



A STUDY TO EVALUATE THE EFFECTIVENESS OF LEARNING PACKAGE ON MANAGEMENT OF PATIENTS WITH PERMANENT PACEMAKER (PPM) AMONG NURSES WORKING IN HEART FOUNDATION AT KLES DR. PRABHAKAR KORE HOSPITAL AND MRC, BELGAUM, KARNATAKA

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ABSTRACT

Background:- The heart is one of the few truly vital organs. Disorders related to the heart are currently the leading cause of death throughout the world, cardiovascular diseases account for 12 millions deaths annually world wide. In India it is estimated that at least 700,000 people die of heart attacks every year. About 4 out of every 10 patients die after getting heart attacks, mostly within one hour before medical aid can reach them. Today cardiovascular nursing has come to occupy an important place in this sphere of modern nursing. Therefore, to develop a generation of nurses that are efficient and skillful in their practice, the investigator concludes that the only means to achieve this goal is a learning package for the contemporary nurses on care of patients with permanent pacemaker.

AIM: The study aim to evaluate the effectiveness of learning package on management of patients with permanent pacemaker (PPM) among nurses working in heart foundation at KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum, Karnataka.

METHODOLOGY: A pre experimental, one group pre test and post test design Evaluative approach was utilized for the study. Non probability, purposive sampling technique was used to select sample size of 46 staff nurses. The self structured knowledge questionnaire and practice checklist was developed and utilized for data collection.

RESULT: During pre test out of 46 staff nurses three (6.52%) nurses had good knowledge, 42 (91.30%) staff nurses had average knowledge and one (1.78%) had poor knowledge. After the introduction of learning package, there was a remarkable gain in knowledge 46 (100%) while not a single staff nurse had poor knowledge. Paired 't' test value of 3.65 revealed that there is a significant gain in knowledge score of staff nurses after introducing the learning package at 0.05 level of significance.

CONCLUSION: Overall pretest knowledge about management of patients with permanent pacemaker was average There was a need for learning package for nurses on management of patient with PPM. Post test results showed significant improvement in the level of knowledge on management of patient with PPM. Thus, it can be concluded that learning package is an effective method of teaching staff nurses to increase the level of knowledge about management of patients with PPM. The pre test study revealed no relation between gain in knowledge and socio-demographic variables of nurses.

KEYWORDS :

INTRODUCTION

Health problem that is cardiovascular disease (CVD) is the world's leading killer, accounting for 16.7 million or 29.2 per cent of total global deaths in 2003. CVD alone accounts for one quarter of all deaths in low mortality low income countries. While deaths from heart attacks have declined more than 50 percent since the 1970s in many industrialized countries, 80 percent of global CVD related deaths now occur in low and middle income nations, which cover most countries in Asia. In India in the past five decades, rates of coronary disease among urban populations have raised from 4 percent to 11 percent.

Implantation of PPM is the treatment of choice to prevent or treat dysrhythmias such as bradycardia (caused by disorders of the cardiac conduction system) atrial fibrillation (AF), ventricular fibrillation (VF), supra ventricular tachycardia (SVT) etc. Additionally to their established use in treating dysrhythmias, pacemakers can be an effective therapy for cardiomyopathy, hypertrophic obstructive cardiomyopathy, dilated myopathy and congestive heart failure and the electrical stimulation of the heart has emerged as a new therapy.

Hence nurse has a great role to control and prevent infection through her expertise skill and knowledge. The construction of high technology electronic artificial PPM and its application by the medical science has changed the way and the prognosis of the disease of the cardiac conducting system. Nursing presence is essential in care of the patient with a cardiac pacemaker. In the ward she observes with watchful glance for prevention of complications providing individual and holistic nursing care, and helps the patient and his family with rehabilitation and adaptation to his new way of life. In addition, the nurse teaches the patient how to observe the functions of his pacemaker, keep away himself from electromagnetic field, high voltage area wound cleaning, signs symptoms of and infection at implanted side, how to take pulse and the activities to be performed or the activities should not performed. She has to teach the patient about diet. Importance of personal hygiene and routine exercises and emphasizes the importance of keeping the doctor's order and regularly visiting the outpatients cardiac pacemakers control department to check his pacemaker. Advise the patient to carry his PPM card while his visit to doctor or while traveling.

OBJECTIVES

1. To assess the knowledge of nurses on management of patients

with permanent pacemaker (PPM).

2. To find out the effectiveness of a learning package on management of patients with PPM among staff nurses through knowledge scores.
3. To determine an association between pre-test knowledge scores and selected demographic variables.

MEHODOLOGY

A pre experimental, one group pre test and post test design Evaluative approach was utilized for the study.. The target population for the present study was staff nurses working in heart foundation at KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum, Karnataka. Sample for the study was 46 staff nurses using non probability purposive sampling technique. Staff Nurses, who were not present at the time of data collection, were not willing to participate in research study excluded from the study. The self structured questionnaire was developed and utilized for data collection. The Data was collected using a structured questionnaire a learning package was administered to the nurses at the end of pre test and a post test was conducted on the 7th day.

To ensure the content validity of the tool (structured questionnaire), it was submitted to ten experts. Reliability of the tool on disaster and emergency preparedness was calculated using split half method, followed by the application of Karl Pearson's Correlation Coefficient. The 'r' was found to be 0.88.

The range of knowledge score was from 0- 56. Based on sum scores, level of knowledge was classified in 3 categories i.e. Good knowledge 33-56 score, average knowledge 21-33 score and poor knowledge less than 21.

Ethical approval was taken from Director at KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum, Karnataka to conduct the study. Written informed Consent was taken for the study sample regarding their willingness to participate in the research study and the purpose for carrying out research study was explained to the participants. Confidentiality of the information of the sample was maintained.

Data was analyzed by descriptive and inferential statistics i.e. frequency and percentage distribution, mean percentage, median, chi square to determine the association between Pre-test knowledge with selected variables, paired T test used to see the effectiveness of PPM.

RESULT

Frequency and percentage distribution of Staff Nurses according to socio-demographic variables revealed that equal number of nurses 21 (45.65%) each belonged to the age group of 20 to 24 and 24 to 28 years, in terms of gender, equal number of staff nurses 23 (50%) were male and female. Majority of the nurses 44 (95.65%) had G.N.M. qualification, Most of the nurses 32 (69.51%) has a professional experience between one to two years, Maximum number of the nurses 23 (50%) has experience between one to two years in ICCU. Regarding in service education majority 41 (89.13%) did not attend in-service education on management of patients with PPM. Most of the staff nurses 28 (60.86%) presently working in ICCU.

TABLE 1: Scores on management of patients distribution of level of knowledge among staff nurses during pre test and post test.

N=46

Area of analysis	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Good (33-56)	03	06.52%	46	100.00%
Average (21-33)	42	91.30%	00	00.00%
Poor (< 21)	01	01.78%	00	00.00%

Table 1 revealed knowledge of nurses in the pretest. Majority of staff nurses 42 (91.30%) had average level of knowledge while 03 (6.52%) had good knowledge and 01 (1.78%) had poor knowledge. Whereas in post test majority of nurses 46 (100%) proved remarkable knowledge under the category of good

Table 2: Pre test and post test percentage of knowledge scores of staff nurses in different items of PPM.

N=46

Items on permanent pacemaker	Mean percentage of knowledge score of staff nurses			
	Total score	Pre test	Post Test	Knowledge
Anatomy and physiology of heart and conduction system of heart	828	55.31	98.43	43.11
Meaning of pacemakers types, modes.	322	54.03	93.16	39.16
Permanent and temporary pacemaker, indications, sites of insertion and complication after implantation	368	48.09	95.65	47.56
Nursing management, pre, during and post permanent pacemaker implantation	1058	40.16	98.34	58.18

Table 2 depicted that the percentage of gain in knowledge in the area of anatomy and physiology of heart and conduction system was (43.11%), meaning of PPM (39.16%), indications and complications of PPM (47.56%) and nursing management, pre during and post PPM implantation was 58.18%.

TABLE 3: Mean, median, mode, standard deviation and range of knowledge score of staff nurses on management of patients with PPM.

N=46

Area of analysis	Mean	Median	Mode	S.D.	Range
Pre-test (X)	27.50	28.00	29.00	33.92	17.00
Post-test (Y)	53.10	53.00	52.80	01.40	07.00
Difference (Y-X)	25.60	25.00	23.80	35.52	10.00

Table 3 revealed that the overall knowledge of staff nurses increased by mean difference 25.6 units and median is 28, whereas median difference is 25. The range between the highest and lowest score is decreased by 10 units after administering learning package.

Table 4: Testing of hypothesis for the evaluation of effectiveness of learning package.

N=46

Mean difference	Standard error difference	Paired 't' values	
		Calculated	Tabulated value
25.32	0.41	3.65	1.960

Table 4 revealed that calculated paired 't' value ($t=3.65$) is greater than tabulated value ($t=1.960$). Hence H_0 is accepted. This indicates that the gain in knowledge score is statistically significant at $p < 0.05$ levels. Therefore the learning package on management of patient with PPM is

effective in improving the knowledge of staff nurses.

There is significant association between pre-test knowledge and sociodemographic variables like professional qualification, total months of experience in ICUs caring patients with PPM and the ICUs where the nurses are working presently.

CONCLUSION

The study aim to evaluate the effectiveness of learning package on management of patients with permanent pacemaker (PPM) among nurses working in heart foundation at KLES Dr. Prabhakar Kore Hospital and MRC, Belgaum, Karnataka. During pre test out of 46 staff nurses three (6.52%) nurses had good knowledge, 42 (91.30%) staff nurses had average knowledge and one (1.78%) had poor knowledge. After the introduction of learning package, there was a remarkable gain in knowledge 46 (100%) while not a single staff nurse had poor knowledge. Paired 't' test value of 3.65 revealed that there is a significant gain in knowledge score of staff nurses after introducing the learning package at 0.05 level of significance.

Overall pretest knowledge about management of patients with permanent pacemaker was average There was a need for learning package for nurses on management of patient with PPM. Post test results showed significant improvement in the level of knowledge on management of patient with PPM. Thus, it can be concluded that learning package is an effective method of teaching staff nurses to increase the level of knowledge about management of patients with PPM. The pre test study revealed no relation between gain in knowledge and socio-demographic variables of nurses.

RECOMMENDATIONS

1. A similar study on a larger and wider sample for a longer period of time would be more pertinent in making broad generalizations.
2. A teaching programme on management of patient with PPM among staff nurses can also be used to improve the knowledge.
3. A study can be conducted to find out the complications after PPM implantation.
4. A study can be conducted to assess the impact of PPM on quality of life.
5. A similar study can be replicated in different settings.
6. A descriptive study can be done on knowledge attitude and practices on management of patients with PPM.
7. A follow up study can be done to determine the effectiveness of learning package to assess the improvement control of infection after PPM implantation.

REFERENCES

1. Christopher C. A study to evaluate the effectiveness of planned teaching programme on the knowledge of recording and interpretation of electrocardiogram (ECG) among staff nurses working in selected intensive care units (ICU) of KLES' Hospital and MRC Belgaum; KLES' Institute of Nursing Sciences; 2008 (unpublished thesis)
2. Fuster V, Alexander RW, Robert A, Hurt's "The Heart", 11th edition, USA, the Mc. Gray Hill companies; 2004;1134-55.
3. Carlson MD. Draft recommendation report. Heart rhythm society (on line) 2006 Apr 26, (cited 2007 Nov. 18); 17.
4. Potter PA, Perry AG. Fundamentals of nursing; concepts, process and practice USA:mosby;1985;225-31.
5. Kumar N, Rastogi T. Cardiovascular disease in India and the impact of lifestyle and food habits. Health management 2004 Dec : 44-5.
6. Marvaki Chr, Polikandrioti M : patients with permanent pacemaker (online) (cited 2006 July), Available form : mht ml :
7. Hayes David L. Evolving indications fro permanent pacing. Switzerland 1998 Oct. 26-9.
8. Desai SV Effectiveness of a self Instructional Module regarding knowledge and practice of clients on ventilator among nurses working in critical care units of KLES Hospital and MRC, Belgaum : KLES Institute of Nursing Sciences; 2005 (Unpublished Thesis).
9. Miranda S. A study to evaluate the effectiveness of a planned teaching programme with specific reference to knowledge on menopause for a selected group of women in the Maratha Light Infantry Regimental Centre (MLIRC) Belgaum, Karnataka : KLES Institute of Nursing Sciences; 2007 (Unpublished Thesis).
10. Nazareth SO. A study to evaluate the effectiveness of self instructional module (sim) on causes and prevention of chronic venous disease (CVD) among staff nurses working in selected areas of KLES Hospital and MRC, Belgaum : KLES Institute of Nursing Sciences; 2008 (Unpublished Thesis).