



A study to evaluate the effectiveness of self Instructional Module (SIM) in terms of knowledge regarding emergency management of myocardial infarction among staff nurses working in intensive coronary care unit (ICCU) of selected tertiary care hospital

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Abstract

Cardiovascular diseases (CVDs), especially coronary heart disease (CHD), have assumed epidemic proportions worldwide. According to WHO, the South Asian region has one of the highest cardiovascular mortality rates in the world. Acute myocardial infarction (AMI) is a life-threatening condition. It is the formation of localized necrotic areas within the myocardium. Nurses play the important first line of role in emergency management of myocardial infarction. The sample of 62 nurses working in Intensive Coronary Care Unit (ICCU) of KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi, India was selected by using purposive sampling technique. A pre-experimental, evaluative research approach was used with one group pre-test post-test design. In Pre-test, a majority of the nurses had an average knowledge score. In post-test, knowledge score was significantly higher than the pre-test knowledge score. Therefore, Self instructional module was effective and helpful in increasing knowledge of the staff nurses.

Keywords: Intensive coronary care unit, knowledge, myocardial infarction, nurses

Introduction

Cardiovascular diseases (CVDs) fall under the group of disorders of blood vessels and heart. The major atherosclerotic cardiovascular diseases are coronary heart disease, stroke and peripheral arterial disease. Coronary artery disease consists of myocardial infarction and angina [1]. The coronary heart disease among the cardiovascular diseases have assumed epidemic proportions worldwide. Globally, in 2012 CVD led to deaths of 17.5 million. Among them in developing countries, it led to the death of more than 75%. On the basis of the study of Global Burden of Disease and World Health Organization (WHO), it has shown increasing trends in years of life lost from CHD in India. Cardiovascular diseases, mostly coronary heart disease (CHD), are seen epidemic in India. In India, studies have shown increase in prevalence of CHD, from <1% to 4-6% in rural population and 1% to 9%-10% in urban populations over the last 60 years [2]. Acute myocardial infarction (AMI) is a life-threatening condition where there is formation of localized necrotic areas within the myocardium. The most common cause of AMI is complete

or nearly complete occlusion of coronary artery. It is usually precipitated by rupture of a vulnerable atherosclerotic plaque and subsequent formation of thrombus [3]. cardiovascular disease (CVD) was the most common underlying cause of death. According to Heart Disease and Stroke Statistics-2017, it accounted for an estimated 17.3 million of 54 million total deaths, or 31.5% of all global deaths in the world in 2013 [3]. The Registrar General of India reported that CHD led to 17% of total deaths and 26% of adult deaths in 2001-2003, which increased to 23% of total and 32% of adult deaths in 2010-2013 [2]. Studies shows that half of all AMI victims wait more than 2 hours before getting help. On the basis of data from the Framingham study, about 45% of all AMIs occur in people younger than age 65 years and 5% occur in those younger than age 40. Eighty-five percent of people who die of AMI are 65 years of age or older [4]. To decrease the mortality of the disease, it requires early detection and management. As the health professional including nurses play the important role in the emergency management of myocardial infarction, nurses should have the knowledge regarding it.

Objective

To assess the effectiveness of self-instructional module in terms of knowledge regarding emergency management of myocardial infarction among staff nurses working in ICCU and to find the association of pretest knowledge scores with their socio demographic variables.

Methodology

The sample of 62 nurses working in Intensive Coronary Care Unit (ICCU) of KLES Dr. Prabhakar Kore Hospital and Medical Research Centre, Belagavi, India was selected by using purposive sampling technique. A pre-experimental, evaluative research approach was used with one group pre-test post-test design. A self-structured knowledge questionnaire was used to assess the knowledge regarding emergency management of myocardial infarction. Descriptive and inferential statistics was used to analyze the data by using SPSS software.

Result

In pre-test, a majority 40 (64.5%) of the nurses had an average knowledge score, 12 (19.4%) of them had a good

knowledge scores and 10 (16.1%) had a poor knowledge scores, whereas in the post-test, majority 58 (93.5%) of the nurses had good knowledge scores and 4 (6.5%) of the nurses had the average knowledge scores and none of the nurses had a poor knowledge scores. Hence, it revealed that level of knowledge score was high after administration of self-instructional module (SIM).

In the study, calculated Chi-Square value is 6.111 for professional qualification is significant at $p < 0.05$ level whereas Chi-Square calculated value for all the other selected variables like age, gender, total years of clinical experience and total years of experience in ICCU is not significant at $p < 0.05$ level. This means professional qualification of the nurses is associated with knowledge score whereas other selected demographic variables are not associated with each other.

In the study, the calculated paired “t” value ($t=25.530$) is greater than tabulated value ($t=1.960$). It shows the gain in knowledge scores is statistically significant at $p < 0.05$ levels. Hence, Self Instructional Module improved the knowledge of nurses.

Table 1: Association between pre test knowledge scores and socio demographic variables. (n=62)

SI. No.	Socio-demographic variables	Knowledge scores			χ^2 Calculated	P value	Df
		Poor	Average	Good			
Age (in year)							
1.	20-29	6	26	9	0.612	0.736	2
	30-39	4	14	3			
2.	Gender				0.221	0.895	2
	Male	4	18	6			
	Female	6	22	6			
3.	Professional qualification						
	Diploma Nurse	8	27	4	6.111*	0.047	2
	Graduate Nurse	2	13	8			
4.	Total years of clinical experience						
	Below 1 year	0	6	0	8.322	0.215	6
	1-2 year	3	10	1			
	3-4 year	4	8	6			
	≥ 5 years	3	16	5			
5.	Total years of experience in ICCU						
	Below 1 year	3	13	0	11.732	0.068	6
	1-2 year	4	8	2			
	3-4 year	2	10	8			
	≥ 5 years	1	9	2			
6.	Training program attended						
	Yes	2	8	2	0.069	0.966	2
	No	8	32	10			
$\chi^2 =$ Chi-Square		df= degree of freedom * Significant ($p < 0.05$)					

Discussion

In this study, the pre-test mean knowledge score was 18.94 and the standard deviation was 5.70 whereas the post-test mean knowledge score was 32.44 and the standard deviation was 4.57 which shows that knowledge of the nurse is increased by 13.50 units, the variability around the mean of knowledge distribution (SD) is decreased by 1.13 units. The range between the higher scores and the lowest scores is decreased by 2 units after introducing the SIM to nurses. In pre-test, a majority 40 (64.5%) of the nurses had an average knowledge score, 12 (19.4%) of them had a good

knowledge score and 10 (16.1%) had a poor knowledge score. In the post-test, majority 58 (93.5%) of the nurses had good knowledge score and 4 (6.5%) of the nurses had the average knowledge score and none of the nurses had a poor knowledge score. The level of knowledge score was high after administration of self instructional module (SIM)

In the study conducted by Xavier B, during pre test 1.02% of staff nurses had poor knowledge, 6.12% o had average knowledge and only 4.08% had good knowledge. Further during post test 6.12% of staff nurses obtained average knowledge, 92.85% of nurses obtained good knowledge and

1.02% of them obtained excellent knowledge ^[5].

Conclusion

Self-instructional module was effective and helpful in increasing the knowledge of the staff nurses.

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Conflict of Interest

Not available

Financial Support

Not available

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