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A Study To Assess The Effectiveness Of A Planned Teaching Programme For Staff Nurses On Monitoring Patients With Sepsis In Critical Care Unit Of A Selected Hospital In New Delhi

Nisha Singh[1], Prof. (Dr.) Cimil Babu[2], Rebika Thongbam[3]

[1]MSc. Nursing, Department of Medical Surgical Nursing, Holy Family College of Nursing, Okhla, New Delhi, India

(Corresponding Author)
[2]Professor, Vice Principal, Holy Family College of Nursing, Okhla, New Delhi, India
[3]Assistant Professor, Holy Family College of Nursing, Okhla, New Delhi, India

ABSTRACT: Background: Critical care medicine and nursing are young specialties, since Critical Care Units were uncommon before 1970s. Critical Care Medicine (CCM) is an evolving specialty overlapping multiple primary specialties. Recognizing the increasing need to consolidate the field and to promote awareness, continuing education and research in this field, the Indian Society of Critical Care Medicine (ISCCM) was Formed on 9th October 1993. Nurses are in key positions to identify patients with sepsis, mobilize the medical team, and implement interventions. A study of self-assessed nurse competence was conducted to determine the influence of a specially designed sepsis education program on nurses perceived ability to identify early, intervene, and care for patients with sepsis. Nurses approach septic patients every day and in all areas and in all communities for acute patients. Direct interventions to achieve the goal of clinician, like reduction of mortality, pass through the resuscitation and antibiotics but their effectiveness depends on the early recognition of symptoms and therefore the septic state; for this reason the nursing role is crucial both for the early recognition of the disease state, as well as to treat the patient with professionalism and promptness[4] and to provide appropriate assistance to the kind of complexity that create. In the healthcare system, nurses play a pivotal role in identifying patients with sepsis and promptly escalate care for commencing diagnostic work and initiating treatment. In the emergency department (ED), triage nurses are often the first point of contact for assessing patients with community-acquired sepsis. In the ward settings, nurses are in a privileged position to identify hospital-onset sepsis at its earliest possible time because they spend the most contact hours doing routine bedside monitoring of patients. Nurse-led sepsis screening interventions have demonstrated positive impact on reducing mortality and improving process measures of sepsis care bundles (McDonald et al; Torsvik et al). It is therefore crucial that nurses understand the importance of their role in sepsis recognition, are trained to identify possible sepsis and have the self-confidence to respond and intervene with appropriate actions. Materials and methods: There were 108 staff nurses working in Critical Care Unit were taken for the study. The subjects were explained about the purpose of the study and were assured of confidentiality of the data collection. On the first day of sample collection, the pre-test including demographic data was collected and subjects were assessed for their knowledge on monitoring patient

with sepsis using structured questionnaire. After the pretest, structured teaching programme including PowerPoint presentation and handouts were administered for about 45-50 minutes. Structured teaching Program was administered separately for morning, evening and night shift staff nurses. A Posttest was obtained on 8th day for assessing knowledge on monitoring patient with sepsis using structured questionnaire. Result: the study reveals that the mean of pretest knowledge score was 5.30 and posttest was 15.53, and mean difference was 10.23. The calculated 't' value was 21.11 ($p < 0.05$), which signifies the effectiveness of planned teaching programme. Conclusion: Implementing teaching programs for nurses can enhance knowledge on monitoring patients with sepsis. The findings are expected to guide healthcare practices and interventions aimed at optimizing the management of sepsis patients.

Keywords: Structured teaching programme, staff nurses

1. INTRODUCTION

OBJECTIVES

To find out association of selected socio-demographic variables and clinical parameters with critically ill patients with sepsis and without sepsis.

2. METHODS AND MATERIAL

A Quantitative research approach with pre-experimental experimental research design was used to accomplish the objectives. Study was undertaken on 108 staff nurses working in Critical Care Units in selected hospital, New Delhi. Patients were selected based on total enumeration sampling technique. Participants were selected by total enumeration sampling technique.

TOOL

The tool deals with the effectiveness of planned teaching program on monitoring patient with sepsis

Description of the Tool

In order to meet the objectives of the study, the tool were constructed which consist of two sections:

Section 1: **Socio demographic variables of staff nurses working in Critical Care Unit**
It consist of 5 items to depict the sample characteristics such as age, professional education, experience, any course attended related to monitoring patient with sepsis and cared patient with sepsis.

Section II: **Structured questionnaire on monitoring patient with sepsis**
Structured questionnaire is used to assess the level of knowledge of staff nurses. The tool consists of 20 questions. Each question include 4 options.
Interpretation includes scores obtained on structured knowledge questionnaire.
Scoring of structured knowledge questionnaire on monitoring patients with sepsis.

Level of knowledge	**Interpretation**
Poor knowledge	<10
Average Knowledge	10-15
Good knowledge	> 15

Data Collections

For conducting the main study, the data collections period was scheduled for 3 months from 31st December 2023 to 31st January 2024. After getting ethical clearance from the ethical committee of selected hospital, New Delhi.

3. RESULT

SECTION 1: DESCRIPTION OF SAMPLE CHARACTERISTICS (SOCIO-DEMOGRAPHIC VARIABLES)

This section deals with characteristics of staff nurses working in Critical Care Unit (ICU). The sample consisted of 108 staff nurses working in Critical Care Unit of selected hospital, New Delhi. The data collected describes sample characteristics pertaining to age, professional education, experience, course attended related to monitoring patient

Table- 1

Frequency and percentage distribution of sample characteristics pertaining to age, Professional Education, experience (in years), course attended related to monitoring patient with sepsis and cared patient with sepsis.

n=108

SAMPLE CHARACTERISTICS		Frequency (f)	Percentage (%)
Age (in years)	21-25	30	27.8
	26-30	72	66.7
	31-35	06	5.6
	Above 35 years	0	0
Professional Education	G.N.M. (General Nursing Midwifery)	65	60.2
	B.Sc. (Hons.) Nursing	31	28.7
	Post Basic B.Sc. Nursing	12	11.1
experience (in years)	Less than 1 year	52	48.1
	2-3 years	24	22.2
	above 3 years	32	29.6
Course attended related to monitoring patient with sepsis	Yes	9	8.3
	No	99	91.7
Cared patient with sepsis.	Yes	52	48.1
	No	56	51.9

Data given in table 1 shows that:

- Majority of the staff nurses working in Critical Care Unit i.e. 72 (66.7%) were in age group of 26-30 years, 30 (27.8%) were in age group of 21-25 years, 6 (5.6%) were in age group of 31-35 years and none were in age group of above 35 years.
- Majority of the staff nurses working in Critical Care Unit i.e. 65 (60.2%) were having general nursing midwifery, 31 (28.7%) were having B.Sc. (hons) nursing and 12 (11.1%) were having post basic B.Sc. nursing as professional education.
- Majority of the staff nurses working in Critical Care Unit i.e. 52 (48.1%) were having less than 1 year of experience, 32 (29.6%) were having more than 2 year of experience and 24 (22.2%) were having 2-3 years of experience.
- Most of the staff nurses working in Critical Care Unit i.e. 99 (91.70%) didn't attended course related to monitoring patient with sepsis; only 9 (8.3%) were attended course related to monitoring patient with sepsis.
- Majority of the staff nurses working in Critical Care Unit i.e. 56 (51.9%) had cared patient with sepsis and 56 (51.90%) didn't cared patient with sepsis.

SECTION 2 (a): Frequency and percentage distribution of pre-test and post- test knowledge score of staff nurses working in Critical Care Unit on 'monitoring patient with sepsis'.

This section deals with characteristics of staff nurses working in Critical Care Unit (ICU). The sample consisted of 108 staff nurses working in Critical Care Unit of selected hospital, New Delhi. The data collected describes

frequency and percentage distribution of pre-test and post-test knowledge score of staff nurses on 'monitoring patient with sepsis'.

Table 2

Frequency and percentage distribution pre-test and post- test knowledge score of staff nurses working in Critical Care Unit on monitoring patient with sepsis.

n =108

Categories	Knowledge score range	Pre-Test		Post- Test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor knowledge	>10	85	78.70	0	0
Average Knowledge	10-15	23	21.29	44	40.74
Good knowledge	above 15	0	0	64	59.25

Data given in table 2 shows that:

- Frequency and percentage of pre-test knowledge score of staff nurses working in Critical Care Unit were i.e. 85 (78.70%) were having poor knowledge, 23 (21.29%) were having average knowledge and none have good knowledge.
- Frequency and percentage of post-test knowledge score of staff nurses working in Critical Care Unit were i.e. 64 (59.25%) were having good knowledge, 44 (40.74%) were having average knowledge and none have poor knowledge.

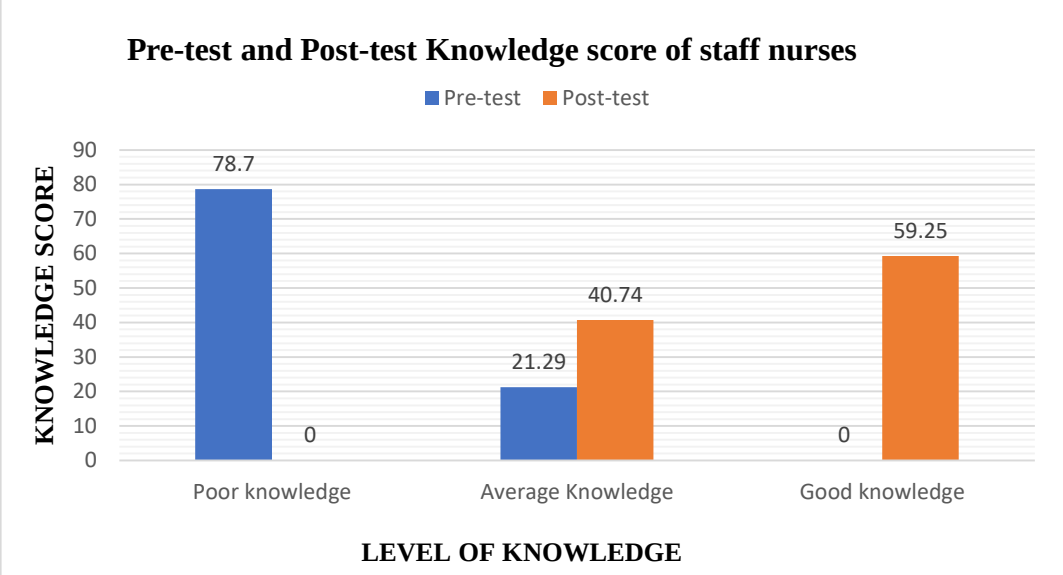

Figure no 1: Bar diagram showing the percentage distribution of pre-test and post-test knowledge score of staff nurses working in Critical Care Unit.

SECTION 2 (a): Mean, mean difference, standard deviation and 't' value of level of pretest and posttest knowledge score of staff nurses working in Critical Care Unit on monitoring patient with sepsis.

To test the significant difference between pre-test and post-test knowledge score on monitoring patient with sepsis of staff nurse working in Critical Care Unit in Holy Family hospital New Delhi, hypothesis H01 was stated.

H01: There will be significant difference in pre and post-test knowledge score of staff nurses at level of 0.05 level of significance.

Table 3

Mean, mean difference, standard deviation, 't' value, degree of freedom (df) and 'p' value of level of pretest and posttest knowledge score on 'monitoring patient with sepsis'.

n=108

Group	Mean	Mean Difference	Standard Deviation	't' value	df	'p' value
Pretest	5.30	10.23	4.30	21.11	107	0.0001*
Posttest	15.53		2.63			

***P<0.05, significant at 0.05 level**

Data given in table 3 shows that:

- Mean and standard deviation of pre-test knowledge score of staff nurses 5.30 and 4.30.
- Mean and standard deviation of post-test knowledge score of staff nurses was 15.53 and 2.63.
- Mean difference of pre-test and post-test knowledge score was found 10.23. 't' value was 21.11 and df was 613 of pre-test and post-test knowledge score of staff nurses was found a which was found statistically significant at 0.05 level of significance. This shows that there was significant difference found between pre-test knowledge score and pot-test knowledge score of staff nurses on monitoring patient with sepsis.
- Findings shows there is significant difference in pre and post-test knowledge score of staff nurses. Hence, hypothesis, H1 is accepted and null hypothesis, H01 is rejected.

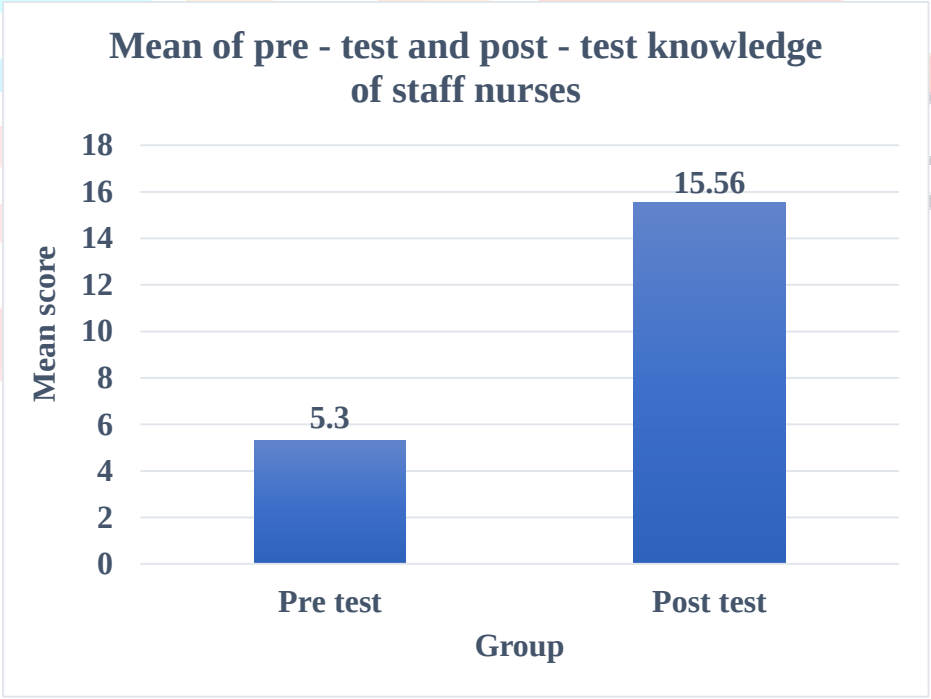

Figure no 2: Bar diagram showing the mean of pre-test and post-test knowledge score of staff nurses on monitoring patients with sepsis

4. DISCUSSION

The planned teaching programme on monitoring patient with sepsis is effective in term of knowledge in staff nurses working in Critical Care Unit of Holy Family Hospital.

The findings of the present study were consisted with the findings of the studies mentioned below:

A study by Dania B[75] found that nurses had poor knowledge, and analytical decision-making skills related to sepsis management. Experienced nurses and those with a master's degree reported significantly better knowledge, and intuitive decision-making skills than naive those with a bachelor's degree. Another study by

Eirian E reported that Sepsis training improved nurses' attitudes, knowledge and confidence with regards to sepsis screening and management.

5. CONCLUSION

The study the mean difference of pretest and posttest was 10.23 which was found to be significant at 0.05 level, which shows that the Planned Teaching Program was effective in increasing knowledge of staff nurses regarding monitoring patient with sepsis.

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