Research Article

EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE (SIM) ON KNOWLEDGE REGARDING SELECTED EMERGENCY DRUGS AMONG STAFF NURSES WORKING IN CRITICAL AREA OF SELECTED HOSPITALS, KOLHAPUR

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ABSTRACT

Background of the study

There has been a revolution in heath care in the last 50 years as a result of new technologies and treatment. Modern medicine has seen an enormous growth in demand for emergency care services. An emergency was defined as a serious situation or occurrence that happens unexpectedly and demands immediate action[2].

It is the physician's responsibility to prescribe drugs in the correct dosage to achieve the desired effect without endangering the health of the human. However, nurses must have an understanding of the safe dosage of medication, as well as the rout of the administration, expected action, possible side-effects and signs of toxicity.[4]

"A pre experimental study to evaluate the effectiveness of self instructional module (SIM) on knowledge regarding selected emergency drugs among staff nurses working in critical area of selected hospitals, Kolhapur." was conducted by the researcher.

Objectives of the Study

1. To evaluate the effectiveness of self instructional module (SIM) regarding selected emergency drugs among staff nurses.
2. To find out an association between pre test knowledge scores with their selected socio-demographic variables of staff nurses.

Methods

A pre experimental, one group pre test & post test research design was used, which consisted a group of 60 subjects that were selected by using non-probability, purposive sampling technique. Data was collected by using tool 1) Part A- Selected sociodemographic data, 2) Part B- structured knowledge questionnaire regarding selected emergency drugs. A self instructional module (SIM) was administered to the subjects soon after pre test and post test was contacted after 7 days.

Results

The result shows that, out of 60 subjects, in pre test, maximum of the participants 28(46.66%) had average knowledge and minimum 07(11.66%) had poor knowledge where as in post test 34(56.66%) participants had good knowledge and remaining 26(43.33%) had average knowledge regarding selected emergency drugs. The calculated paired 't' value (t_{cal} = 8.21) is greater than tabulated value (t_{tab} = 2.00). This indicates that the gain in knowledge score is statistically significant at P<0.05 level.

These the findings revealed that the self instructional module (SIM) on selected emergency drugs was effective in increasing the knowledge regarding selected emergency drugs among subjects. There was significant association between pre test knowledge scores and selected socio-demographic variables like age [X^2_{cal}= 30.64, X^2_{tab}=9.49 at df (4)]. The calculated Chi-square value was higher than tabulated value at 0.05 level of significance. This indicates that there was significant association between pre test knowledge scores with their selected socio-demographic variables at 0.05 level of significance.

INTRODUCTION

"Medicines are nothing in themselves if not properly used, but the very hands of God if employed with reason and prudence".

- Herophilus

There has been a revolution in heath care in the last 50 years as a result of new technologies and treatment. Modern medicine has seen an enormous growth in demand for emergency care services. An emergency was defined as a serious situation or occurrence that happens unexpectedly and demands immediate action[1].

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Life can be very much demanding as well as dramatic for nurses who provide emergency health care. Appropriate nursing care in the emergency department play a vital role in saving the life of critically ill patient's. The nurse should diligently acquire and improve on her knowledge and profession. The growing body of nursing research and the explosion of technological advances challenge and stimulate nurses to refine knowledge and critical thinking[1].

The functions of the professional nurse have expanded into the modern concepts of primary care and emergency independent nursing practice. Modern nursing has a well defined body of knowledge, specific to the profession. The nurse is the key person, a coordinator who is the back bone of the patient care in the critical care setting. The nurse has moved along the continuum of dependency-independency towards more independent decision making and management of client's health[1].

Human life is precious and it is in delicate situation when the person is admitted to critical care unit. The nurse who faces such situation may be frightened of the complex set up and insecure of the demand for expert skill, knowledge and judgment needed. She /he should be knowledgeable about current nursing research and is required to be creative in applying valid findings in practice. In the critical care settings the nurse who monitor patient continuously administered drugs, attends to the emergency situation, and is the co-coordinator and collaborator of services. One of the prominent roles she/he required to perform is drug administrator's role[2].

Objectives of the Study

1. To evaluate the effectiveness of self instructional module (SIM) regarding selected emergency drugs among staff nurses.
2. To find out an association between pretest knowledge scores with their selected socio-demographic variables of staff nurses.

MATERIALS AND METHODS

The population of this study was staff nurses working in critical area of selected hospitals, Kolhapur. A quantitative, evaluative survey research approach was considered to carry out the study. Preexperimental, one group pre test post test research design selected for this study. Non probability, purposive sampling technique was used to select 60 subjects for the present study. The data was collected by using selected socio demographic data and structured knowledge questionnaire on selected emergency drugs. A Self instructional module (SIM) was administered to the subjects soon after pretest and post test was conducted 7 days after administration of SIM.

Inclusion Criteria

Staff nurses, who were

1. Working in critical area of selected hospitals.
2. Both genders.(Male and females)

Exclusion Criteria

Staff nurses, who were

1. not present at the time of data collection.

2. not willing to participate

Duration

The data collection period extended from 08/02/2017 up to 18/2/2017.

Procedures for Data Collection

The researcher with the help of guide selected the hospitals which fulfilled the inclusive criteria and also who have critical area. The hospital was selected randomly by using lottery method for the main study those were Aster adhar hospital and Diamond hospital, Kolhapur. The research investigator obtained the formal permission for conduct research study from the authorities of the selected hospital, Kolhapur.

The main study was conducted at critical area of selected hospitals, Kolhapur from the 08/02/2017 up to 18/2/2017. Planning of the time schedule as per the timings of activities of selected hospitals were done.

Researcher introduced himself to the subjects and explained the purpose and objectives of the study. Subjects were taken into confidence and assured of confidentiality of their responses. Informed consent was taken from them. The subjects were selected by using non-probability, purposive sampling technique and those who were fulfilling the criteria. Researcher selected 65 subjects from target population. The 65 subjects were selected in pre test to avoid drop out bias during post test. Out of 65 subjects, 60 subjects were present for the post test.

The tool 1) Part A- Selected sociodemographic data, 2) Part B-Structured knowledge questionnaire was administered to assess the knowledge regarding selected emergency drugs among subjects.

FINDINGS AND DISCUSSION

The data was entered in a master sheet for tabulation and statistical processing. Analysis of data is organized and presented under the following heading:

Section I: Findings related to distribution of selected socio-demographic data of the subjects.

Section II: Findings related to distribution of pre test and post test knowledge scores of the subjects regarding selected emergency drugs.

Section III: Findings related to mean, median, mode, range & standard deviation of pre and post knowledge scores of the subjects regarding selected emergency drugs.

Section IV: Testing of hypothesis on effectiveness of self instructional module (SIM) on selected emergency drugs among subjects.

Section V: Testing of hypothesis on to find out an association between pre-test knowledge scores with their selected socio-demographic variables of the subjects.

Section I Findings Related To Distribution of Selected Socio Demographic Data of the Subjects

In this section the researcher analyzed and categorized the subjects of the study to various groups based on the selected socio demographic data.

Table 1 Frequency and percentage distribution of the subjects according to their selected socio demographic variables

n=60

Sr. No	Variables	Frequency *f*	Percentage %
1	Age in years		
	a. 22-25	38	63.33
	b. 26-29	15	25.00
	c. 30-33	17	11.66
2	Gender		
	a. Male	26	43.33
	b. Female	34	56.66
3	Professional education qualification		
	a. GNM	28	46.66
	b. P.B.B.Sc Nursing	6	10.00
	c. B.Sc Nursing	26	43.3
4	Present working area		
	a. MICU	18	30.00
	b. SICU	20	33.33
	c. CCU	12	20.00
	d. Causality	10	16.66
5	Total years of experience		
	a. 00-03	40	66.66
	b. 04-06	12	20.00
	c. 07-06	08	13.33
6	Total years of experience in present working area		
	a. 00-03	45	75.00
	b. 04-06	15	25.00
7	Attended in-service programme on emergency drug		
	a. Yes	22	36.66
	b. No	38	63.33

Table 1: Indicates that,

1. Maximum subjects 38(63.33%) belonged to the age group of 22-25 years, minimum 7 (11.66%) belonged to the age group of 30-33 years.
2. Maximum subjects 34 (56.66%) were females, and remaining 26 (43.33%) were males.
3. Maximum subjects 28 (46.66%) had GNM qualification, while minimum 06 (10%) had P.B.B.Sc Nursing qualification
4. Maximum subjects 20 (33.33%) were working in SICU and minimum 10(16.66%) subjects were working in causality.
5. Maximum subjects 40(66.66%) had 0-3 year of total clinical experience, while minimum 08(13.33) subjects had 7-9 years of total clinical experience.
6. Maximum subjects 45(75.00%) had 0-3 years of clinical experience in present working area and remaining15 (25%) had 4-6 years of clinical experience in present working area.
7. Maximum subjects 38(63.33%) had not attended in-service programme on emergency drugs. While remaining 22(36.66%) had in-service programme on emergency drugs.

Section II: Findings Related To Distribution of Pre Test and Post Test Knowledge Scores of the Subjects Regarding Selected Emergancy Drugs

In this section the researcher analyzed and categorized the pre test and post test knowledge scores of the subjects regarding selected emergency drugs.
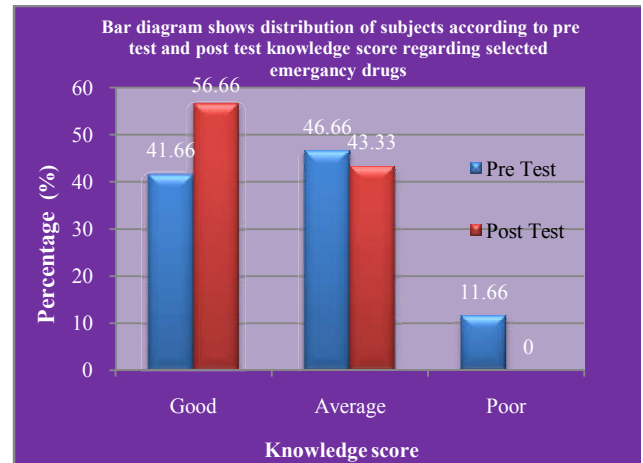
Table 2 Frequency and percentage distribution of pre test and post test knowledge scores of the subjects regarding selected emergency drugs

n=60

Knowledge score	Pre test Frequency *f*	Pre test Percentage %	Post test Frequency *f*	Post test Percentage %
Good (21-30)	25	41.66	34	56.66
Average (11-20)	28	46.66	26	43.33
Poor (0-10)	07	11.66	00	00

Table 2: Indicates that,

In pre test Maximum subjects 28(46.66%) had average knowledge and minimum 07(11.66%) had poor knowledge where as in post test 34(56.66%) subjects had good knowledge and remaining 26(43.33%) had average knowledge regarding selected emergency drugs.

Bar diagram shows distribution of subjects according to pre test and post test knowledge score regarding selected emergancy drugs

Section III: Findings Related To Mean, Median, Mode, Range and Standerd Deviation of Pre Test And Post Test Knowledge Scores of The Subjects Regarding Selected Emergancy Drugs

In this section the researcher analyzed and categorized the mean, median, mode, range and standard deviation of pre test and post test knowledge scores of the subjects regarding selected emergency drugs.

Table 3 Mean, Median, Mode, Range and standard deviation of knowledge scores on selected emergency drugs among subjects regarding effectiveness of self instructional module (SIM)

n=60

Area of analysis	Mean	Median	Mode	SD	Range
Pre test	19.1	19.5	20.3	4.45	16
Post test	21.4	21.5	21.7	3.11	13
difference	2.3	02	0.4	-1.34	-03

Table 3: Indicates that,

1. The overall knowledge scores of subjects was increased by mean difference 2.3 units and median difference was 2 where as mode difference was 0.4.
2. The variability around the mean of knowledge score distribution was -1.34.
3. The range between the highest and lowest score was decreased by -3 units after administering the self

instructional module (SIM) regarding selected emergency drugs.

Testing of Hypotheses

Section IV: Testing of Hypothesis on Effectiveness of self Instrectional Module (SIM) on Selected Emergancy Drugs Among Subjects

In this section the researcher analyzed and categorized the mean difference, standard error difference and paired' values of knowledge scores of the subjects regarding selected emergency drugs.

H_1: The mean post-test knowledge score of the staff nurses regarding selected emergency drugs is significantly higher than their mean pre-test knowledge score.

Table 4 Effectivene.ss of self instructional module (SIM) on knowledge regarding selected emergency drugs among subjects

n=60

Mean difference	Standard error difference	Paired 't' value		df
		Calculated	Tabulated	
2.3	0.28	8.21	2.00	59

*P< 0.05

Table 4: Indicates that,

1. The calculated paired 't' value ($t_{cal} = 8.21$) was greater than tabulated value ($t_{tab} = 2.00$). Hence H_1 was accepted. This indicates that the gain in knowledge score was statistically significant at P<0.05 level. i.e. H_1: $\mu \neq \mu 0$.
2. Therefore the findings revealed that the self instructional module (SIM) on selected emergency drugs was effective in increasing the knowledge of the subjects regarding selected emergency drugs.

Section V: Testing of Hypothesis on To Find out An Association Between Pre-Test Knowledge Scores With Their Selected Socio-Demographic Variables of The Subjects

In this section the researcher analyzed and categorized an association between pre test knowledge scores of staff nurses regarding selected emergency drugs and selected socio-demographic variables.

H_2: There is an association between the pre-test knowledge scores of the staff nurses regarding selected emergency drugs with their selected socio demographic variables

Table 5: Indicates that

1. There was significant association between pre test knowledge scores with their selected socio-demographic variables like age [X^2_{cal}= 30.64, X^2_{tab}=9.49 at df(4)]. The calculated Chi-square value was higher than tabulated value at 0.05 level of significance. Among seven selected sociodemographic variables only age shows association.
2. Hence H_2 was accepted. This indicates that there was significant association between pre test knowledge scores with their selected socio-demographic variables at 0.05 level of significance, i.e. H_2: $\mu \neq \mu 0$

The findings of study was supported by the study done in B.M Birla Heart Research centre. A study was conducted to find out the effectiveness of Self-Instructional Module (SIM) on selected emergency drugs for the nursing personnel working in critical care unit. The sample size was 30 nursing personnel working in the critical care unit of A paired t-test was computed to find out the difference between the mean pre-test and post-test knowledge score. There was significant difference between the pre-test score and post-test score[5].

Table 5 Association between pre test knowledge scores with their selected sociodemographic variables

n=60

Sr.no	Variables	Scores			Chi square		df	
		Good	Average	Poor	Calculated	Tabulated		
1	Age in years							
	a. 22-25	15	18	05				
	b. 26-29	06	07	02	30.64	9.49	04	S
	c. 30-33	04	13	00				
2	Gender							
	a. Male	11	11	04	0.74	5.99	02	NS
	b. Female	14	17	03				
3	Professional education qualification							
	a. GNM	12	12	04				
	b. P.B.B.Sc Nursing	02	04	00	2.4	9.49	04	NS
	c. B.Sc Nursing	11	12	03				
4	Present working area							
	a. MICU	07	09	02				
	b. SICU	08	10	02				NS
	c. CCU	04	06	02	2.01	12.59	06	
	d. Causality	06	03	01				
5	Total years of experience							
	a. 00-03	16	18	06				
	b. 04-06	04	07	01	3.78	9.49	04	NS
	c. 07-06	05	03	00				
6	Total years of experience in present working area							
	a. 00-03	18	21	06	0.54	5.99	02	NS
	b. 04-06	07	07	01				
7	Attended in-service programme on emergency drug							
	a. Yes	09	10	03	0.21	5.99	02	NS
	b. No	16	18	04				

The study findings revealed that the SIM was effective in increasing the knowledge of nursing personnel.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

1. The knowledge reveal that the calculated paired 't' value (t_{cal} = 8.21) is greater than tabulated value (t_{tab} = 2.00). This indicates that the gain in Knowledge score is statistically significant at P<0.05 level. Therefore the findings revealed that the self instructional module (SIM) on selected emergency drugs was effective in increasing the knowledge of the subjects regarding selected emergency drugs.
2. Study revealed that Self instructional module (SIM) was very effective in order to gain knowledge on selected emergency drugs among staff nurses working at selected hospitals, Kolhapur.
3. There was significant association between pre test knowledge scores with their Selected socio-demographic data like age [X^2_{cal}= 30.64, X^2_{tab}=9.49 at df(4)]. The calculated Chi-square value was higher than tabulated value at 0.05 level of significance
4. Both H_1 and H_2 hypotheses was accepted

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