had medium stage of phlebitis (score-3), 0 (0%) of them had advance stage of phlebitis (score-4) and 0 (0%) of them had advance stages of thrombophlebitis (score-5). The mean score, SD± of selected chemotherapy receiving patient in post-test of experimental group. The mean score of post-test was 16 and SD ± was 0.81.

Table No. 3: Comparison between post-test of control group and experimental group phlebitis among patient receiving chemotherapy in experimental group. n=50

Group	Post-test		Unpaired 't' test value
	Mean score	SD±	
Experimental group	16	0.81	
Control group	30	1.08	2.68

Find out association between prevention of phlebitis and selected baseline Performa among patient receiving chemotherapy.

Chi-square test was used for find out the association between prevention of phlebitis with selected baseline Performa. Result shows that there is significant association between prevention of phlebitis with type of family (7.13), income (4.67), type of cancer (4.28) and systemic disease (6.62). However there is no association between selected prevention of phlebitis with gender, marital status, occupation, diet, religion, history of cancer, personal habit, duration of cancer, category of cancer, stages of cancer, purpose of treatment, cycle of chemotherapy, chemotherapy drug, diagnosis since how many years, site of cannula and size of cannula.

Implication of study

Nursing practice

- This study findings also helpful for the patient those who are receiving chemotherapy.
- These study findings would help the oncology nurses to understand nursing intervention which will prevent the phlebitis.
- Prevention of phlebitis is an important challenge to the oncologist they can advise nursing intervention to the patient receiving chemotherapy. The prime role of oncology nurses is to prevent, detect and provide intervention.
- This study would help staff nurses to understand the effect of nursing intervention for prevention of chemotherapy induced phlebitis.
- Evidence based practice helps the staff to update their clinical knowledge.

Nursing education

- Nursing education is developing rapidly in India and nurses are providing care through base of scientific nursing education.

- It is helpful to student nurses to understand the effect of nursing intervention for prevention chemotherapy induced phlebitis and apply this knowledge in clinical practice.
- This study is useful for nursing personal to increase the professional knowledge and apply this knowledge in clinical practice.
- It is also helpful to the other researcher for to conduct the study in new setting, and on large sample size and its finding can be generalized for students training.
- Every nurse can take the benefit of study findings.
- Nursing students could learn the assessment of phlebitis.
- Nursing students should be taught about the importance of phlebitis management.
- Adequate practical training can be given to the nursing staff and students regarding treatment of intravenous phlebitis.

Nursing research

- The nurse researcher should be able to conduct the research on various aspect of awareness about prevention of chemotherapy induced phlebitis.
- Nursing education must emphasize on evidence based practice in view to manage the phlebitis.
- Nurses need research because it helps them advance their field, stay updated and offer patient better care.
- Researchers acquire new knowledge in the field of patient care.
- It is useful to develop the new treatment modalities.
- It helps to improve quality of nursing care.

Nursing administration

- Nurse administrator can seek various areas in patient care for patient receiving chemotherapy for prevention of phlebitis.
- The nurse administrator should plan and organizing continuing education program on phlebitis prevention.
- Nurse administrator can arrange in-service education program, conference, workshop etc.

- This enables the nurse to update the knowledge and render the effective care to the public.

Recommendations

- Based on study finding the following recommendation have made for the further study
- Similar study may be replicated on large sample for wider generalization.
- True experimental study can be conducted on patient receiving chemotherapy.
- Comparative study can be done to assess the effectiveness with different treatment modalities.
- Similar study can be done on specific chemotherapy drugs.
- Similar study can be done different nursing interventions.
- Similar study can be undertaken in different settings with modification in inclusion and exclusion criteria.

Limitations

Despite all the efforts made by the researchers, the present study had some limitations which are as following

- The present study sample size was small.
- Present study was conducted only on chemotherapy patient.
- Nursing intervention was given for 3 days.
- During the course of study researcher encountered the difficulties in managing extraneous variables, which can directly or indirectly affect the study findings.

Conclusion

Phlebitis in the patient receiving chemotherapy is commonly identified. If the prompt and appropriate measure not taken these phlebitis can lead to serious health issues. Nursing intervention such as normal saline flush, MgSO₄ application, cold application can help the patient to prevent the occurrence of phlebitis. The study finding revealed that the use of nursing intervention for patient receiving chemotherapy is more effective than the hospital existing practice.

References

1. SR.NANCY revised by SR. IVAN, 'Stephanie's principles and practice of nursing', vol -2, N.R brothers, Indore (India), 2010, p.no 131.
2. Dawn Brittan, "clinical guideline for peripheral intra venous cannulation," ed 2nd, south gloucestershire primary care trust, London, 2007, page no.1-11.
3. Lippincott Williams, Wilkins, "Handbook of Diseases", ed 9th, 2003,page no.179
4. Yambem M, Madhale M, Bagi D, 'A Comparative Study to Assess the Effectiveness of Glycerin with Magnesium Sulphate Versus Heparin - Benzyl Nicotinate (Thrombophob) Ointment on Management of Thrombophlebitis among Patients Admitted in Intensive Care Units (ICU) of Selected Hospital In Belgaum, Karnataka',International Journal of Science and Research (IJSR),Vol- 4, Issue 7, July 2015, p.no 1458-1461.
5. Black J.M, Hawks J.H, 'Text book of medical surgical nursing', Ed-8th, vol-1, Elsevier, India, 2009.
6. Higginson R, Parry A. "Phlebitis: treatment, care and prevention," Nursing times, vol. 107(36), 2011 September 13, page no.18-21.
7. Suresh sharma, "Textbook of nursing research and statistics", 2nded, Elsevier, India pvt. ltd.
8. Merlaine C. Smith, Marilyan E Paeker, "Textbook of nursing theories and nursing practice", 4thed, Jaypee brothers medical publishers ltd.



A Study to Assess the Level of Depression Among the Cancer Patient in Oncology ward and OPD in Selected Hospital

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How to cite this article:

Raosaheb Baban Jagtap, Nilesh Ramesh Mhaske, Shriramwar Sayali V, et. al/ A Study to Assess the Level of Depression Among the Cancer Patient in Oncology ward and OPD in Selected Hospital /Indian J Surg Nurs. 2022;11(1):9-12.

Abstract

Background: The experience of the cancer is changing for our client and familiar today a person confronted with new diagnosis often knows someone who has serviced cancer yet cancer remain a frightening unknown for many cell is the basic unit of structure and function in biological system to the basis of composition and organization.

Aims and Objectives: The present descriptive research design with Cross Sectional survey approach was used to assess the level of depression among the cancer patient in oncology ward and OPD in selected Hospital among 60 cancer patients at Dr. Vikhe Patil Memorial Hospital, Ahmednagar. The data were collected by using the Beck's Depression inventory scale and structured Interview Schedule. The results were analyzed and interpreted using descriptive and inferential statistics.

Results: The overall results revealed that the Majority of 38.33 % cancer patients following in the categories in ups and down are considered as a normal depression (1-10), 28.33 % of cancer patients had mild mood disturbance, 18.33 % of cancer patients has moderate level of depression, 11.66 % & 3.33 % of cancer patients had borderline and severe depression respectively and none of cancer patients had extreme level of depression. There was Significant association was found between the Level of depression with sex ($P \leq 0.05$ level). There was significant positive relationship found between the depression scale and with their selected demographic variables.

Conclusion: It is essential to raise awareness on cancer treatment and its impact on health; and develop health seeking behaviors among the patients and caregivers to provide better cancer care and improve the quality of life.

Keywords: Level of Depression; Cancer patients.

Introduction

Cancer is a grave illness which has an effect on physical and emotional wellbeing of patients. The recognition of cancer is a tough event causing significant psychological anguish. Depression

is a difficult task to study in cancer patients as manifestations occur over a range of spectrum being unique in different patients.¹

Patients with cancer have a high rate of psychiatric co-morbidity; approximately one half exhibit emotional difficulties. The psychological complications generally take the form of adjustment disorder, depressed mood, anxiety, impoverished life satisfaction, or loss of self esteem. Depression is the most common psychological disorder in cancer patients. Cancer related depression is a pathological affective response to loss of normality and one's personal world as a result of cancer diagnosis, treatment, or impending complications. A long course of treatment, repeated hospitalizations, and the side effects of chemotherapy along with the stigma of being diagnosed with cancer has a significant effect on the psyche of the cancer

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Received on : 1/3/2022

Accepted on : 1/25/2022



patients.²

The experience of the cancer is changing for our client and familiar today a person confronted with new diagnosis often knows some one who has serviced cancer yet cancer remain a frightening unknown for many cell is the basic unit of structure and function in biological system to the basis of composition and organization.³

The world cancer often abbreviated ca is a that frightens most people cancer is synonymous with the term malignant neoplasm other term suggest malignant neoplasm include tumor malignancy carcinoma and abreact cell growth strictly speaking these words are not interchangeable.⁴

Depression is a comorbid disabling syndrome that affects approximately 15% to 25% of cancer patients. Depression is believed to affect men and women with cancer equally, and gender-related differences in prevalence and severity have not been adequately evaluated. Individuals and families who face a diagnosis of cancer will experience varying levels of stress and emotional upset. Depression in patients with cancer not only affects the patients themselves but also has a major negative impact on their families.⁵

The prevalence of depression in cancer patients and the types of depressive syndromes which are commonly seen are now well known. At least 25% of hospitalized cancer patients are likely to meet criteria for major depression or adjustment disorder with depressed mood. Patients at highest risk for depression are those with a history of affective disorder or alcoholism, advanced stages of cancer, poorly controlled pain, and treatment with medications or concurrent illnesses that produce depressive symptoms.⁶

Although many research groups have assessed depression in cancer patients since the 1960s, the reported prevalence (major depression, 0%-38%; depression spectrum syndromes, 0%-58%) varies significantly because of varying conceptualizations of depression, different criteria used to define depression, differences in methodological approaches to the measurement of depression, and different populations studied. Depression is highly associated with oropharyngeal (22%-57%), pancreatic (33%-50%), breast (1.5%-46%), and lung (11%-44%) cancers. A less high prevalence of depression is reported in patients with other cancers, such as colon (13%-25%), gynecological (12%-23%), and lymphoma (8%-19%). This report

reviews the prevalence of depression in cancer patients throughout the course of cancer.⁷

A study for anxiety and depression in adult cancer patients achievement and challenges, psycho social care increasingly recognize as an essential component of the comprehensives care of individual with cancer, improving patients assess the psychosocial care is important however, ensuring that the care made available has been shown to be effective is just as important.⁸

Material and Methods

A descriptive research design with Cross Sectional survey approach study was conducted among 60 cancer patients admitted in cancer ward and visiting in the cancer OPD at Dr. Vikhe Patil memorial Hospital, Ahmednagar. Before commencement of the study, ethical approval was obtained from the Institutional Ethical Committee, and official permission was received from the authority. Patients who were above 18 years of age, receiving radiation therapy treatment, able to read Marathi and willing to participate in the study were included in the study by using the non probability; purposive sampling method. The patients who are below 18 years of age and not willing to participate in the study were excluded from the study. The purpose of the study was informed and explained to the participants and those who voluntarily agreed to participate in the study and gave an informed consent for the same were asked to fill the rating scale according to the response format provided in the questionnaire. Material used is self prepared; and content validated Beck's Depression inventory scale as questionnaire to collect the data. Individual scores were summed up to yield a total score. The collected data was tabulated and analyzed using appropriate statistical methods like descriptive statistics and inferential statistics.

Results

Finding related to socio demographic variables: Majority 30% of cancer patient where in the age group of 48-58, 68.33% of patients were female, 33.33% of patients were illiterate, 51.66% had housewife, 38.33% had per capita income of Rs. 2000-5000, 55% of patients were reproductive system, 71.66% were Hindu.

Table 1: Socio demographic Variables.

Variables	Items	Frequency	%
Age	18-28	1	1.66
	28-38	7	11.66
	38-48	17	28.33
	48-58	18	30
	58-68	17	28.33
Gender	Male	19	31.67
	Female	41	68.33
Occupation	House wife	31	51.66
	Labors	05	8.33
	Service	08	13.33
	Farmer	15	25
Education	Other	01	1.67
	illiterate	20	33.33
	Primary	17	28.33
	Secondary	14	23.33
Religion	Higher education	9	15
	Hindu	43	71.66
	Christian	05	8.33
	Muslim	06	10
Per Capita Monthly Income	Other	06	10
	2000%	08	13.33
	2000-5000	23	38.33
	5000-7500	20	33.33
Type of Cancer	7500	09	15
	Respiratory system	03	5
	Digestive system	05	8.33
	Nerves system	15	25
	Reproductive system	23	55
	Circulatory system	02	3.33
	Skeleton system	02	3.33

Finding related to assessment of level of depression:-

Table 2: Assessment of Level of Depression

Total Score	Levels of Depression	Percentage %
1-10	Ups & downs are considered as normal depression	38.33%
11-16	Mild mood disturbance	28.33%
17-20	Borderline clinical depression	11.66%
21-30	Moderate depression	18.33%
31-40	Severe depression	3.33%
Over 40	Extreme depression	0%

Majority of cancer patients 38.33% following in the categories in ups and down are considered as normal depression (1-10), 28.33% of cancer patients had mild mood disturbance, 18.33% of cancer patients has moderate level of depression, 11.66% & 3.33% of cancer patients had borderline and severe depression respectively and none of cancer patients had extreme level of depression.

Association between the Level of Depression with their selected demographic data

There was significant association was found between the level of depression with sex ($P \leq 0.05$ level). There was significant positive relationship found between the level of depression scale and with their selected demographic variables.

Discussion

There was significant association was found between the level of depression with sex and ($P \leq 0.05$ level). However, depressive disorder in those patients is frequently undiagnosed. It is associated with several factors including pain, a number of cancer treatments, education duration, age and sex.⁹

Conclusion

All people with cancer are depressed. Depression in a person with cancer is normal. Everyone with cancer faces suffering and a painful death. Sadness and grief are normal reactions to the crisis faced during cancer. The important thing to know is that depression can be treated. Without treatment the symptoms of depression may go on for a very long time, sometimes months or years. So if you suspect

you could be depressed, it is best to speak to your doctor so that you can have treatment quickly.

References

1. W. F. Pirl, "Evidence report on the occurrence, assessment, and treatment of depression in cancer patients," Journal of the National Cancer Institute. Monographs, 2004; vol. 32, 32-39.
2. Bhattacharya S, Bhattacharjee S, Mandal T et.al. Depression in cancer patients undergoing chemotherapy in a tertiary care hospital of north Bengal, India. Indian Journal of Public Health, 2017;Jan 2; 61: 14-8.
3. K-PARK textbook of prevention and Social Medicine 20th edition Bharsidass Bhannot Publication Jabalpur 2008 Pg. No. 332-339.
4. Busavantappa B.T, Nursing research 2nd edition Jaypee Publication New Delhi 2007. Pg. No. 73, 92, 328,332.
5. Anish K, Muhammad F, Ammad F, Prevalence of Depression and Anxiety amongst Cancer Patients in a Hospital Setting: A Cross-Sectional Study, Psychiatry Journal, Vol. 7 2016, 1-7.
6. M J Massie , J C Holland, Depression and the cancer patient, J Clin Psychiatry, 1990 Jul;51 Suppl:12-7; discussion 18-9.
7. Mary Jane Massie, Prevalence of depression in patients with cancer, J Natl Cancer InstMonogr, 2004;(32):57-71.
8. Jacobson NC, a study for anxiety and depression in adult cancer patients achievement and challenges, Psychological Bulletin, 2017, Vol. 143, No. 11, 1155-1200.
9. WHO International Consortium in Psychiatric Epidemiology. Cross-national comparisons of prevalence's and correlates of mental disorders. Bulletin of World Health Organization. 2000; 78:413-26.



A Study To Evaluate The Effectiveness Of Self-Instructional Module On Knowledge Regarding Prevention Of Cervical Cancer Among Women.

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DOI: 10.29322/IJSRP.12.12.2022.p13219

<http://dx.doi.org/10.29322/IJSRP.12.12.2022.p13219>

Paper Received Date: 26th October 2022

Paper Acceptance Date: 1st December 2022

Paper Publication Date: 13th December 2022

Abstract- Background- The incidence of cervical cancer has declined in developed countries, cervical cancer remains a significant problem in people who are developing. Past studies suggest that Indian women, who account for a minimum of one-fourth of the worldwide disease burden, aren't routinely screened. Thus the investigator intended to conduct the study with a study to evaluate the effectiveness of self-instructional module on knowledge regarding prevention of cervical cancer among women visiting in selected hospital, at Maharashtra. **Material & Method** – Pre experimental research design, one group pre test post test research design with A Quantitative evaluative research approach was used in women visited in selected hospital at BKL Walawalkar hospital, Dervan, Sawarde. A total of 60 women's were selected with help of Non-Probability Purposive Sampling technique, to evaluate the effectiveness of self-instructional module on knowledge regarding prevention of cervical cancer among women. **Results** - Finding revealed that the overall post test mean score was (15.55 ± 3.416) which is 51.83% of total score. It interprets that the self-instructional module was effective in increasing knowledge regarding prevention of cervical cancer among women's. There was no significant association between post test knowledge score and demographic variables like age, education, occupation, age at marriage, number of children, per capita monthly income, family history of cancer, diet and use of oral contraceptive pills. However, significant association was found between post test knowledge score and demographic variable like age at menarche. Paired "t" test between the pre test and post test mean score level of knowledge shows that the significant positive relationship $t = 8.53$ $p \leq 0.0001$ found between the pre test and post test level of knowledge mean score of women's. **Conclusion-** The result of the study will enable the health professionals to utilize the self-Instructional module on prevention of cervical cancer in the hospital setting. Hence researcher concluded that the self-instructional module was an effective teaching strategy where by the women could be helped to enhance the knowledge regarding prevention of cervical cancer.

Index Terms- Evaluate, Effectiveness, Self-Instructional Module, Knowledge, Prevention, Cervical Cancer, Women, Hospital

I. INTRODUCTION

“Early DETECTION for your PROTECTION”

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body. Cancer can start almost anywhere within the physical structure, which is created of trillion of cells. As cancerous cells grow and multiply, they continuously invade nearby tissues. It migrates to distant parts of the body and promotes the growth of new blood vessels from which the cells derive nutrients. Cancerous (malignant) cells can develop from any tissue within the body.¹

Cancer is that the second leading reason behind death and is chargeable for an estimated 9.6 million deaths. Globally, about 1 in 6 death is because of cancer. Approximately 70% of deaths from cancer occur in low- and middle-income countries. In 2018, there have been an estimated 18 million cancer cases round the world, of these 9.5 million cases were in men and 8.5 million in women.² In 2020, an estimated 604,237 women were diagnosed with cervical cancer globally, representing 6.5% of all female cancers. Cervical cancer is the most common cancer among women in 36 low-and-middle-income countries, mainly in sub-Saharan Africa. A women diagnosed with cervical cancer is almost twice as likely to die than a woman diagnosed with breast cancer.³

About 96,922 new cervical cancer cases are diagnosed annually in India estimates for 2018. Cervical cancer ranks as the second leading cause of female cancer in India. Annually about 60,078 cervical cancer death occurs. If detected at an early stage, cervical cancer is often curable.⁴

According to study, cervical cancer is the second leading cause of cancer death for women in the state of Maharashtra, approximately 10 deaths happen due to cervical cancer per 100000. In 2019 about 5,700 deaths were reported due to cervical cancer. The burden is growing in Maharashtra; thus, the programme is aimed in providing knowledge and awareness



regarding prevention of cervical cancer among the women is most important.⁵

Tata Memorial Hospital (TMH), Mumbai, India, premier cancer institute is a tertiary cancer centre in India. Annually, out of 45,000 new cancers cases, approximately 800-1000 new cervical cancer cases are diagnosed, among them 75% undergo complete treatment at TMH.⁶

A study to assess the level of knowledge regarding cervical cancer among women (n=50), estimated that the women had 35 (70%) inadequate knowledge and 15 (30%) had moderate knowledge regarding cervical cancer. Some of the demographic variables like educational status, religion and source of information are significantly association at (p<0.05) with knowledge score of women. The knowledge level and understanding of cancer as well as its preventable nature should be improved consisting nurse education may strengthen cervical cancer screening programme. Health care professional has to create awareness of disease can educate masses and increase health seeking behaviour women.⁷

A study to assess effect of planned teaching programme on knowledge regarding cervical cancer among women (n=100), showed that, there was significant difference between pre-test and post-test knowledge score, women with poor knowledge about cervical cancer had got increased awareness regarding the topic after planned teaching programme.⁸

A study on effectiveness of self-instructional Module (SIM) on knowledge regarding cancer of cervix and its prevention among married women, study revealed that sample size was 60 married women and purposive sampling technique was used. Self-instructional module was accustomed evaluate its effectiveness by using pre-experimental one group pre test and post test design, knowledge level of married women was less before administration of self-instructional module and increased after the programme.⁹ A study to assess the effectiveness of Self-Instructional Module on knowledge regarding prevention of cervical cancer among women at selected village, revealed that the paired pre-test value was 27.3 which was highly significant and it indicated that the SIM improved the level of knowledge regarding cervical cancer among the women.¹⁰

A study on effectiveness of Self-Instructional Module (SIM) on cervical cancer on learning outcomes among married women study (n=50), estimated that, after implementation of SIM the post-test knowledge score was high than the pre-test and significant association between the knowledge and age of married women was also high. Hence it revealed that the SIM was an effective method for improving learning outcomes.¹¹

A study to assess the knowledge of staff nurses regarding cervical cancer and its prevention in view of information booklet at primary care hospital (n=30), revealed that the 27% nurses had moderate knowledge, 73% nurses had adequate knowledge. Socio-demographic variables were found to be non-significant with the knowledge of staff nurses at p > 0.05.¹²

II. MATERIAL AND METHOD:-

The Pre experimental research design, one group pre test post test research design with A Quantitative evaluative research approach was conducted among 60 women's visiting in BKL Walawalkar hospital & Diagnostic center, Dervan, Sawarde.

Before commencement of the study, ethical approval was obtained from the Institutional Ethical Committee, and official permission was received from the authority. The women's who were Visiting the OPD in the selected hospital, Age group above 35 years, Willing to participate in the study, Able to read, write and understand Marathi, Hindi, English, Available during data collection period were included in the study by using the non – probability; purposive sampling method. The Womens who are, Unable to read, write and understand English, Hindi or Marathi. and Participated in same or similar cancer awareness programme were excluded from the study. The purpose of study was explained to womens with self-introduction and consent was obtained to participate in the study. The data was collected from 01.12.2021 to 31.12.2021. During the period, the investigator collected data from women visiting in selected hospital. Women's were made to feel comfortable. An instruction related to tool was given to facilitate co-operation and participation. Printed 30 structured questionnaire was issued to the women visited in selected hospital. Before giving Self - Instructional Module pre test on knowledge regarding prevention of cervical cancer was taken. The Self – Instructional Module was given to the women's who fulfill the inclusion criteria and present during the data collection period. Post test data was collected after 7 days.

Tab No. 1
Scoring procedure of the tool for assessment of level of knowledge adapted by awareness on cervical cancer

Area	Area of Score	Percentage	Level of Knowledge
Effectiveness of SIM on awareness regarding cervical cancer	1-10	1-33%	Inadequate knowledge
	11-20	34-67%	Moderately Adequate knowledge
	21-30	68-100%	Adequate knowledge
Total	30	100%	

The collected data was tabulated and analyzed using appropriate statistical methods like descriptive statistics (mean, SD and mean percentage) and inferential statistics (chi – square test) and Paired ‘t’ test.

Results:

Findings related to demographic variables of women visiting in selected hospital:-Majority (33.34%) were seen in age group 46-50years, Highest percentage (63.34%) of women had primary education., Majority (46.66%) of women were home maker, Nearly half (53.33%) women's were in the age of menarche13-15years, Highest percentage (63.33%) of women's were married in the age group of 19-21yrs, Majority percentage (40%) of women's had 1 child, Majority percentage (45%) of women's had Rs.3,793-Rs.5,693 per capita monthly income,

Majority (100%) women's had no family history of cancer, Majority (83.34%) were had mixed type of diet, Majority 60 (100%) of women were not using oral contraceptive pills.

Table No.2
Demographic Variable frequency and Percentage

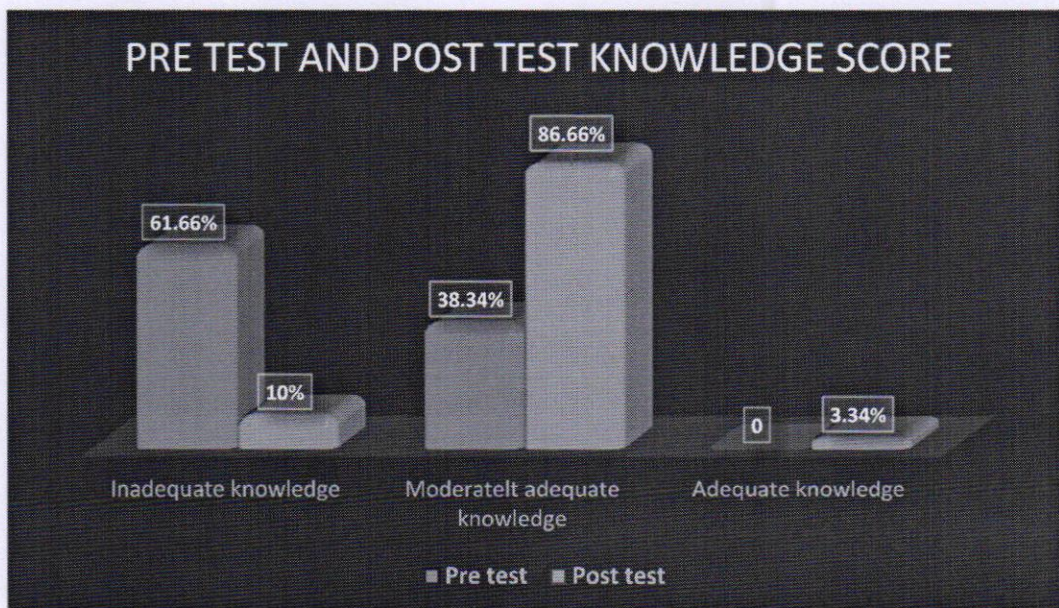
SN	Variables	Items	Frequency	Percentage
1	Age in Year	35 – 40	12	20%
		41 – 45	13	21.66%
		46 – 50	20	33.34%
		51 – 55	5	8.34%
		56 and above	10	16.66%
		Total	60	100%
2	Education qualification	Primary education	38	63.34%
		Secondary education	21	35%
		Higher education	1	1.66%
		Graduate and above	0	0%
		Total	60	100%
3	Occupation	Home maker	28	46.66%
		Daily wages	4	6.67%
		Private Employee	0	0%
		Govt. Employee	0	0%
		Business	6	10%
		Agriculturist	22	36.67%
		Total	60	100%
4	age at menarche	10yrs-12yrs	26	43.34%
		13yrs-15yrs	32	53.33%
		Above 15yrs	2	3.33%
		Total	60	100%
5	Age at Marriage	13yrs-15yrs	0	0%
		16yrs-18yrs	22	36.67%
		19yrs-21yrs	38	63.33%
		Above 21yrs	0	0%
		Total	60	100%
6	Number of Children	No children	4	6.66%
		1 child	24	40%
		2 children	23	38.34%
		3 children and above	9	15%
		Total	60	100%
7	Per Capita monthly Income	Rs.15197 and above	2	3.34%
		Rs.7,595 - Rs.15196	2	3.33%
		Rs.5,694 – Rs.7,594	15	25%
		Rs.3,793 – Rs.5,693	27	45%
		Rs.2,273 – Rs.3,792	14	23.33%
		Rs.762 – Rs.2,272	0	0%
		Total	60	100%
8	Family History of cancer	No	60	100%
		Yes	0	0%
		Total	60	100%
9	Diet	Vegetarian diet	7	11.66%
		Non vegetarian diet	3	5%
		Mixed diet	50	83.34%
		Total	60	100%
10	Are you using oral contraceptive pills?	No	60	100%
		Yes	0	0%
		Total	60	100%

Findings related to Assessment of pre test and post test level of knowledge.: Percentage wise distribution of level of knowledge score of women's according to their pre test score shows that highest percentage (61.66%) of women's had "inadequate knowledge (1-10)" and (38.34%) of women's had "moderately adequate knowledge (11-20)". It depicts that in pre test level of knowledge score shows majority of women's had 'inadequate knowledge' regarding prevention of cervical cancer. Percentage wise distribution of level of knowledge score of women's according to their post test score shows that the majority

(86.66%) of women had "moderately adequate knowledge (11-20)", (10%) of women's had "inadequate knowledge (1-10)" whereas the lowest percentage (3.34%) of women's had "adequate knowledge (21-30)". It depicts that in post test level of knowledge score shows majority of women's had 'moderately adequate knowledge' regarding prevention of cervical cancer. Hence it interprets that the self-instructional module was effective in increasing the level of knowledge regarding prevention of cervical cancer among women.

Table No. 3
Assessment of pre test and posttest level of knowledge regarding prevention of cervical cancer among women

Level of knowledge	Pre test		Post test	
	Frequency	%	Frequency	%
Inadequate knowledge (1-10)	37	61.66%	6	10%
Moderately adequate knowledge (11-20)	23	38.34%	52	86.66%
Adequate knowledge (21-30)	0	0%	2	3.34%



Graph No. 01
Bar diagram showing percentage distribution of women's according to their pre test and post test level of knowledge

Findings related to Effectiveness of self-instructional module on knowledge regarding prevention of cervical cancer

among women. The percentage wise distribution of mean, mean percentage and SD of pre test and post test level of knowledge

score of women's shows that the highest score (15.55 ± 3.416) which is 51.83% of total score was obtained during post test which indicates women's had "Moderately adequate knowledge". The lowest mean score (10.36 ± 3.700) which is 34.53% of the total score was obtained during pre test which indicates women's had "Inadequate knowledge".

However, the overall post test mean score was (15.55 ± 3.416) which is 51.83% of total score. It interprets that the self-instructional module was effective in increasing knowledge regarding prevention of cervical cancer among women's.

Table No.4
Comparison of pre test and post test knowledge score based on mean, mean percentage and standard deviation

Standard measures	Pre test Level of knowledge score	Post test level of knowledge score
Mean	10.36	15.55
Mean %	34.53%	51.83%
Standard deviation	3.700	3.416

Finding related to effectiveness of Self - Instructional Module on knowledge regarding prevention of cervical cancer among women based on paired "t" test:- Paired "t" test between the pre test and post test mean score level of knowledge shows that the significant positive relationship $t = 8.53$ $p \leq 0.0001$ found between the pre test and post test level of knowledge mean score

of women's. it indicates that the obtained 'p' value is less than 0.005, the self-instructional module was effective in improving the knowledge regarding prevention of cervical cancer among women. Hence, null hypothesis H_0 is rejected and research hypothesis H_1 is accepted.

Table No. 5
Effectiveness of Self - Instructional Module on knowledge regarding prevention of cervical cancer among women based on paired "t" test

Outcomes	Level of knowledge score			Paired "t" Test
	Mean	SD	Mean %	
Pre test	10.36	3.700	34.53%	$t = 8.53$ $p \leq 0.0001$ Significant
Post test	15.55	3.416	51.83%	

Findings related to Association between the post test level of knowledge regarding prevention of cervical cancer among women with their selected demographic variables. Chi square values were calculated to find out association between post test knowledge score with their selected demographic data. Findings reveled that there was no significant association between post test knowledge score and demographic variables like age, education, occupation, age at marriage, number of children, per capita monthly income, family history of cancer and diet. However, significant association was found between post test knowledge score and demographic variable like age at menarche. Hence, the stated null hypothesis (H_0) was rejected as there was significant association was found between the level of knowledge and their demographic variables.

III. DISCUSSION:

Description to assess pre test and post test level of knowledge regarding prevention of cervical cancer among women. In the present study, percentage wise distribution of level of knowledge score of women's according to their pre test score shows that highest percentage (61.66%) of women's had "inadequate knowledge (1-10)" and (38.34%) of women's had "moderately adequate knowledge (11-20)". It depicts that in pre test level of knowledge score shows majority of women's had 'inadequate knowledge' regarding prevention of cervical cancer. Percentage wise distribution of level of knowledge score of women's according to their post test score shows that the majority

(86.66%) of women had “moderately adequate knowledge (11-20)”, (10%) of women’s had “inadequate knowledge (1-10)” whereas the lowest percentage (3.34%) of women’s had “adequate knowledge (21-30)”. It depicts that in post test level of knowledge score shows majority of women’s had ‘moderately adequate knowledge’ regarding prevention of cervical cancer. Hence it interprets that the self-instructional module was effective in improving the level of knowledge regarding prevention of cervical cancer among women. A similar study supported to evaluate effectiveness of self-structured module on knowledge regarding cancer of cervix and its prevention among married women (n=60), revealed that the pre-test and post-test mean score was 8.37 and 24.85; standard deviation 3.08 and 2.27 respectively. The paired t-test value was 39.419. Significant difference was seen in pre-test and post-test knowledge level of married women. All women should be aware about cancer of cervix and its prevention and encourage them for screening for prevention.¹³

Description to evaluate the effectiveness of self-instructional module on knowledge regarding prevention of cervical cancer among women by comparing the mean pre test and post test level of knowledge scores. In the present study, mean, mean percentage and SD of pre test and post test level of knowledge score of women’s shows that the highest score (15.55 ± 3.416) which is 51.83% of total score was obtained during posttest which indicates women’s had “Moderately adequate knowledge”. The lowest mean score (10.36 ± 3.700) which is 34.53% of the total score was obtained during pre test which indicates women’s had “Inadequate knowledge”. However, the overall post test mean score was (15.55 ± 3.416) which is 51.83% of total score. It interprets that the self-instructional module was effective in increasing knowledge regarding prevention of cervical cancer among women’s. The similar study was conducted to assess the effectiveness of self-instructional module on knowledge regarding prevention of cervical cancer among women at selected village, Tamil Nadu (n=50) samples were selected by using non probability convenient sampling technique. A study revealed that in pre test 35(70%) had Inadequate level of knowledge, 15(30%) had Moderate level of knowledge and 0 (0%) had Adequate level of knowledge. In post test 0(0%) had Inadequate level of knowledge, 19(38%) had Moderate level of knowledge and 31(62%) had Adequate level of knowledge.¹⁴

Description to find out the association between post test level of knowledge score regarding prevention of cervical cancer among women with their selected demographic variables.

In the present study, association between post test knowledge score with their selected demographic data. Findings revealed that there was no significant association between post test knowledge score and demographic variables like age, education, occupation, age at marriage, number of children, per capita monthly income, family history of cancer, diet and are you using of oral contraceptive pills? However, significant association was found between post test knowledge score and demographic variable like age at menarche. A similar study revealed to assess the effectiveness of self-instructional module on knowledge and attitude regarding prevention of cervical cancer among middle aged women between (30-55yrs) in selected areas at Namakkal. (n=60), revealed that, in the pre test the mean score of knowledge was 10.116 with SD 4.47 whereas in the post test the mean score

of knowledge was 30.70 with SD 4.52. The calculated paired ‘t’ value of $t = 20.671$ was found to statistically significant at $p < 0.001$ level. None of the demographic variable other than the residential area had shown statistically significant association with post test level of knowledge regarding prevention of cervical cancer among middle aged women between (30-55yrs) at $p < 0.05$ level. The association between post test level of attitude showed that demographic variables had shown statistically not significant association with post test level of attitude regarding prevention of cervical cancer among middle aged women between (30-55yrs) at $p < 0.01$ level.¹⁵

IV. CONCLUSION

The study finding shows that the overall mean score of post test level of knowledge was (15.55±3.416) which is 51.83% of total score. It interprets that the self-instructional module was effective in improving the knowledge regarding prevention of cervical cancer among women’s mean score of post test level of knowledge indicates “Moderately adequate knowledge (11-20)”. Significant association was found between post test knowledge score and demographic variable like age at menarche. Hence researcher concluded that the self-instructional module was an effective teaching strategy where by the women could be helped to enhance the knowledge regarding prevention of cervical cancer.

Acknowledgments

The authors would like to thank Maharashtra University of Health Sciences, Nashik and BKL Walawalkar Hospital and Diagnostics Center, Dervan, Kasarwadi, Sawarde authorities for all.

Financial Disclosure

None to declare.

Conflict of Interest

None to declare.

Informed Consent

The informed consents have been obtained from the parents.

Author Contributions

DG: Literature exploration, research data collection, statistical analysis and first draft. LVR: Guide, concept, research design, literature exploration and final draft. VB: Research guidance, clinical support, co-ordination.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

- [1] National cancer Institute (NCI). United states.2021. Available from: <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>.
- [2] Hyuna S, Rebecaa LS, Ahmedin J, MethieuL, Isabelle S, Freddie B, et al. Global cancer statistics 2020:Globocan Estimates of Incidence and Mortality:wordwide for 36 cancer in 185countries.CA:A Cancer Journal for Clinicians.2020;71(3):209-249.
- [3] <https://togetherforhealth.org/global-burden-cervical-cancer/>
- [4] Sung H, Ferlay J, Siegel RL, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin.2021; 71:209-249.
- [5] Arbyn M, Weiderpass E, Bruni L, Estimates of Incidence and Mortality of cervical cancer in 2018: a worldwide analysis.The Lancet Global Health;Published online December2019.DOI:[https://doi.org/10.1016/S2214-109X\(19\)30482-4](https://doi.org/10.1016/S2214-109X(19)30482-4)

- 6http://ijmsweb.com/survival-rate-of-cervical-cancer-from-a-study-conducted-in-india/
- [6] Wakwoya EB, Gemechuks, DasaTT. Knowledge of cervical cancer and associated factors among women attending public health facilities in Eastern Ethiopia. *Cancer management and research*. 4 October 2020;2020(12),10103-10111.
- [7] Divya K, Naveen K, Atul B. Knowledge, attitude and practice about cervical cancer and its screening among community health care workers of Varanasi district, Uttar Pradesh, India. *J Family Med Prim Care*. 2019;8(5):1715-1719. doi:10.4103/jfmpc.143_19.
- [8] Geeta VB, Shreya M, Madhavi G. A study on awareness of cervical cancer among women of reproductive age group in urban slums of old Hubli, Karnataka, India. *Int J Community Med Public Health*. 2016; 3(9):2579-2583.
- [9] Divya RR, Munusamy G, Thampi A, Shanmugam R. Effectiveness of self-instructional Module(SIM) on knowledge regarding cancer of cervix and its prevention among married women. PREPRINT (version 1). Available at: <https://doi.org/10.21203/rs-94964/v1>
- [10] R.Kundapur. Effectiveness of Self-Instructional Module (SIM) on cervical cancer on learning outcomes among married women in selected Anganwadies under Mundur PHC. *International Journal of oncological Nursing*. 2018;4(1). DOI:<https://nursing.journalspub.info/index>
- [11] Kaur. K. A study to assess the knowledge of staff nurses regarding cervical cancer and its prevention of information booklet at primary care hospital, Amritsar. *Research article*. 2018;4(6):187-190. DOI: 10.15406/ipcb.2018.04.00124
- [12] <https://repository-tnmgrmu.ac.in/id/eprint/10043>
- [13] K. Priya. A study to assess the effectiveness of self-instructional module on knowledge and attitude regarding prevention of cervical cancer among middle aged women between (30-55yrs) in selected areas at Namakkal. The Tamil Nadu
- [14] Divya RR, Munusamy G, Thampi A, Shanmugam R, et al. Effectiveness of self-instructional Module(SIM) on knowledge regarding cancer of cervix and its prevention among married women. *Research square*. 2020(1). PREPRINT (version 1). Available at: <https://doi.org/10.21203/rs-94964/v1>
- [15] Dr. M.G.R. Medical University. Master thesis, Arvinth college of nursing, Namakkal. 2016. Available at: <http://repository-tnmgrmu.ac.in/id/eprint/10043>

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A study on perception and practices of use of face Masks during COVID-19 pandemic, by people of India.

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ABSTRACT

Background: The most effective way to prevent and lower the rate of transmission is to remain well informed about the COVID-19, the disease and its spread. The present study was conducted on perception and practices of use of face Masks during COVID-19 pandemic, by people of India with the aim to identify the perception and practices of use of face Masks during COVID-19 pandemic, by people of India. **Materials and Methods:** A Mixed method approach along with cross sectional descriptive survey design was used. The study was conducted all over India. People of different age group, different sectors and from different areas of all over India participated in the study. A questionnaire in the form of Google form was sent across the contacts of researcher. 7 days' time was considered for the participants to fill the Google form. The responses received were recorded and considered for the study. **Results:** We received total 711 responses. There was no significant relationship found between knowledge score and demographic variables such as age and educational qualification ($X^2 = 29.66$, $df = 24$, $p = 0.196$ and $X^2 = 33.31$, $df = 24$, $p = 0.098$ respectively.) whereas a significant relationship was found between knowledge score and gender with the score of $X^2 = 24.61$, $df = 8$, $p = 0.002$. **Conclusions:** the results of the current study shows that there was awareness about the use of importance of face masks and good practices of use of face Masks, were followed by people of India.

Keywords: Perception, Practices, Pandemic, Facemasks

1. INTRODUCTION

Coronaviruses are from the family of viruses that are known to cause illness like mild common cold to more severe respiratory infections such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).^[1] The COVID-19 pandemic is at its peak in the India, being the second highest infected country in the world.^[2] The mode transmission of this infection is still a topic of debate and along with the second wave of it's hitting the country the situation appears worse than ever. Amidst the current scenario, use of face masks has been of the most importance to prevent disease transmission.^[3] Awareness regarding face mask use and its importance is being broadcasted regularly to flatten the curve.^[15]

India reported 3,48,941 new COVID-19 cases and 2,797 deaths in April 2021. Maharashtra reported 67,160 infections, followed by UP (38,055) and Karnataka (29,438) respectively.^[4] There is mandatory practices and indications which were imposed about the utility of face mask use across the various affected countries.^[16] Overall face masks now have been adopted as the easiest measures to reduce the COVID-19 spread across the world.^[5] In order to reduce the risk of infection, the citizens are required to follow accepted infection control practices^[8] and these practices includes community-based measures like self-isolation, use of alcohol-based hand sanitizer or hand-washing with soap, restriction of movements with lock down measures, sanitization of surfaces and use of non-medical



cloth mask or face covering ⁽⁶⁾. In current COVID-19 pandemic, recommendations and practices regarding use of face mask by the people have varied greatly ^(6,7). Govt. Of India declared a mandatory wearing of face masks in public places in February 2020. The masks were sold in medical stores initially. Gradually even in all market places cloth masks were available. The cost of one N95 masks was around 300 Rs/- surgical masks were available for 25 Rs/- per piece, and cloth masks ranged from 30 Rs/- to 100 Rs/- per piece.

A study in the US provides evidence that use of face masks in public resulted in a greater decline in daily COVID-19 growth rates ⁽⁶⁾. The WHO has highlighted that incorrect use as well as disposal of face masks may actually increase the rate of transmission ⁽⁹⁾. A Study on knowledge and practices about measures to prevent the spread of the COVID-19 pandemic showed a non-linear relationship between the knowledge and practice of using face masks to prevent the spread of COVID-19 among different categories of respondents ^(7, 10, 11). To accelerate the efforts towards reduction in the rate of COVID infection, we expect the people's co-operation in use of face mask. There are several reasons people may not continue to wear mask during the outbreak which may be longer duration. The compliance of use of facemask will depend on the perceptions of the individual. ⁽¹⁷⁾

2. MATERIAL AND METHODS

The current study was aimed to assess perception and practices of use of face Masks during COVID-19 pandemic, by people of India." A Cross sectional descriptive survey design with the mixed method approach was used for the current study. The study was conducted all over India. The questionnaire in the form of google form was sent across India through the different contacts of researchers. People of different age group, different sectors and from different areas of all over India participated in the study. 7 days' time was considered for the participants to fill the Google form. The responses received were recorded and considered for the study. The participants who filled the complete questionnaire and submitted it online were considered as willing for the participation in the study.

The questionnaire consisted of three sections. First section was of Demographic Data consisting 11 questions, second section was of questionnaire to identify perception of use of face mask and section three was of questionnaire to evaluate the practices of face mask consisting 10 questions each. Content and face validity of the questionnaire has been assessed using the opinions of the relative experts. The collected data were analyzed using SPSS 16 with descriptive statistics and inferential statistics. The p-values smaller than 0.05 were regarded as significant. Ethical Consideration: The research study was approved by institutional ethical committee. Participants were informed that they are free to withdraw from the study. There was no need to mention the subjects' names or characteristics and they were also assured of the confidentiality of data. For the present study we received total 711 responses. All responses were considered for the study as all responses were complete.

3. RESULTS AND DISCUSSION

The demographic characteristics of participants shows that maximum participants belonged to the age group between 20 to 30 yrs. Of age and maximum of them had graduation degree education. Majority of the participants were female, and maximum participants responded from west India. Maximum Participants were highly qualified and majority of them used N 95 Mask. Most of the time they switched wearing different type of the mask. Most of them expressed some difficulty in using the mask. The vaccination of Covid was accepted by 47% of the participants and 14% were partially vaccinated, whereas 38% of the participants were not vaccinated (Table 1).

Table (1): Demographic characteristics of participants

Sr	Characteristics	Frequency	Percent	
1	Age	Age 10-20 yrs.	199	28.0
		20-30 yrs.	343	48.2
		30-40 yrs.	107	15.0
		> 40 yrs.	62	8.7
2	Gender	Female	485	68.2
		Male	226	31.8
3	Geographic Location	East India	136	19.1
		North India	115	16.2
		South India	165	23.2
		West India	295	41.5
4	Educational Qualification	Graduates	347	48.8
		High School	164	23.1
		Post graduate and above	195	27.4
		Primary School	5	.7
5	What type of mask do you use? (tick all those which are applicable)	Cloth mask	103	14.5
		N95mask	269	37.8
		Surgical mask, N95mask	59	8.3
		Cloth mask, N95mask	63	8.9
		Cloth mask, Surgical mask, N95mask	88	12.4
6	Do you switch wearing masks from cloth mask, surgical mask, N95 or mask wit filter valve?	No	280	39.4
		Yes	431	60.6
7	When do you use mask?	At public place	104	14.6
		At workplace, At public place, At social gatherings	414	58.2
		At public place, At social gatherings	46	6.5
		At home, At workplace, At public place, At social gatherings	60	8.4
8	Did you experience any of the following while using face masks?	Ear pain	64	9.0
		Ear pain, Breathing difficulty	25	3.5
		Ear pain, Pressure at back of the ear	30	4.2
		Ear pain, Pressure at back of the ear, Breathing difficulty	40	5.6
		Pressure at back of the ear	51	7.2
		Pressure at back of the ear, Breathing difficulty	41	5.8
		Skin irritation, Ear pain, Pressure at back of the ear, Breathing difficulty	47	6.6
9	Time of using masks	During morning hrs. During afternoon hrs. During evening hrs.	325	45.7
		During morning hrs. During afternoon hrs. During evening hrs. During night hrs.	93	13.1
		During morning hrs.	92	12.9
		During afternoon hrs.	56	7.9
		During afternoon hrs. During evening hrs.	32	4.5
10	Vaccinated for COVID-19?	No	272	38.3
		Taken First dose only	102	14.3
		Yes	337	47.4

The diagram shows that 96.6% of the participants said that they use masks regularly and 3.4% of them do not use mask regularly. (Fig.1). Most (47.7%) of them said that sometimes masks make breathing difficult.

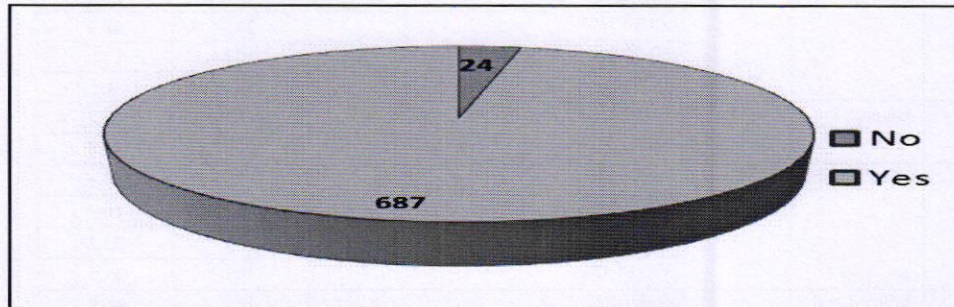


Fig 1: Pie diagram depicting use of mask.

Table (2): Perception of participants regarding use of face mask

Sr	Characteristics	Frequency	Percent	
1	A person who doesn't have any symptoms should also wear a face mask to prevent/protect against transmission of COVID-19.	Don't Know	32	4.5
		No	27	3.8
		Yes	652	91.7
2	Using a face mask only will protect everyone from COVID-19	Don't Know	31	4.4
		No	226	31.8
		Yes	454	63.9
3	I would like to wear a face Mask since it protects me.	Don't Know	12	1.7
		No	27	3.8
		Yes	672	94.5
4	I don't like that I am forced to wear a facemask	No	481	67.7
		Sometimes	107	15.0
		Yes	123	17.3
5	Though facemask is good it will be better to use it along with social distancing.	Don't Know	11	1.5
		No	25	3.5
		Yes	675	94.9
6	After usage, face masks should be disposed carefully to prevent virus transmission.	Don't Know	15	2.1
		No	16	2.3
		Yes	680	95.6
7	Face mask makes people look untrustworthy	Don't Know	2	.3
		No	385	54.1
		Sometimes	206	29.0
		Yes	118	16.6
8	Facemasks are a burden for me.	Don't Know	1	.1
		No	443	62.3
		Sometimes	183	25.7
		Yes	84	11.8
9	Do you think that there is need to use face mask even after vaccination?	Don't Know	28	3.9
		No	43	6.0
		Yes	640	90.0

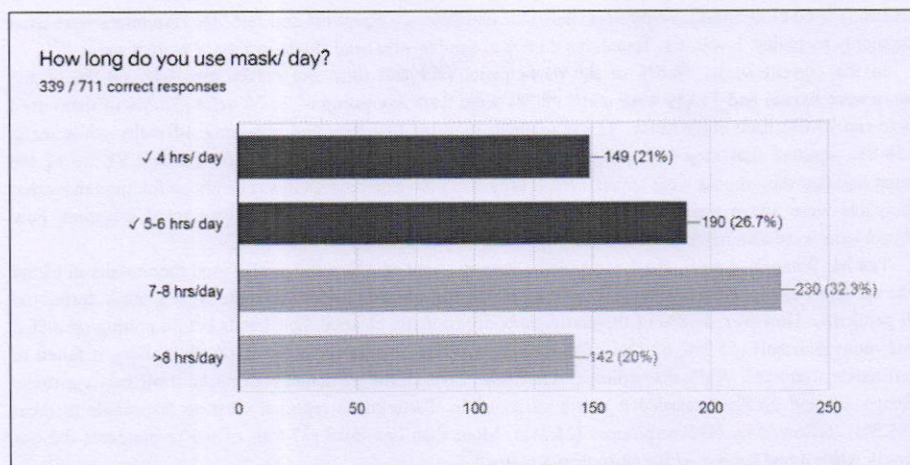


Fig 2: Bar diagram depicting duration of use of face masks

Above diagram shows that 26.7% of the participants said that they use masks for 5-6 hrs/ day, 21% said they use it for 4 hrs/day while 32.3% said that they use it for 7-8 hrs/day and 20% of them used masks for >8 hrs/day. (Fig 3). Maximum (94%) of the participants said that they discard their used masks in dustbins, 3% of them said that they burn the used masks to dispose it off, 2% of them said that they wrap the mask in plastic bag and then discard it in dustbin while 1% of them said that they wash it and reuse it.

Table (3): Practices of participants regarding use of face mask

Sr	Characteristics	Frequency	Percent	
2	Do you wash your hands before wearing mask?	No	70	9.8
		Sometimes	77	10.8
		Yes	564	79.3
3	Do you cover your nose, mouth and chin while wearing mask?	No	16	2.3
		Sometimes	19	2.7
		Yes	676	95.1
4	Do you store your used mask in pocket or bag to use it later?	No	390	54.9
		Sometimes	118	16.6
		Yes	203	28.6
5	How frequently do you wash your masks?	Alternate Day	118	16.6
		Daily	419	58.9
		Discard immediately after use	174	24.5
6	Do you keep your mask on your forehead or chin?	No	496	69.8
		Sometimes	120	16.9
		Yes	95	13.4
7	Do you remove your mask when talking with others?	No	570	80.2
		Sometimes	97	13.6
		Yes	44	6.2
8	Do you touch your masks?	No	297	41.8
		Sometimes	270	38.0
		Yes	144	20.3
9	Do you wash your hands after removing face masks?	No	66	9.3
		Sometimes	69	9.7
		Yes	576	81.0

Discussion: Matusiak Ł et al conducted a “study on the use of face masks during the COVID-19 pandemic in Poland: A survey study of 2315 young adults”. The study shows that 60.4% of responders reported that they are using the face masks. Cloth masks (46.2%) were used most commonly followed by surgical masks (39.2%), N95 and FFP (13.3%), half-face elastomeric respirators (0.8%) and full-face respirators (0.4%). Females significantly

more frequently used cloth masks, respirators; half-face elastomeric respirators and full-face respirators were used more commonly by males. It was also found that 23.9% of sample who used single-use mask wore it again. ⁽¹²⁾

In the current study, 96.6% of the participants said that they use masks regularly, 68.2% of the participants were female and 31.8% were male, 48.2% were from age group of 20-30 years. 73.3% of them used N95 Mask and 43.6% used cloth Mask. 41.1% of them reported that they had breathing difficulty while using masks, 38.8% reported that they had ear pain as well as pressure at the back of the ear and 91.7% of the participants said that they should wear masks even if they don't have any symptoms. The above findings show that the participants were aware about importance of the use of face masks for the prevention of infection. Few physical problems were also reported due to prolonged use of face masks.

Tan M, Wang Y, Luo L, Hu J conducted a survey study on "how the public used face masks in China during the coronavirus disease pandemic". The study found that almost all (99%) people wore a mask during the covid-19 pandemic. However, 41.8% of the participants occasionally cleaned their hands before putting on a face mask, and more than half (55.3%, 62.1%) of those who touched or adjusted their mask while using it failed to wash their hands afterward. While discarding a used mask, 7.6% of the participants disposed it off into a garbage bin without a lid and 22.5% discarded it into a garbage bin. Participants reported wearing disposable medical masks (93.8%), followed by N95 respirators (26.2%), More than one-third (37.6%) of the respondents did not replace mask when it had been used for more than 8 hours. ⁽¹³⁾

Ravi, R., Athkuri, S., Ponugubati, C. C., Borugadda, R., Pamidimukkala, S., & Afraaz, A conducted a cross-sectional study on Knowledge and awareness on usage of mouth masks among dental fraternity during this pandemic COVID-19. A total of 507 participants returned the questionnaire by responding to all the questions. When inquired regarding the type of masks preferred during aerosol generation procedures, 218 participants (43%) answered as N95 masks, and among which, 50.9% were practitioners and 49.1% were post graduate students. A 3 ply mask/surgical mask over N95 were chosen by 142 participants (28.0%), of which 70.4% were practitioners and 29.6% were post graduates. Likewise, when inquired about the type of masks preferred during non-aerosol generation procedures 154 participants (30.4%) opted for N95 masks and practitioners (57.1%) and post graduates (42.9%). A total of 118 (23.3%) preferred to use 3 ply masks, of which 50.0% were practitioners and 50.0% were post graduates. A statistically significant difference was observed with a p value of 0.00. ⁽¹⁴⁾

In the current study, 79.3% of the participants said that they wash their hands before wearing masks and 10.8% said sometimes washed their hands. 54.9% of the participants said that they don't store their used mask in pocket or bag to use it later; this shows that there is need to spread awareness about the use of masks. 58.9% of the participants said that they washed their masks daily and 24.5% said they discard the used mask immediately after use. 41.8% of the participants said that they do not touch their masks and 38% said sometimes they touch their masks to adjust it. Almost 81% of the participants reported that they wash their hands after removing face masks. This shows that there is still need to spread awareness among the community about proper practices of use of face masks.

Lee, L.Yk., Lam, E.Pw., Chan, Ck. et al in their study "Practice and technique of using face mask amongst adults in the community: a cross-sectional descriptive study" found that <1/5th of the participants reported that they always wore face mask when taking care of family members with infections. In terms of technique, no one of the participants performed all the required steps in using face mask correctly. More than 90% of the participants did not perform hand washing before putting on (91.5%), taking off (97.3%), or after disposing (91.5%) face masks. ⁽¹⁰⁾

In the current study, 92% of the participants used masks at public places, 76.7% used masks at social gathering and 90% of them said that there is need to use face masks even after vaccination. 95.1% of the participants said that they cover their nose, mouth and chin while wearing masks that mean that they followed the technique of wearing mask properly. 80.2% of the participants said that they do not remove their mask when talking with others. That shows that participants are aware of the transmission and prevention of the infection.

4. CONCLUSION

In the current study, 96.6% of the participants said that they use masks regularly, 68.2% of the participants were female and 31.8% were male, 48.2% were from age group of 20-30 years. 73.3% of them used N95 Mask and 43.6% used cloth Mask. 41.1% of them reported that they had breathing difficulty while using masks, 38.8% reported that they had ear pain as well as pressure at the back of the ear and 91.7% of the participants said that they should wear masks even if they don't have any symptoms. The compliance to use of face mask was highly affected by the individual's positive perception, which by itself is influenced by knowledge.

The overall results of the current study shows that there was awareness about the use of importance of face masks and good practices of use of face Masks, were followed by people of India. From above findings we can say that face mask usage has become a new normal.

REFERENCES:

1. <https://openwho.org/courses/introduction-to-ncov>
2. Available from: <https://www.worldometers.info/coronavirus/>. [Last accessed on 2021 Apr 16].
3. Bartoszko JJ, Farooqi MAM, Alhazzani W, Loeb M. Medical masks vs N95 respirators for preventing COVID-19 in healthcare workers: A systematic review and meta-analysis of randomized trials. *Influenza Other Respir Viruses* 2020;14:365-73.
4. <https://www.thehindu.com/news/national/coronavirus-india-reports-nearly-2800-new-fatalities-on-april-24-2021/article34403050.ece>
5. Flaskerud JH. Masks, politics, culture and health. *Issues Ment Health Nurs.* (2020) 41:846–9. doi: 10.1080/01612840.2020.1779883
6. Feng S, Shen C, Xia N, Song W, Fan M, Cowling BJ. Rational use of face masks in the COVID-19 pandemic. *Lancet Respir Med* [Internet]. 2020;8(5):434–6. Available from: pmid:32203710
7. Kumar J, Katto MS, Siddiqui AA, Sahito B, Jamil M, Rasheed N, et al. Knowledge, Attitude, and Practices of Healthcare Workers Regarding the Use of Face Mask to Limit the Spread of the New Coronavirus Disease (COVID-19). *Cureus.* 2020;12(4).
8. Franck Katembo Sikakulya, Robinson Ssebuufu, Simon Binezero Mambo, The ophilus Pius, Annet Kabanyoro, Elizabeth Kamahoro, Yusuf Mulumba, Jean Kakule Muhongya, Patrick Kyamanywa, Published: March 24, 2021, <https://doi.org/10.1371/journal.pone.0248706>
9. Javid B, Weekes MP, Matheson NJ. Covid-19: should the public wear face masks? *BMJ* [Internet]. 2020;369(April):11–2. Available from: pmid:32273278
10. Lee, L.Yk., Lam, E.Pw., Chan, Ck. *et al.* Practice and technique of using face mask amongst adults in the community: a cross-sectional descriptive study. *BMC Public Health* 20, 948 (2020). <https://doi.org/10.1186/s12889-020-09087-5>
11. Azlan AA, Hamzah MR, Sern TJ, Ayub SH, Mohamad E. Public knowledge, attitudes and practices towards COVID-19: A cross-sectional study in Malaysia. *PLoS One* [Internet]. 2020;15(5):1–15. Available from: pmid:32437434
12. Matusiak Ł, Szepietowska M, Krajewski PK, Białynicki-Birula R, Szepietowski JC. The use of face masks during the COVID-19 pandemic in Poland: A survey study of 2315 young adults. *Dermatol Ther.* 2020 Nov;33(6):e13909. doi: 10.1111/dth.13909. Epub 2020 Jul 13. PMID: 32602208; PMCID: PMC7361243.
13. Tan M, Wang Y, Luo L, Hu J. How the public used face masks in China during the coronavirus disease pandemic: A survey study. *Int J Nurs Stud.* 2021 Mar;115:103853. doi: 10.1016/j.ijnurstu.2020.103853. Epub 2020 Dec 6. PMID: 33352496; PMCID: PMC7837163.
14. Ravi, R., Athkuri, S., Ponugubati, C. C., Borugadda, R., Pamidimukkala, S., & Afraaz, A. (2020). Knowledge and awareness on usage of mouth masks among dental fraternity during this pandemic COVID-19: A cross-sectional study. *Asian Journal of Medical Sciences, 11*(6), 9–14. <https://doi.org/10.3126/ajms.v11i6.30706>
15. Taylor S, Asmundson GJG (2021) Negative attitudes about facemasks during the COVID-19 pandemic: The dual importance of perceived ineffectiveness and psychological reactance. *PLoS ONE* 16(2): e0246317. <https://doi.org/10.1371/journal.pone.0246317>
16. Al Naam YA, Elsafi SH, Alkharraz ZS, Alfahad OA, Al-Jubran KM, Al Zahrani EM (2021) Community practice of using face masks for the prevention of COVID-19 in Saudi Arabia. *PLoS ONE* 16(2): e0247313. <https://doi.org/10.1371/journal.pone.0247313>
17. Rahimi, Z., Shirali, G.A., Araban, M. *et al.* Mask use among pedestrians during the Covid-19 pandemic in Southwest Iran: an observational study on 10,440 people. *BMC Public Health* 21, 133 (2021). <https://doi.org/10.1186/s12889-020-10152-2>

**“EFFECT OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING
PREVENTION AND MANAGEMENT OF VARICOSE VEIN AMONG WORKERS OF SELECTED
INDUSTRY”.**

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ABSTRACT

The quasi-experimental research study showed the “Effect of structured teaching program on knowledge regarding prevention and management of varicose vein among workers of selected industry”. Total 35 sample were selected using purposive sampling technique. A structured questionnaire was used to assess the knowledge level. The quasi-experimental works performed by using structured teaching program on knowledge regarding prevention and management of varicose vein among workers. All statistical analysis performed by using descriptive and inferential statistics. The analysis and data were based on the objectives and hypothesis. The assessment of pretest knowledge scores of caregivers shows that in pre test the majority of knowledge level subjects 2(8%) belongs to excellent category, 7(28%) belongs to very good category, 6(24%) belongs to good category, 6(24%) belongs to poor category and 4(16%) belong to very poor category. In post test the majority of knowledge level subjects 7(28%) belongs to excellent category, 8(32%) belongs to very good category, 6(24%) belongs to good category, 4(16%) belongs to poor category. The level of knowledge during pre-test and post-test were compared to prove the effectiveness of Structured Teaching Program using paired “t” test $t=13.66^*$, $t(24)=1.71$, $(P<0.05)$. Analysis of socio demographic variables showed a significant association between marital status, family history of varicose vein, activity of daily living and health habit with knowledge score at 5% level $(P>0.05)$.

Keywords: - Structured Teaching Program, Varicose Vein

1. INTRODUCTION

Varicose veins are swollen, twisted, and sometimes painful veins that have filled with an abnormal collection of blood. Normally veins have leaflet valves to prevent blood from flowing backwards (retrograde flow or reflux). Leg muscles pump the veins to return blood to the heart (the calf muscle pump mechanism), against the effects of gravity. ¹

This is a transport system, within which the medium to be transported (blood) is propelled by a pump (the heart) in a closed circuit through elastic tubes (vessels). This continual circulation of fluid throughout the body serves, most importantly, as a means of delivery and removal of substances; it provides all the living cells of the organism with the materials required for their normal functions (e.g., O₂ and nutrients), and it carries away the products of cell metabolism. ²

The blood vessels are the components of the circulatory system that transport blood throughout the human body. These vessels transport blood cells, nutrients, and oxygen to the tissues of the body. They also take waste and carbon dioxide away from the tissues and the heart, respectively. ³



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Approximately 23% of US adults have varicose veins. If spider telangiectasias and reticular veins are also considered, the prevalence increases to 80% of men and 85% of women. Generally, more common in women and older adults, varicose veins affect 22 million women and 11 million men between the ages of 40 to 80 years. ⁴

This process usually occurs in the veins of the legs, although it may occur in other parts of the body. Individuals spending most of the day on their feet every working day (e.g. Nursing staffs, teachers, sales assistants, traffic police etc) are at greater risk of health problems including varicose veins, poor circulation and swelling in the feet and legs, foot problems, joint damage, heart and circulatory problems and pregnancy difficulties. ⁵

2. METHODOLOGY

A quasi-experimental design was used for the present study & 35 caregivers were selected using the purposive sampling technique. A structured questionnaire was used to assess the knowledge level. Structured Teaching Program was used to determine variation between pre- test and post- test knowledge score. Descriptive and inferential statistics were used to analyze the data.

3. RESULTS AND DISCUSSION

The chapter deals with the analysis and interpretation of data collected from 35 industrial workers in selected industries. Data analysis is to organize, provide structure and elect meaning from research data. The collected information was organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics. The findings were organized and presented in two part using tables and figures. The details of each section are described below and correlated with objectives.

The analysis and interpretation of data of this study are based on data collected through Structured Teaching Program from caregivers (N=35). The results were computed using descriptive and inferential statistics based on the following objectives. The level of significance was set at 0.05%.

OBJECTIVES

1. To assess the knowledge level regarding prevention and management of varicose vein.
2. To assess effectiveness of structured teaching program on knowledge regarding prevention and management of varicose vein.
3. To find out the association between knowledge level regarding prevention and management of varicose vein among workers with their baseline Performa.

PRESENTATION OF THE DATA

To begin with, the data was entered in a master sheet, for tabulation and statistical processing. To find the relationship, the data were tabulated, analyzed, and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

4.1 Section 1: Description of Socio-demographic characteristics of respondents under study.

4.2 Section 2: Description of Assessment of data related to assess the knowledge level regarding prevention and management of varicose vein.

4.3 Section 3: Description of Analysis of data to Assessment To assess effectiveness of structured teaching program on knowledge regarding prevention and management of varicose vein.

4.4 Section 4: Description of Association between knowledge level regarding prevention and management of varicose vein among workers with their baseline Performa.

4.1 SECTION-I DESCRIPTION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE CAREGIVERS

Table 1: Frequency and percentage distribution of the baseline Performa

n=35

Sr.no	Baseline Performa	Category	Frequency (N)	Percentage (%)
1.	Age in years			
	1.1	18-28	6	17.2
	1.2	29-38	28	80
	1.3	39-48	1	2.8
	1.4	Above 49	0	0
2.	Gender			
	2.1	Male	35	100
	2.2	Female	0	0
3.	Religion			
	3.1	Hindu	12	34.28
	3.2	Muslim	21	60
	3.3	Christen	2	5.71
4.	Marital status			
	4.1	Married	31	88.57
	4.2	Unmarried	4	11.42
	4.3	Divorced	0	0
	4.4	Widows	0	0
5.	Exercise status			
	5.1	Yoga	1	2.8
	5.2	Morning walk	33	94.28
	5.3	Meditation	0	0
	5.4	Gym	1	2.8
6.	Monthly income			
	6.1	Below Rs 5,000	2	5.7
	6.2	Rs.5,000-10,000	26	74.28
	6.3	Rs11,000-15,000	7	20
	6.4	Rs 16,000 - 25,000	0	0
7.	Current health status			
	7.1	Healthy	35	100
	7.2	Unhealthy	0	0
8.	Health habits			
	8.1	Smoking	5	14.28
	8.2	Alcohol	2	5.71
	8.3	Tobacco	26	74.28
	8.4	No any habit	2	5.7

9.	Activity of daily living			
	9.1	Strenuous Active	1	2.85
	9.2	Moderate Active	18	51.42
	9.3	Mild Active	16	45.71
	9.4	Dull	0	0
10.	family history of varicose vein			
	10.1	Yes	23	65.71
	10.2	No	12	34.28
11.	Source of income			
	11.1	Private Job	35	100
	11.2	Govt. Job	0	0
	11.3	Business	0	0
	11.4	Unemployed	0	0

4.2 SECTION 2: DESCRIPTION OF ASSESSMENT OF KNOWLEDGE LEVEL REGARDING PREVENTION AND MANAGEMENT OF VARICOSE VEIN:

Table no. 2: Description of aspect-wise and overall knowledge scores of respondents in the pre-test.

n=35

Sr.No	Items	Mean	SD	Mean %
1.	Meaning of varicose vein	0.74	4.33	2.846
2.	Anatomy and physiology of vein	1.28	5.35	5.565
3.	Causes and risks factors of varicose vein	1.45	3.40	5.8
4.	Type	0.77	3.98	2.851
5.	Symptom	0.02	0.16	2
6.	Management and Prevention of varicose vein	9.25	8.38	30.833

Table No 2: The above table shows that pre-test knowledge score of respondents on prevention and management of varicose vein. The highest mean percentage was seen in the aspect of Knowledge related to management and prevention of varicose vein that is 30.833%, followed by 5.565% in Knowledge related anatomy and physiology, 5.8% in causes and risks factors of varicose vein, 2.846 in the Meaning of varicose vein. 2.851% in the aspect of Type of varicose vein, 2% in the aspect of Symptom.

Table no. 3: Description of aspect-wise and overall knowledge scores of respondents in post-test.

n=35

Sr. No	Items	mean	SD	mean %
1.	Meaning of varicose vein	0.88	5.16	2.83%
2.	Anatomy and physiology of vein	1.85	7.43	5.60%
3.	Causes and risks factors of varicose vein	3.08	8.818	9.33%
4.	Type	0.88	5.16	2.83%
5.	Symptom	0.37	1.300	2.84%
6.	Management and Prevention of varicose vein	15.77	10.08	36.48%

Table No. 3: The above table shows that post-test knowledge score of respondents on prevention and management of varicose vein. The highest mean percentage was seen in the aspect is 36.48%. Management and Prevention of varicose vein, followed by 9.33% in causes and risks factors of varicose vein, 5.60% in the knowledge about anatomy and physiology of vein. 2.84% in knowledge related symptoms, 2.83% in knowledge related Meaning of varicose vein and type of varicose vein.

Table No. 4: Overall level of Knowledge score regarding prevention and management of varicose vein

n=35

	KNOWLEDGE SCORE									
	VERY POOR		POOR		GOOD		VERY GOOD		EXCELLENT	
	F	%	F	%	F	%	F	%	F	%
PRE-TEST	4	16	6	24	6	24	7	28	2	8
POST-TEST	0	0	4	16	6	24	8	32	7	28

The above table no 4. showing the level of knowledge in pre-test and post-test assessment.

In pre-test the majority of subject 23(65%) belongs to average category, 12(34.28%) belongs to good category, 0(0%) belongs to excellent category, 0(0%) belongs to poor category

In post-test the majority of subject 27(77.14%) belongs to excellent category, 6(17.14%) belongs to Good category, 2(5.71%) belongs to average category, 0(0%) belongs to poor category.

4.3 section 3: Description of effectiveness of structured teaching program on knowledge regarding prevention and management of varicose vein.

Table no. 5: Assessment of knowledge mean pre and post structured teaching program

n=35

	Assessment of knowledge mean pre and post structured teaching program					
	Mean	SD	Mean %	df	Level of Significant	Paired 't' test
Pre-test	13.54	2.58	75.22	34	0.05	t=17.81*
Post-test	22.85	3.71	84.62			

t (34) =2.0301 P=<0.05

*Significant

4.4 SECTION 4: TO FIND OUT THE ASSOCIATION BETWEEN KNOWLEDGE LEVEL REGARDING PREVENTION AND MANAGEMENT OF VARICOSE VEIN AMONG WORKERS WITH THEIR BASELINE PERFORMA.

Table 6: Association of selected Baseline Performa and knowledge score regarding prevention and management of varicose vein.

Sr.No	Variables	χ^2 value	Level of Significant
1.	Age	0.3651	Not Significant
2.	Gender	0	Not Significant
3.	Religion	1.72	Not Significant
4.	Marital status	4.7	Significant
5.	Monthly income	0.67	Not Significant
6.	Current health status	0	Not Significant
7.	Family history of varicose vein	5.12	Highly Significant
8.	Activity of daily living	5.24	Highly Significant
9.	Sources of income	0	Not Significant
10.	Exercise status	0.34	Not Significant
11.	Health habits	20.37	Highly Significant

$\chi^2(1) =3.84, P<0.05$

Chi-square value were calculated to find out the association knowledge level regarding prevention and management of varicose vein with their selected baseline Performa. The study findings reveals that there was significant association of knowledge level regarding prevention and management of varicose vein with their selected baseline Performa like marital status ($\chi^2=4.7$), family history of varicose vein($\chi^2=5.12$), activity of daily living($\chi^2=5.24$), health habits($\chi^2=20.37$)

4. CONCLUSION

The finding of the study showed that the Structured Teaching Program was effective as evidenced by the result of pre-test and post-test knowledge score. This study has proved that it help to increase the knowledge level regarding prevention and management of varicose vein among industrial workers.

The following conclusions were drawn based on the findings of the study:

The pre-test knowledge score among caregivers falls in very good 28% knowledge score, and post-test score among caregivers falls in very good 32% knowledge score.

There was a significant enhancement in the knowledge of industrial workers after conducting STP on prevention and management of varicose vein

There was a significant association between pre-test knowledge scores and selected demographic variables such as marital status, family history of varicose vein, activity of daily living and health habits at 0.05 level.

The findings of the study revealed that there was no significant association between pre-test knowledge score and selected demographic variables such as age, gender, religion, monthly income, current health status, source of income, exercise status at 0.05 level.

REFERENCES

1. Neill Standing problem. Hazard magazine (online). 2005 Aug10. (cited 2011Oct 24): URL <http://www.hazards.org/standing/index.htm>
2. https://link.springer.com/chapter/10.1007/978-3-642-73831-9_20
3. Vessel function - Google Search [Internet]. Google.com. 2020 [cited 7 January 2020].https://www.google.com/search?q=vessel+function&rlz=1C1CHBF_enIN874IN874&oq=vessel+funct&aqs=chrome.0.0j69i57j0l6.13542j0j8&s
4. Incidence of varicose veins - Google Search [Internet]. Google.com. 2020 [cited 7 January2020]. https://www.google.com/search?q=incidence+of+varicose+veins&rlz=1C1CHBF_enIN874IN874&sxsr=ACYBGNT7V9yRYD5-70g_8iy3dJ5J46LFFg:1577355898698&source=lnms&sa=X&ved=0ahUKewjRyJrQjNPmAhUEOSsKHbaSBbsQ_AUICSgA&biw=1536&bih=754&dpr=1.25
5. Justin, a. (2012). "a study to assess the knowledge, attitude and practice of staff nurses regarding the risk factors and preventive measures of varicose vein in selected hospitals at Mangalore.". Post graduate. Rajiv Gandhi university of health sciences Bangalore, Karnataka.

Effect of Nursing Intervention for the Prevention of Phlebitis Among Patients Receiving Chemotherapy Admitted in Oncology Ward of Selected Hospital

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Abstract

Introduction: Chemical phlebitis is caused by drug or fluid being infused through IV cannula. Factors such as pH and osmolarity of substances have a significant effect on the incidence of phlebitis. If left untreated, it can lead to infection or thrombus formation. Hence it is essential for the nurses to prevent and treat the phlebitis promptly with cost effective way, thus preventing occurrence of phlebitis during chemotherapy treatment.

Material and method: Quasi experimental two groups post-test only design was selected for the study with a sample size 50 in each group. Nonprobability purposive sampling technique was used, patient selected for both groups with lottery method. Inclusion criteria were patient who were receiving chemotherapy, conscious and oriented to time place and person. Exclusion criteria were patient already developed phlebitis at IV infusion site, suffering with peripheral vascular disorder, receiving chemotherapy through central venous catheter or Port A catheters. The control group received hospital existing intervention for the prevention of phlebitis at infusion site, while experimental group received nursing interventions comprised of NS flush, MGSO₄ local application and cold application for three days (table no.1, 2). Visual infusion phlebitis scale was used to assess the occurrence of phlebitis. Baseline data was collected from patient. Unpaired t test was used to compare the effectiveness between two groups.

Result: In control group the mean score of post-test (0.48) and in Experimental group the mean score of post-test (1.2). Unpaired 't' test calculated value for this present study was 2.68 while tabulated 't' value was 2.0086 with 98 degrees of freedom (table no.3). There was significant association found between prevention of phlebitis with type of family (7.13), income (4.67), type of cancer (4.28) and systemic disease (6.62). So the null hypothesis was rejected at 0.05 level of significant.

Conclusion: The study findings revealed that use of nursing intervention for patient receiving chemotherapy is more effective than the hospital existing practice for the prevention of phlebitis.

Keywords: Nursing intervention; Phlebitis; Chemotherapy.

How to cite this article:

Mayavati B Tupere, Amol C Temker, Nilesh Ramesh Mhaske, et al., Effect of Nursing Intervention for the Prevention of Phlebitis Among Patients Receiving Chemotherapy Admitted in Oncology Ward of Selected Hospital. Indian J Surg Nurs. 2020;9(3):113-118.

Introduction

Cancer is life threatening disorder, chemotherapy is treatment of cancer, and phlebitis is common side

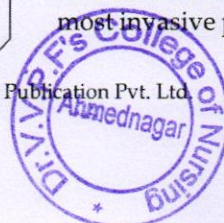
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effect of chemotherapy. It may cause interruption in treatment. Phlebitis is caused by mechanical trauma to the vein and the chemical irritation of some substances introduced in to the vein. Patients may complain of burning or pain along the veins, nurse may notice redness, swelling and increased body temperature. The treatment for phlebitis is to stop the infusion immediately. Restart it at another site. This may dislodge any clot and it cause pulmonary embolism.¹

Over 90% of hospitalized patients will receive some form of intravenous therapy during the course of their care, and intravenous medication administration represents one of the highest-risk, most invasive procedures performed by nurses and



thrombophlebitis has become one of the common complications of IV cannulation.²

There are multiple risk factors for the development of thrombophlebitis. The longer duration of cannulation is proportional to the risk of thrombophlebitis. Catheters placed in the veins that overlay joints are more likely to cause thrombophlebitis, as motion of the joint can cause frictional trauma between the endothelium and the catheter. Stagnant blood flow in the lower extremities makes veins in this location more likely to develop thrombophlebitis. Numerous intravenous fluid solutions, such as potassium chloride, barbiturates, phenytoin, and chemotherapeutic agents, are known to cause endothelial damage and inflammation. Finally, poor technique and multiple attempts lead to vascular damage and thrombophlebitis.³

The incidence of phlebitis is 10% to 90% peripheral intravenous catheterization. It is common complication associated with the peripheral intravenous catheterization.⁴ Chemotherapy is the treatment of disease by the use of chemical substances especially the treatment of cancer by cytotoxic and other drugs.⁵ Chemotherapy drugs interfere with steps of the cell cycle specifically involved in synthesis of DNA or replication of tumor cells. In this resting stage the cells are out of cycle for temporarily. RNA and protein are the gap in resting and DNA synthesis while the Second gap, during the cell constructs the mitotic apparatus and lastly Mitosis. Molecular and targeted therapy in combination with chemotherapy are shown increases in response to survival molecular targeted agents interfere in specific steps in the process of cancer development chemotherapy destroy the cancer cell, by damaging the cell's DNA to cause apoptosis, other molecular agents stop cancer growth and development of new blood vessels or invasion of other healthy tissues.⁶

Peripheral-catheter related phlebitis is caused by the inflammation of tunica intima of a superficial vein due to irritation of the tunica by mechanical, chemical or bacterial sources. It is estimated that in U.K 2080% of patients with peripheral venous cannula develop phlebitis.⁷

Problem statement: Effect of nursing intervention for the prevention of phlebitis among patients receiving chemotherapy admitted in Oncology ward of selected hospital.

Objectives of study

Primary Objectives:

1. To assess the effect of hospital existing practice for prevention of phlebitis among patient receiving chemotherapy.
2. To assess the effect of nursing intervention for prevention of phlebitis among patient receiving chemotherapy

Secondary Objectives:

1. To compare the effect of hospital existing practice with nursing intervention for prevention of phlebitis among patient receiving chemotherapy.
2. To find out association between prevention of phlebitis and selected baseline proforma among patients receiving chemotherapy.

Hypotheses

(All hypotheses will be tested at 0.05 level of significance)

H_{01} : There will be no significant effect of nursing intervention on prevention of phlebitis among patient receiving chemotherapy.

H_{11} : There will be significant effect of nursing intervention on prevention of phlebitis among patient receiving chemotherapy.

H_{02} : There will be no significant association between prevention of phlebitis among patient receiving chemotherapy and there selected baseline Performa.

H_{22} : There will be significant association between prevention of phlebitis among patient receiving chemotherapy and there selected baseline Performa.

Ethical aspect: To obtain ethical committee approval for conducting research study permission was taken from institutional ethics committee research study was conducted after availing permission and procedure required for ethical committee was fulfilled. Written informed consent was taken from the patient after informing details regarding research study, its benefits and effect of participation in the research study.

Conceptual framework: the conceptual framework of the study based on Faye Glenn Abedallah. Problem solving approach consist of identification of problem, assessment of problem, intervention, implementation and evaluation; she also states that conceptual framework is a cohesive supportive linkage of selected interrelated concept.^{8,9}

Review of literature: Review of literature refers to an extensive, exhaustive and systematic

Review of Literature

Review literature is a key step in research process. Review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to research project. An extensive review of related literature enabled the researcher to develop the conceptual frame work, tool, selection of research design and plan for data analysis. Review of literature for the present study is divided under two aspects:

- A Literature review related to exercise based cardiac rehabilitation.
- B Literature review related to effect of exercise based cardiac rehabilitation on cardiac parameters.

Materials and Methods

Research approach

Researcher selected experimental approach for this research study.

Research design

Research design adopted for the present study is pre-experimental one group pre-post-test study design.

Research study setting

Present study was conducted in cardiac unit of selected hospital.

Population

The study population was postoperated CABG patients in selected hospital.

Sample size

In this study the sample size consisted of 40 patients.

Sampling technique

Non probability purposive sampling technique was used to select the sample.

Method of Selection of Study Subjects/Eligibility Criteria

A Inclusion criteria: Postoperated CABG patient admitted in selected cardiac unit, who has completed 48 hours after surgery, both male and female patients with stable medication regimen will be included.

B Exclusion criteria: Postop CABG patient with severe critical condition such as unconscious patient, intubated patient and strictly bed rest advised patients.

Tool

Tool consists of baseline performa, Modified Observational Checklist for Cardiac Parameters.

Part A: Baseline Performa of postoperated CABG patient such as Age in years, Gender, Religion, Marital status, Educational status, Occupation, Physical activity, Mental activity, Type of family, Type of diet, Diagnosis of CABG, Associated conditions and Ejection fraction value.

Part B: Modified Observational Checklist for Cardiac Parameters to observe, asses and record the effectiveness of exercise based cardiac rehabilitation on selected cardiac parameters such as (Heart rate, Respiratory rate, Blood pressure, Saturation of peripheral oxygen, Mean arterial pressure, Rate pressure product) of postoperated CABG patients. It includes the following aspects:

Part I: Pre-test reading of the selected cardiac parameters is observed during the day first before intervention.(i.e 24 hrs after CABG).

Table 1: Intervention

Sr. No	Administered Intervention (Exercise based cardiac rehabilitation activity)	Duration	Relaxation time
1.	Warm up		4 min
2.	Diaphragmatic breathing exercise	5 min	3 min
3.	Active exercise of extremities	4 min	3 min
4.	Positioning	4 min	2 min
5.	Coughing	2 min	1 min
6.	Huffing	3 min	1 min
7.	Incentive Spirometry	5 min	2 min
8.	Ambulation	3 min	3 min

Part II: Administer Intervention schedule till patient is hospitalized.

Part III: Post-test reading of the selected cardiac parameters is observed during the first follow up i.e. (Day 14)

Method of Analysis

The data obtained was analyzed and interpreted by descriptive and inferential statistics based on the objectives of the study.

Results

Section I: Baseline Performa

Analysis of section I revealed that majority of

post-operated CABG patient 45% belong to age group of 51–60 years, 65% male gender and hindu religion, 87.5% married group, 32.5% educated upto secondary group, 40% belong to homemaker group, 35% belong to sedentary activity category, 67.5% postoperated CABG patient were from nuclear family, 62.5% belong to mix veg, 80% were diagnosed with Tripple vessel disease, 37.5% belong to hypertension group only and 42.5 % belong to 40–54% ejection fraction category.

Section II: Analysis of data related to the effectiveness of cardiac rehabilitation program.

Table 1 and graph 1 revealed the main findings that mean, standard deviation and mean percentage of post-test cardiac parameters is significantly decreased than the pre-test assessment of cardiac parameters.

Table 1: Analysis of data related to the effectiveness of cardiac rehabilitation program

Parameter	Pre-test			Post-test		
	Mean	SD	Mean %	Mean	SD	Mean%
Heart rate	1.12	0.33	9.37	1.00	0.00	8.33
Respiratory rate	1.62	0.48	13.54	1.12	0.33	9.33
Blood pressure	1.37	0.48	11.45	1.12	0.33	9.33
Saturation of oxygen	1.25	0.43	16.41	1.00	0.00	8.33
Mean arterial pressure	1.5	0.5	12.5	1.42	0.49	11.83
Rate pressure product	1.5	0.5	12.5	1.12	0.33	9.33

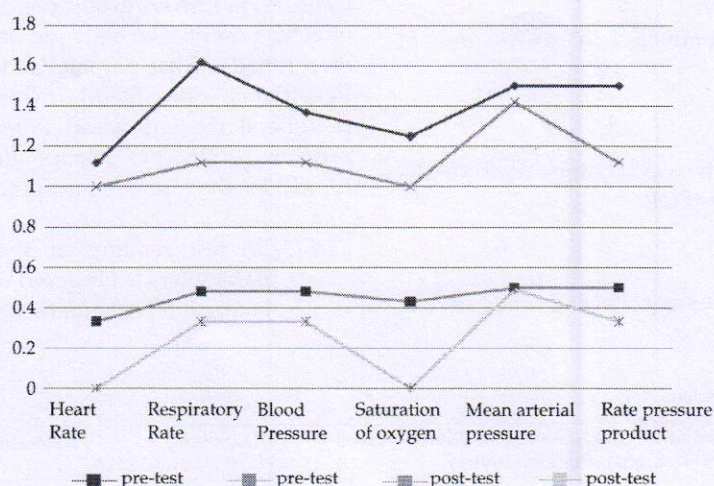


Fig. 1: Effectiveness of cardiac rehabilitation programme.

Section III: Overall level of complications

- In pre-test the majority of subject 22 (55%) belong to mild deviation category, 13 (32.5%) belong to moderate deviation, 3 (7.5%) no deviation and 2 (5%) belong to severe 11 and above category.
- In post-test the majority of subject 20 (50%) belong to mild deviation category, 18 (45%) belong to no deviation, 2 (5%) moderate deviation and 0% belong to severe deviation category.

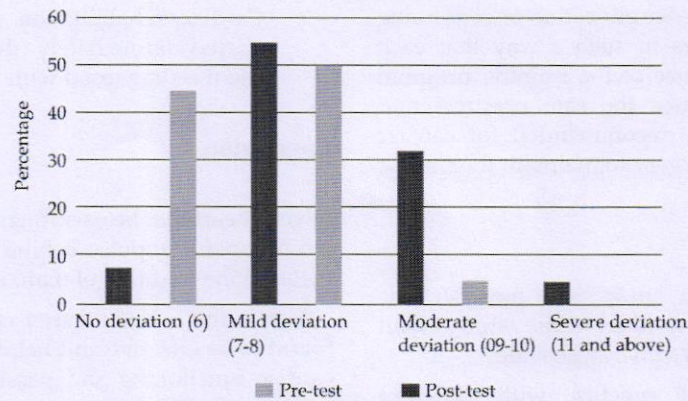


Fig. 2: Overall level of complications.

Section IV: Analysis of data to find relationship between mean score pre and post exercise based cardiac rehabilitation

The pre-test total mean percentage reading of cardiac parameters was 69.66% with a mean \pm SD of 8.36 ± 2.72 and post-test reading of cardiac parameters is decreased by mean percentage 56.5% with a mean \pm SD of 6.78 ± 1.48 after the intervention programme (Exercise based cardiac rehabilitation activity). The *t*-value of effectiveness of exercise based cardiac rehabilitation on selected cardiac parameters *t* (8.62) were found more than the table value (1.68), with the degree of freedom 39.

Section IV: Association of selected cardiac parameters with selected demographic variables

Chi-square values were calculated to find the association of cardiac parameters with their selected baseline performa. The study findings reveals that there was significant association of cardiac parameters with their baseline performa like physical activity ($\chi^2 = 4.71$), Diagnosis of CABG ($\chi^2 = 4.27$), associated condition ($\chi^2 = 6.50$) and ejection fraction ($\chi^2 = 11.90$) which is highly significant.

Implications of the Study

The present study findings have implications for nursing practice, nursing educations, nursing administrations, and nursing research.

Nursing Practice

- Nursing profession has been developing faster in recent years in a unique way. The major change that has occurred in the profession is expansion in the role of nurses.

Cardiac rehabilitation nurse plays an integral role in caring for and assisting patients who are recovering from and managing their cardiovascular problems.

- Findings of the present study would help nurses and other healthcare personnel to know the need of exercise based cardiac rehabilitation activity for the postoperated coronary artery bypass graft patient. It is one of the most effective interventions.

Nursing Education

- As a nurse educator there are abundant opportunities for nursing professionals to educate/teach students in their curriculum about the cardiac rehabilitation program specifically about exercises importance and effectiveness for decreasing the level of complications and improving the cardiac functioning and parameter among postoperated cardiac patients
- More encouragement should be given in conducting the induction training, workshop, seminars for the staff nurses and education for family members regarding the identification of health problems and taking necessary steps to resolve them by organizing health education programme for better practice.

Nursing Administration

- Nurse personnel should be prepared to take leadership role in training the staff, educating students, guide, advice support and assist the patient in adapting an altered lifestyle related to cardiac rehabilitation activities and its effect on cardiac parameters.
- The administrator has to arrange training

programs, in service education or continuing education classes in such a way that each staff gets exposure of the training program and can introduce the safe practices and physical activity recommended for cardiac patients after surgery to maintain the cardiac functioning.

Nursing Research

- Findings of the study will motivate the researchers to conduct same study with different variables on a large scale.
- Evidence based practice with different treatment modalities for stabilizing cardiac parameters of postoperated CABG Patients can add the knowledge area in the field of research.

Limitations

- The study was limited only for CABG patients.
- Only selected exercises were assessed in cardiac rehabilitation activity.
- Small number of subjects limits generalization of the study.
- Study has been maintained only for 14 days.

Recommendations

- A similar study can be conducted on large scale by adding more sample size to draw more definite conclusion and make generalization.
- Alike studies can be undertaken with a control group.
- Cardiac surgeries other than CABG can be included.
- Exercises and alternative treatment modalities can be done for more specific result.

- Cardiac rehabilitation programme can be started immediately during the time the client is diagnosed with CABG.

Conclusion

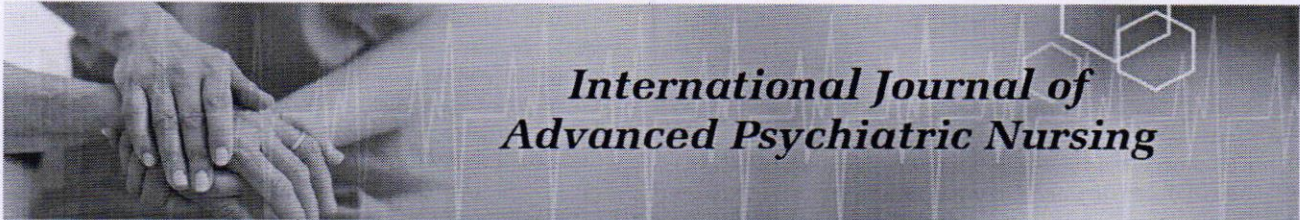
"Every heart that beats strongly and cheerfully has left a hopeful impulse behind it in the world and bettered the tradition of mankind"

Hence the exercise based cardiac rehabilitation found to be effective and helpful in improving the cardiac functioning and parameters among post-operated CABG patients.

References

1. [https://amp. live science.com](https://amp.live science.com)
2. Rajeev Gupta, Indu Mohan, Jagat Narula et al. Trends in coronary heart disease epidemiology in India, *Annals of global health* 2016 Mar-Apr;82:307-15.
3. [https://www. Cardiosmart.org](https://www.Cardiosmart.org).
4. <https://www.heart.org>. American heart association.
5. Arlenel Polaski, Suzame E. Tatro Lukman's core principles and practice of Medical surgical nursing, first edition, elsevier publication. 2010.
6. Lomi C, Westerdahl E. Physical Therapy Treatment after Cardiac Surgery: A National Survey of Practice in Greece. *J Clin Exp Cardiol* 2013;57: 004.
7. <http://www.exercise based cardiac rehabilitation. com>
8. Carl J Lavie, Ross Arena, Barry A Franklin. Cardiac rehabilitation and healthy Life -style Interventions; *journal of the American college of cardiology* 2016 Jan 5;67:13-15.
9. Ghashghaei FE, Sadeghi M, Marandi SM, et al. Exercise-based cardiac rehabilitation improves hemodynamic responses after coronary artery bypass graft surgery. *ARYA Atheroscler.* 2012;7(4):151-156.





International Journal of Advanced Psychiatric Nursing

E-ISSN: 2664-1356
P-ISSN: 2664-1348
www.psychiatricjournal.net
IJAPN 2020; 2(1): 30-33
Received: 05-01-2020
Accepted: 23-02-2020

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Impact of COVID-19 pandemic on mental health and role of nurse

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Abstract

The outbreak of COVID-19 was sudden and unexpected for the world. The first known case of COVID-19 was identified in late December- 2019. Within the short period of 3-4 months disease was spread to the most countries of the world and WHO declared COVID-19 as a pandemic disease on 11th of March 2020. High infectivity and fatality rate of COVID- 19 has caused universal psychological impact, which has resulted in the mass hysteria, economic burden and financial losses. "Coronaphobia", fear of COVID -19 has resulted into plethora of psychiatric manifestations like depression, anxiety and stress across the different strata of the society.

So this review has been undertaken to define the impact of COVID- 19 pandemic on mental health along with role of nurse in reducing the impact on the society.

Keywords: COVID-19, Pandemic, Coronaphobia, Stress, Anxiety, Fear, Infodemic, Racism, Stigmatization, Xenophobia, Lockdown, Social Distancing, Quarantine, Suicidal Death Rate, Health Care Providers, Frontline Workers.

Introduction

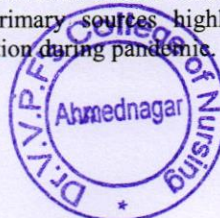
COVID-19 pandemic has been much stressful to the people. Fear and anxiety related to the new disease has resulted in strong emotional reactions among the people. Along with stress related to disease, measures introduced by governments of the different countries to restrict the spread of this disease like imposing strict lockdown has resulted into huge change in the daily routine of every individual. Therefore, new reality of the life during the lockdown is feeling of house arrest, temporary unemployment and financial instability, lack of physical contact with other family members, friends and colleagues, social distancing and feeling of social isolation. Adapting to this changed life style along managing the fear of disease and a worry about the people like family members, friends and colleagues getting contacted with disease are the psychological challenges that affects the mental health during COVID-19 pandemic. Lot of attention has been given to the study regarding medical complications of the COVID-19. Yet the unpredictability, uncertainty, seriousness, miss information and social isolation regarding the COVID-19 are contributing to the stress and anxiety of the people. In view of this, there are chances of long term psychological impacts on the mental health. We need good mental health particularly for the vulnerable population and strengthening of social capabilities to reduce the psychological impact of pandemic on the society. Even international organization like WHO advocate the integration of psychological support into basic COVID-19 response action, to reduce the mental health effect. Through this review we aim to systematically review the psychological stressors affecting mental health during this pandemic and learn role of nurse in reducing these stressors and thereby reducing the impact on mental health problem.

Factors affecting the mental health during COVID-19 pandemic, their consequences and role of nurse

Factors affecting

Different surveys has been conducted on general public that shows increase in symptoms of depression, anxiety and stress related to COVID-19 pandemic. The result of these surveys are heterogeneous, probability due to difference in study locations, timing of surveys, phase of pandemic, psycho- social and socio-economic status of population being surveyed. But finding of these surveys helps to list down the factors contributing to the disruption of mental health. Data collected from the primary sources highlights following reasons mainly affecting mental health of the population during pandemic.

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1. Fear contacting with a disease
2. Infodemic of COVID- 19 spread via different social media platform
3. Outburst of racism, stigmatization and xenophobia against particular communities
4. Nationwide lockdowns and its consequences
5. Temporary loss of job, resulting into loss of earning
6. Social distancing and Quarantine measures resulting in lack of physical contact with family members, friends and colleagues and feeling of isolated and lonely
7. Increasing suicidal tendency and suicidal death rate.
8. Impact on children, toddlers and adolescent
9. Psychological impact on health care providers and frontline workers

Consequence of COVID -19 on mental health and Role of Nurse

Consequence of each of the factor affecting the mental health has been discussed independently along with what role a nurse can play to contain or reduce the effect on the society:

1. **Fear of the disease:** Fear is not only the major contributing factor affecting mental health, it is also most common and frequent psychological reaction to a pandemic. Studies suggests that a person exposed to any risk of infection, and experience any sort of symptom potentially linked to the infection, develops a pervasive fear of his own health, along with worries of infecting his family members, loved ones and other people in surrounding. This fear forces him to be self-isolated developing a feeling of isolation and loneliness.

Role of nurse: A nurse can play a very important role in such situation. A nurse is primary health care person coming in contact with affected individual. Nurse being a learned professional can use their skills to reduce the fear among the individual. A nurse can motivate the patient to speak out his fears and can use her communication skill to get rid of the fear and stresses among the affected individuals. Nurse can explain the patient about the effect of disease and the course of his stay in hospital or a quarantine center during the period of treatment. Nurses can also introduce the newly identified infected individual with the others individuals who have completed their stay in hospital or quarantine centers, so that sharing of their experiences can facilitate them to adjust in this new setting.

2. **Infodemic of COVID- 19 spread via different social media platform:** Infodemic can be defined as the excessive amount of information related to any problem that is typically unreliable and spreading rapidly making solution to the problem more difficult to achieve. Wide range of information about COVID- 19 is available on internet and other social media platforms, but no evidence about the factuality and truth regarding the information is available. This misinformation has significant impact of on the mental health of users of web and other social media platform. It has led to spread of fear and panic related to COVID- 19 pandemic resulting into potential negative impact on the mental health and psychological well-being of social media users.

Role of nurse: Whenever such situation arises, nurse should assume the role of educator and educate the people around with the adequate and specific information. Nurses have

been the part of survey teams conducting health surveys and collecting information of the health of individual in the society. A nurse should also provide proper, specific and adequate information to the people in the community about the disease making them aware of the fake information being prevailed in the society and helping people to identify difference between true facts and fake news.

3. **Outburst of racism, stigmatization and xenophobia against particular communities:** Considering a single community, caste race or a religion responsible for spread to pandemic is ethically wrong. But is being practiced in most of the parts of the world. Then that specific cast, race or the community is stigmatized and a trend of xenophobia gets prevailed in the whole community. It develops the feeling of stress, anxiety and fear, resulting into strong emotional reactions like anger, agitation causing social disruption and end of social harmony. It not only affects mental health of an individual like, but of a community as a whole.

Role of nurse: Nurse can play a role of mediator and an advocator, explaining the community in which she works about the sources and modes of transmission of a disease. The nurse should specifically explain that how any disease cannot be linked to of the race or religion or a caste and their practices. Nurse should explain that diseases are caused due to different bacteriological, viral, fungal or parasitological causative agent. Nurse should explain modes of disease transmission and methods to break the transmission chain to prevent further spread of disease.

4. **Nationwide lock down and its consequences:** COVID- 19 pandemic has required many countries around the globe to implement national wide lockdown as a fundamental tool to control the spread of disease and break the chain of disease transmission. Nationwide lockdown has resulted into consequences like mass hysteria, anxiety and distress among the population. This condition is further intensified due to family separation and getting stuck separately at different regions, insufficient supply of basic essentials, financial losses, increased perception of risk due vague information and improper communication. All the factors results into irritability, fear, anger, frustration, loneliness, denial, anxiety, depression, and sometimes intention of suicide.

Role of nurse: Nurses can play important role in such situation by helping individual getting adjusted to the new daily routine. Nurses working in community could easily reach individuals stuck in such stresses and help them to get adjusted to this changed lifestyle. A nurse can help an individual to get proper information from the right sources to reduce the anxiety and fear among them. Nurse should advise the people stuck during lockdown to have word with their loved ones that could help them to release stress among them. Helping affected people by providing information they need to move back to their home town help them to build confidence and generate a feeling of safety among them. All these things would boost the morale of affected individual to get back into his normal life. Nurses can also help people suffering from different health conditions to get the required medical help like medicine they need and consulting is needed through telemedicine practice. This develops the feeling of safety and helps them to fight with the stresses.

5. Temporary loss of job, resulting into loss of earning and medical expenditures: As discussed above, COVID-19 pandemic has forced many countries around the globe to implement national wide lock down. It resulted in many businesses to stand still for months together, leading to situation of temporary job loss and loss of earning. This situation is further worsening by increasing burden of medical expenditure related to pandemic. Thus COVID-19 has led to the economic crises and increase in mental health effects relate to it. The stresses related to economic crises are now forcing people affected by them towards severe depression, alcohol dependency and increase in suicides.

Role of nurse: Nurse does not play any direct role, when it comes to the handling with the economic impact of COVID-19. But rather can play a vital role in compensating with the mental health effect of the economic impact of the COVID-19 pandemic. She can provide psychological support and teach coping strategies to help to strengthen the mental health of the affected individuals. When it comes to reducing the stress related to medical expenditure, a nurse can play very important role in it. A nurse can use the accurate, adequate and efficient supplies to minimize the excess medical expenditure. She can also teach methods of prevention of diseases which will reduce the cost treatment and help individual to live a healthy life.

Apart from the role of nurse, lot other things are needed to be done at more greater extent, to handle with the impact of economic crisis on mental health

Measures such as increase in number and expenditure through the social welfare scheme, family support programs, debt relief programs, facilities that would help the unemployed people to maintain their life in short run and regain their jobs in long run. These and lot more has to be done at national and international level to fight the impact of economic crises on mental health.

6. Social distancing and Quarantine measures resulting into lack of physical contact with family members, friends and colleagues: Social distancing and Quarantine measures are advocated and implemented across the globe as one of the best preventive measure to control the pace of spread of infectious diseases like COVID-19. Though being effective in down curving the growth of pandemic, the current scale of social distancing being implemental during lockdown and quarantine time may lead to significant and long lasting negative impact on mental health. According to different survey and reviews collected from the quarantine center across the globe, current level of social distancing and quarantine methods can lead to higher prevalence of anxiety, depression, anger, loneliness, frustration boredom.

Role of nurse: Every nurse during her learning period come across the term as the patients or the clients environment. Same factor do play a major role in this situation. The psychological environment does play a major role in the maintaining the mental health of individual practicing social distancing or in quarantine centers. A nurse should maintain clear communication with the people in the community and clarify the misconception between social distancing and social isolation. It has been observed during study that both of these concepts are misinterpreted and many a time a person is socially isolated rather than maintain a healthy social distance from his. Nurse should promote other to

maintain remote social contact with family, friends and colleagues via social media platforms. She can carry out various group activities in quarantine centers, that allows different people at the center introduce them self to other and reduce the feeling of loneliness. Exchange of word, thoughts and felling with others also helps to reduce the stress, anxiety, loneliness and frustration. It also helps to develop the feeling of availability of support, security and comfort.

7. Increasing suicidal tendency and suicidal death rate: Social isolation, anxiety, fear of contagion, uncertainty, chronic stress and economic difficulties has led to development and exacerbation stress and suicidality in vulnerable population, including individual with pre-existing psychiatric illness, low- resilient person, individual within containment zones, or a person who has lost his family member or friend due to COVID-19. Psychiatric conditions like mood fluctuation, anxiety, sleep disorder, are always found to associate with the suicidal behaviour. Multiple cases of COVI-19 related suicides has been reported in mass media and psychiatric literature of countries like USA, UK, Italy, Germany, Bangladesh, India and other. Thus suicidal tendencies have to be dealt as an independent mental health emergency during pandemic.

Role of nurse: It is found that there is high probability and elevated suicidal risk in COVID-19 survivor, especially who had severe COVID- 19 infections. This increased suicidal risk is mainly due to stressful experiences like learning of new diagnosis of COVID-19, fear of infecting other loved ones, symptoms of illness, hospitalization, admission to intensive care unit, loss of family members and friends in similar situation, loss income leading to development of anxiety, depressive and post-traumatic stress disorder. Therefore to reduce the suicidal rate during COVID- 19 pandemic nurses should work to reduce the stress, anxiety, fear and feeling of loneliness related to the disease. Nurse should encourage people to stay connected with family and friends and maintain relation by phone calls and video calls. Advice patients to take adequate sleep, eat healthy food, and do regular exercise. Patients should be checked and screened regularly, and reported on regular basis. Active outreach is necessary for the people with the history of psychiatric illness. Such people should be advised to continue their regimen of treatment and stay in contact with mental health professionals. Telemedicine techniques should be used if person is under COVID care or in quarantine facility.

8. Impact on children, toddlers and adolescent: Developmental psychologist has found that environmental factors during early childhood is responsible for shaping the lifetime behaviour of the and plays an important role in development of psychological skills like cognition, emotions etc. pandemic of COVID-19 has led to mitigation programs like closing of school parks and playgrounds leading to disruption of child's usual lifestyle, and promoting to development of distress and confusion. It has resulted in children becoming more demanding, exhibit more impatience, annoyance and hostility, causing them to suffer from physical and mental violence by overly pressurized parents. Especially children whose parents are health care workers taking care of COVID -19 patients are suffering from adjustment difficulties if

their parents are quarantined. In such situations, sustained parent child separation is making child more nervous.

Role of nurse: Nurse either in community or in quarantine center or in paediatric wards or be at their home has to face this situation. Disrupted normal routine life of the children is making them more arrogant, more demanding, impatience. In such condition, nurse should be more caring and loveable than in any other time, as attention and love is only thing that has potential to reverse the impact done. Children should be engaged in to different play activities that would keep them engaged mentally and helps to promote their health physically. All the physiological needs like healthy life style, proper hygiene and good parenting should be provided either at home or at hospital or quarantine center. If at quarantine center or hospital all the parents either mother or father, who ever child wants to be with him. This would allow the child in easy coping; provide cooperation in treatment and faster recovery. Allow child to get in contact with siblings through phone and video calls. This would help to get comfort and faster coping and psychological adjustments.

9. Psychological impact on health care provider and frontline worker: Medical professionals like doctors, nurses and other paramedics are categorized as **health care providers (HCP)**, while others professionals like police, bankers, emergency services like electricity, water supply etc. are considered as **frontline workers (FW)**. Stress fear and anxiety about the poorly known contagious disease outbreak like COVID- 19 is found to be profound among the HCP and FW. Being continuously exposed to the COVID-19 cases in hospital and quarantine centers, increases the self-perception of danger causing negative impact on mental well-being of health workers. In country like India, where health care system is already overburden, increasing COVID-19 cases are now provoking anxiety, irritation and stress among HCP, especially doctors and nurses. Increasing case load and heavy duty patters are pushing the HCW towards mild to moderate depression, fear, anxiety and insomnia. Staying separate from family during quarantine increases intensity of negative emotional responses. Returning to home from duty from dedicated COVID hospital or COVID Care centers increases the fear of transmitting disease to their own family member especially when there are elderly members with pre-existing chronic diseases or comorbid condition in the family. Thus we can say the all health care workers are under severe stress and highly vulnerable to be impacted negative on mental health during pandemic.

Role of nurse: Though nurses are at the center of the impact and are found to be most impacted, they are the one who could hold and control the situation. Nurses always act as shock absorbers that reduce the strain and stress on the active field. They not only act as bridge communicators for patients, but also for co- working nurses, doctors and other staffs. Nurses are best conveyer, and facilitates all around them to convey their emotions in proper way which helps to release stress of on duty colleagues. When it comes for a nurse herself, she should openly communicate with all her colleagues and have exchange of words, expressing hear worries, fears, stress and anxiety while working in such situations. There should be series of group discussion organized for nurses and doctors, first separately and then

together. This exchange of idea would help them again in relieve stress and anxiety the they face on duty and regain their mental health. Also such group discussion can help to learn different coping ideas applied and used by different people which would further facilitate the coping.

Conclusion

Emergence of COVID-19 pandemic has shown us the sign of emerging pandemic of mental illness. Therefore psychological and social response to this on-going pandemic has a vital role. Time has shown the need for setting up of international organization dedicated for mental health, with its branches across all countries in the globe, setting up institutions for research in mental health, with capability to deliver and arrange awareness program at both personal and community level is a desperately needed. We have seen that nurses have played a vital role in controlling and reducing the impact of COVID-19 not only on general physical health, but also on mental health. But there need to strengthen the nurses furthermore, both physically and mentally. There is need of proper working environment, cooperation and coordination in working place, psychological and family support, and respect in working places for the nurses. After working so hard in this pandemic, I do believe, it is what nurses deserve. Also proper wages and perks while working in such situation will help to boost their motive and help them to continue their work with greater dedication.

References

1. <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html#stressful>
2. https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health?gclid=EAlaIqobChMImLq8ocmc6wIVyhErChIbpwJ9EAAYASAAEgI1PFD_BwE
3. <https://www.austenriggs.org/blog-post/Psychological-Impact-of-Social-Distancing>
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7176378/>
5. <https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/publications/2011/impact-of-economic-crises-on-mental-health>
6. A Chevance, D Gourion, N Hoertel and team, Ensuring mental health care during SERS- CoV- 2 epidemic, A narrative review, *Encephale*. 2020; 46(3):193-201.
7. Leo Sher, The Impact of COVID-19 pandemic on suicidal rates, *QJM: An International Journal of Medicine*, hcaa 202, 2020, 1-6.
8. Mamidipalli Sai Spoorthy, Sree Kartik Pratapa, Supriya Mahant. Menatal health problems faced by health care workers due to COVID-19 pandemic- A review, *Asian journal of Psychiatry*, 2020; 51:L102-119.
9. Kaushik Chatterjee VS, Chauhan, Epidemics, quarantine and mental health, *Medical Journal Armed forces India*, 76(2):125-127.
10. Serafini G and team. The psychological impact of COVID-19 on mental health in the general population, *QJM: An international journal of medicine*. 2020; 113(8):531-537.



Effectiveness of Structured Teaching Program on Knowledge regarding Aroma Therapy among the Nursing Students at Pravara Institute of Medical Sciences, (DU) Loni, Ahmednagar

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Introduction

The art of aroma therapy has been practiced since ancient civilizations such as the Egyptian. Since 1990, nurses have considered that the increased technology of health care their ability to practice holistic care which is positively entrenched in the philosophy of nursing.

Nurse is one who takes care of patient's environment and his treatment plan. Earlier, the massages and therapies were done by nurses; maybe due to specialization and workload on nurses, now this area is handled by aroma therapists. It is necessary for nurses to keep abreast of the recent advancements and developments in the field of health science. Nurses should acquire the basic understanding of the properties of essential oils and knowledge of safe application of a few commonly available oils in their practice. Ideally, if nurses plan to use essential oils for patients or for environment fragrance or aesthetic effects or treatment modality, then nurses should be guided by the professional and legislative requirements of the registering body in their state or country.

Recent surveys indicate that people are increasingly using complementary therapies such as aroma therapy as treatment options as well as for general health and well-being. It is utilized in practices such as post-operative pain management, and length of hospital admissions have provided nurses with the challenge of examining the range of therapeutic interventions that can be applied to their practice. Hence this study was done with the view to assess the knowledge of upcoming generation of nursing cadres.

Statement of Problem

Effectiveness of structured teaching program on knowledge regarding aroma therapy among the nursing students at Pravara Institute of Medical Sciences, (DU) Loni, Ahmednagar.

Objective

- To assess the knowledge of aroma therapy among nursing students
- To find the association between knowledge and selected demographic variables
- To find out effectiveness of structured teaching program on knowledge regarding aroma therapy

Hypothesis

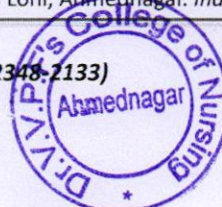
HO1: There is significant difference between pre- and post-test knowledge score of the nursing students regarding aroma therapy.

HO2: There is significant association between post-test knowledge and selected demographic variables.

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How to cite this article: Autade YP. Effectiveness of Structured Teaching Program on Knowledge regarding Aroma Therapy among the Nursing Students at Pravara Institute of Medical Sciences, (DU) Loni, Ahmednagar. *Ind J Holist Nurs* 2018; 9(1): 15-18.

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Methodology

A quasi-experimental research designed with pretest and post-test single-group approach was used. Fourth-year Basic B.Sc. Nursing and second-year Post Basic B.Sc. Nursing students were selected for the study. Non-probability purposive sampling technique was used for selecting the sample. Students were selected according to their inclusion criteria. Written informed consent was obtained from the students. Data was collected between 6th September and 30th September 2011. Data was collected by using a structured questionnaire which consisted of demographic data (7 items) and knowledge (20 items).

Reliability of tool was done by split-half method. The Karl Person correlation formula was used to find out the reliability of the tool and it was found to be reliable ($r=0.80$). Data was collected and analyzed with the help of descriptive and inferential statistics.

Aspect-Wise Knowledge of Aroma Therapy

Table 1.Aspect-Wise of Pretest and Post-Test Knowledge Score

S. No.	Items	Pretest Mean Score	Post-Test Mean Score
1	General Information	2.66	5.66
2	Type of aroma therapy	1.36	1.6
3	Procedure	1.6	2.56
4	Indication and contraindication	1	5.7
5	Complication	0.53	2.43

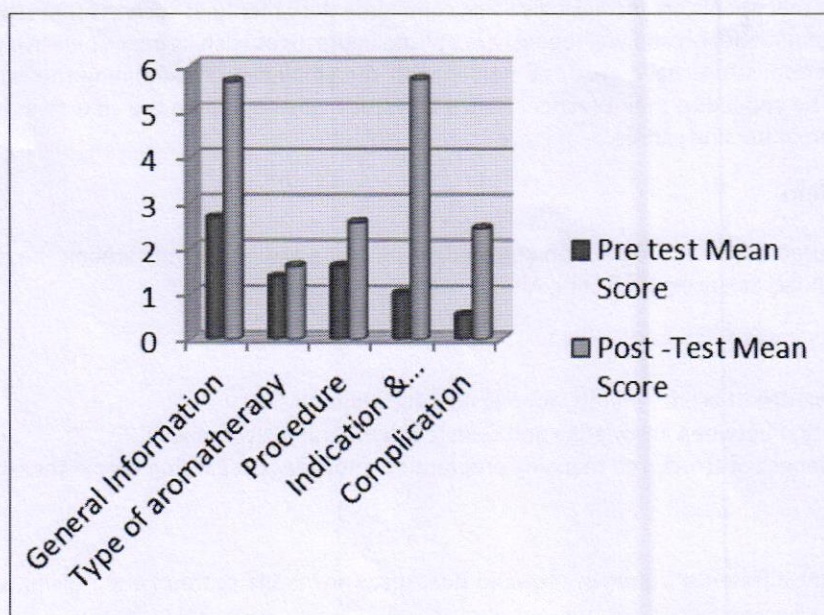


Figure 1.Aspect-Wise of Pretest and Post-Test Knowledge Score

Data Collection Method

Pre-test was conducted by using a structured questionnaire. Adequate time, i.e., 30–40 min was given to fill up the form. Then the structured teaching program was given, i.e., by using Power Point Presentation. After 7 days, post-test was taken by using the same questionnaire.

Major Findings of the Study

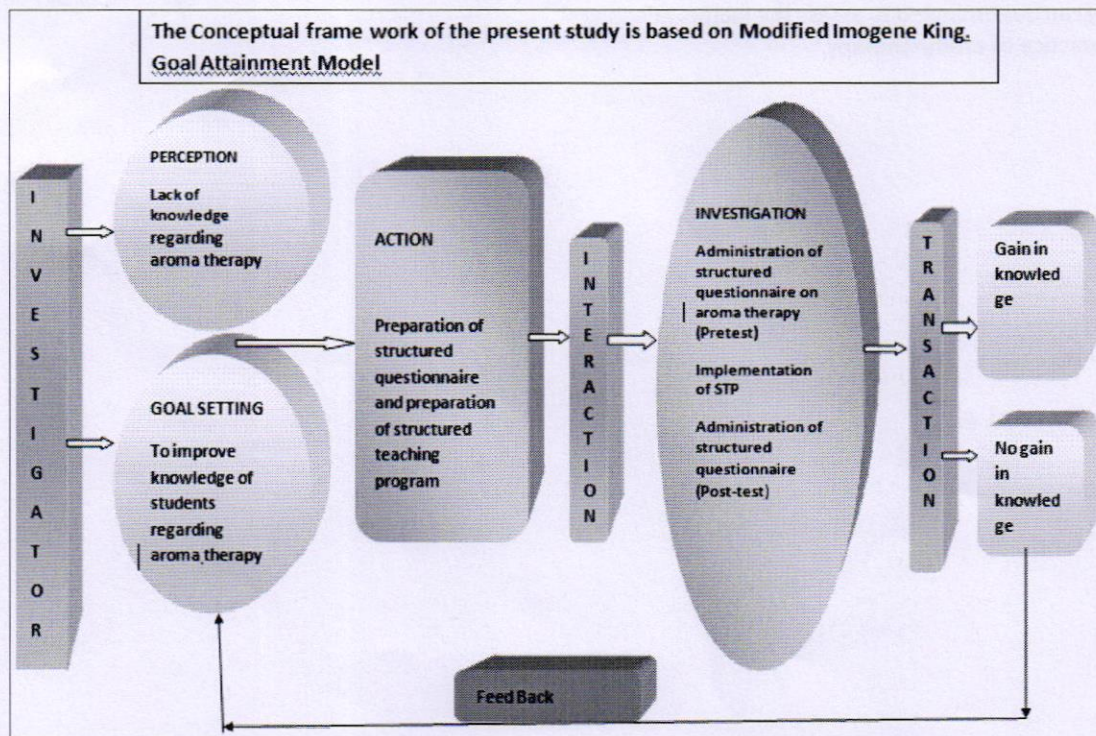
Demographic Data of Nursing Students

The majority (75%) of the students were in the age group of 20–25 years. Highest number (70%) of participants was female. Fifty percent participants were from B.Sc. Nursing course and 50% from PBBSC Nursing course. Majority (93%) was unmarried, whereas (90%) belonged to nuclear families. None of them had used aroma therapy at any time. Around (60%) students had newspaper as source of knowledge.

Table 1 shows aspect-wise comparison of pretest and post-test knowledge score. In pretest, students had 2.66 mean score for general information about aroma therapy, whereas types and procedure of aroma therapy mean score was 1.36 and 1.6 respectively, indication and contraindication mean score was 1 and for complication of aroma therapy mean score was 0.53.

In post-test general information about aroma therapy mean score was 5.66, types and procedure of aroma therapy mean score was 1.6 and 2.56 respectively, indication and contraindication mean score was 5.7 and for complication of aroma therapy mean score was 2.43.

Overall mean of knowledge score of students about aroma therapy during pretest was 8.56 which was 42.8% during post-test 17.66 which was 88.3% of total score revealing a gain of 45.5% knowledge score.



Association between Knowledge and Selected Demographic Variables

No significant association was found between knowledge and selected demographic variables except gender, i.e., female subjects had more knowledge than male subjects; 't' is 13.29.

Effectiveness of Structured Teaching Program on Knowledge regarding Aroma Therapy

Table 2. Significance of the Difference between Pretest and Post-test Means of knowledge

Test	Mean	S.D.	N	d.f	r	't'	Significance
Pre	8.567	2.526	30	29	-0.11	14.545	significance at 0.01 level
Post	17.667	2.055					

Paired t-test was applied to compare knowledge pretest and post-test score. The 't' value was found to be 14.545 and p-value was less than 0.01; null hypothesis was rejected and research hypothesis was accepted. Conclusion is that knowledge score of students improved significantly after receiving health teaching on aroma therapy.

Conclusion

The above findings show that the structured teaching program regarding aroma therapy was effective to improve the students' knowledge. Findings of the study imply that students should have knowledge regarding aroma therapy as transcultural nursing is growing in the health care settings. The nurse students should deal effectively with patients

from different ethnical groups. Hence it is informative for student nurses to provide comprehensive care to the patient. This can help student nurses to give supportive and educative services to the patients.

Recommendations

Based on the above findings, the following recommendations are given:

- Study can be done on knowledge, practices and attitude towards use of aroma therapy.
- Study can be conducted to assess the factors affecting the practice of aroma therapy.

Conflict of Interest: None

References

1. Kurt S. Advanced aroma therapy: The science of essential oil therapy. Rochester, VT: *Healing Arts Press* 1998.
2. <http://www.aromaweb.com/articles/history.asp>.
3. <http://www.biomedcentral.com/1472-6882/8/45>.

Date of Submission: 2018-02-01

Date of Acceptance: 2018-02-28