

A Study to Assess the Effectiveness of Planned Teaching on Knowledge regarding Shock and its Management among Staff Nurses Working in Selected Hospital

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Abstract: Shock is the common problem in the intensive care unit, which requires immediate diagnosis and treatment. It is termed by a combination of hemodynamic parameters, mean Blood pressure <60 mmHg and systolic Blood pressure is < 90 mmHg, clinical signs as decrease urine output, abnormal laboratory values i.e. (elevated serum lactate, metabolic acidosis). **Objectives:** To study the effectiveness of planned teaching about knowledge regarding shock and its management among staff nurses working in selected hospital, to assess the existing knowledge regarding shock and its management among staff nurses working in selected hospital, to evaluate the effectiveness of planned teaching on knowledge regarding shock and its management among staff nurses working in selected hospital and to determine the association of post-test knowledge regarding shock and its management among staff nurses with their selected demographic variables. **Materials and Methods:** 90 staff nurses participated in this study. Quantitative research approach with pre-experimental one group pre-test and post-test research design was used. Non-Probability Convenient sampling technique was used to select the sample. The data were collected from selected hospital, using socio demographic data sheet and self-administered Questionnaire. **Results:** 90 staff nurses participated in this study out of that 62.22% of the subjects had good level of knowledge in pretest whereas 90% of subjects had good level of knowledge in post test. 34.44% of the subjects had poor level of knowledge in pretest, whereas only 5.56% of subjects had poor level of knowledge in post-test. Only 3.33% of the subjects were in one category of very good level of knowledge in pre-test where as it was 4.44% in post-test. This shows that there was gain in knowledge level after planned teaching on knowledge regarding shock and its management. There was no association found in relation to completed years of experience. An association was found between gender, rest of the demographic variables did not show any association with the age, previous source of information, education level and completed years of experience, area of experience. **Conclusion:** After the detailed analysis, this study leads to the following conclusion that planned teaching on shock and its management was found to be effective in improving the knowledge of subjects. Hence based on the above finding, it was concluded undoubtedly that the written prepared material by the investigator in the form of planned teaching helped the subject to improve their knowledge regarding shock and its management.

Keywords: effectiveness, planned teaching, shock, management, staff nurses, hospital

1. Introduction

Shock is the common problem in the intensive care unit, which requires immediate diagnosis and treatment. It is termed by a combination of hemodynamic parameters, mean Blood pressure <60 mmHg and systolic Blood pressure is < 90 mmHg, clinical signs as decrease urine output, abnormal laboratory values i.e. (elevated serum lactate, metabolic acidosis). The first stage is to identify the cause of shock; each condition will require different interventions. The overall goal of the therapy is to reverse the tissue hypoperfusion as quick as possible in order to preserve the organ function.¹

Shock is an acute, process of impaired tissue perfusion that results in cellular, metabolic and hemodynamic derangements. Impaired tissue perfusion occurs when an imbalance develops between cellular oxygen supply and cellular oxygen demand eventually results in cellular dysfunction and multiple organ dysfunction syndrome (MODS). Shocks can be classified as cardiogenic shock, hypovolemic shock, anaphylactic shock, neurogenic shock and septic shock.²

Sepsis is an infection results in a systemic inflammatory

response that is completed by dysfunction of at least one organ system. In United State approximately 750,000 case of sepsis reported in each year. The mortality related to each sepsis from 30% to 50% with mortality increase with advancing age. Hypotension occurs because of failure of vasoconstriction by vascular smooth muscle results in peripheral vasodilation.³

In Galenic Era before 1743, there is no record of the word shock used to describe a clinical syndrome, certainly the syndrome itself. William Bradford Cannon credited Hippocrates with first use of the term "exemia" to describe patients in hypovolemic shock, his aim was to replace the term "shock" with exemia.⁴

Shock is a serious condition in which there is insufficient blood flow through the body, Initially the shock is reversible but if it is not recognized and not treated immediately, it can leads to irreversible organ dysfunction. The most common type of shock is hypovolemic shock. Hypovolemic and anaphylactic shock can usually be treated; septic shock is much greater concern with mortality rates of over 40%. Cardiogenic shock has the worst patient outcome and is associated with 70%-80% in hospital mortality.⁵

A cohort study was conducted on assessment of global incidence and mortality of hospital-treated sepsis in Pennsylvania. The study result revealed that the population incidence rate was 288 for hospital treated sepsis cases and 148 for hospital treated severe sepsis cases per 100,000 person-years. Restricted to the last decade, the incidence rate was 437 for sepsis and 270 for of the study is underline the urgent need to implement global strategies to measure sepsis morbidity and mortality, particularly in low- and middle-income countries.⁶

A cross sectional study was conducted on Level of knowledge about anaphylaxis and its management among health care providers at tertiary care teaching Hospital at Karnataka, India in 2015. The study result revealed that out of 265 subjects, 151 (56.9%) of subjects answered correctly that adrenaline is the first line of drug for the treatment of anaphylaxis. Out of 151 subjects, 40 (26.4%) answered the correct dose of adrenaline, of which 25 (16.5%) subjects selected intramuscular injection as the most appropriate route of administration. Thus, the medical students' performance was better than interns and nursing students on questions regarding dose, route, and site of adrenaline administration.⁷

Hypovolemic shock can occur any of the hospital settings such as emergency department, intensive critical care unit, neonatal intensive critical care unit or any of the wards. Nurses have the responsibility to monitor closely the patients who are at risk, proper positioning, safe administration of fluids and medicines and safe administration of fluids and medicines.⁸

2. Material and Methods

90 staff nurses participated in this study. Quantitative research approach with pre-experimental one group pre-test and post-test research design was used. Non-Probability Convenient sampling technique was used to select the sample. The data were collected from selected hospital, using socio demographic data sheet and self-administered Questionnaire. The knowledge questionnaire consisted of 30 multiple choice questions.

Criteria for selection of samples

Inclusion Criteria

The criteria that specify characteristics that a staff nurses do have.

- 1) Staff nurses who are willing to participate in the study.
- 2) Staff nurses who are available at the time of data collection.
- 3) Both male and female nurses.

Exclusion Criteria

It is the criteria that involve staff nurses who does not possess the characteristics.

- 1) Who have attended workshops or seminars on management of shock during past six months.

Tools

Section I: Demographic Data

The investigator constructed a tool to collect the background data of the study subjects. It includes age, gender, previous

source of information, education, completed years of experience, area of experience, regarding shock and its management.

Section II: Self-Strutured knowledge questionnaire

The investigator constructed 30 items to assess the knowledge of staff nurses regarding shock and its management. There are 30 multiple choice questions.

Pilot and Main Study

The pilot study was conducted from 21.11.2019 to 30.11.2019 the pre-test of the tool was done to check the clarity of the items, ambiguity of the languages and feasibility of tool. The pilot study was conducted on 10 subjects by nonprobability convenient sampling technique followed by planned teaching and post-test was administered with the same questionnaire on 7th day. After that Main study was conducted to get formal written permission was obtained from the Medical Superintendent and Matron of selected hospital. Main study data was collected from 11/12/19 to 20/12/19 respectively. The scoring techniques are distributed according to poor, good and very good.

Statistical Analysis

Statistical analysis was done using SPSS Version 26.0 (SPSS Inc., Chicago, Illinois, USA). Continuous variables were expressed as Mean+SD and categorical variables were summarized as percentages. Chi Square test or Fisher's exact test, whichever appropriate, was used for comparison of categorical variables. Graphically the data was presented by cylindrical, conical bar diagrams. P-value of less than 0.05 was considered statistically significant. The reliability of that tool was 0.82 by using Karl Pearson's correlation coefficient and hence the tools are reliable and valid.

3. Results

Results are divided into four sections:

Section A:

This section deals with percentage wise distribution of staff nurses with regards to demographic variables as shown in table no. 1

Section B:

This section dealt with the assessment of level of pre-test and post-test knowledge regarding shock and its management among staff nurses working in selected hospital. The level of knowledge is divided under following heading as poor, good and very good. In pre-test score, 34.44% of the staff nurses had poor level of knowledge, 62.22% had good level of knowledge and 3.33% of the staff nurses had very good level of knowledge score. Minimum knowledge score in pre-test was 3 and maximum knowledge score in pre-test was 24. Mean knowledge score in pre-test was 12.46±4.90 and mean percentage of knowledge score in pre-test was 41.55±16. While in post-test majority (90%) of subjects had good level of knowledge 5.56% of subject had poor level of knowledge and 4.44% of subjects had very good level of knowledge score. Minimum knowledge score in post-test was 10 and maximum knowledge score in post-test was 24. Mean knowledge score in post-test was 15.37±3.04 and mean percentage of knowledge score in post-test was 51.25±10.16.

Graph no. 1 shows that comparison of pre-test and post-test knowledge scores.

Section C:

Effectiveness of planned teaching on knowledge regarding shock and its management among staff nurses working in selected hospital.

Table no. 2 shows the comparison of pre-test and post-test knowledge scores of staff nurses regarding shock and its management. Mean, standard deviation and mean difference values are compared and student’s paired ‘t’ test is applied at 5% level of significance. The tabulated value for n=90-1 i.e 89 degrees of freedom was 1.98. The calculated ‘t’ value i.e.7.12 are much higher than the tabulated value at 5% level of significance for overall knowledge score of subjects which is statistically acceptable level of significance. Hence it is statistically interpreted that difference in pre-test and post-test knowledge score of subjects was improved. The difference between pre-test and post-test knowledge score was shows in graph no. 2

Section E:

Association of pre-test level of knowledge score regarding shock and its management among subjects in selected hospital with regard to demographic variables.

Analysis reveals that there is no association knowledge score regarding shock and its management among subjects with demographic variables found in relation to age, previous source of information, education level and completed years of experience, area of experience.

Analysis reveals that there is association of knowledge score regarding shock and its management among subjects with demographic variables found in relation to gender

4. Conclusion

The investigator concludes that, according to the findings in the present study shows that the level of knowledge regarding shock and its management among subjects in selected hospitals. The majority of 46 (51.10%) of the staff nurses were in the age group of 25-30 years, majority 97.8% were females, majority of the subjects had information from mass media 53(58.90%), Majority 75(83.30%)of the subject were educated upto GNM, Majority 55 (61.10%) of the subjects had experience,0-5 years and 33.30% of them were working in surgical area.

Conflict of Interest:

The authors have no conflict of interest.

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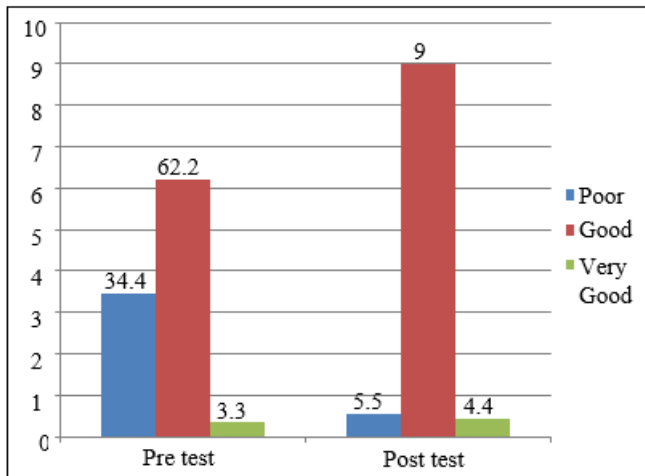
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Table 1: Percentage wise distribution of staff nurses according to their demographic characteristics.

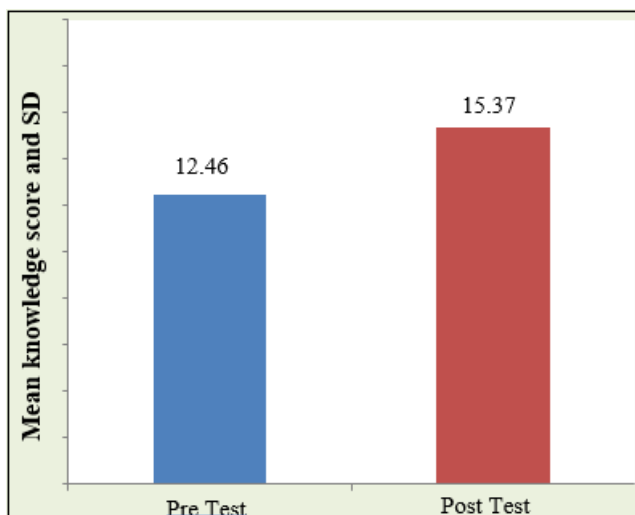
Demographic Variables	No of staff nurses	Percentage
Age(yrs)		
25-30 yrs	46	51.1
30-35 yrs	13	14.4
35-40 yrs	12	13.3
>40 yrs	19	21.1
Gender		
Male	2	2.2
Female	88	97.8
Previous source of information		
Mass Media	53	58.9
Relative	5	5.6
Family/Friends	5	5.6
Other sources	27	30.0
Educational Level		
GNM	75	83.3
BBS Nursing	4	4.4
PBBS Nursing	8	8.9
MSc Nursing	1	1.1
Post diploma certificate course	2	2.2
Completed years of experience		
0-5 yrs	55	61.1
6-10 yrs	6	6.7
11-15 yrs	8	8.9
≥16 yrs	21	23.3
Area of experience		
Medicine Ward	24	26.7
Surgical Ward	30	33.3
Operation Theatre	2	2.2
Medicine/ Surgical ICU	17	18.9
Other Area	17	18.9

Table 2: Significance of difference between pre-test and post-test knowledge score regarding shock and its management

Overall	Mean	Mean Difference	Calculated t-value	p-value
Pre- Test	12.46	2.91±3.87	7.12	0.0001
Post- Test	15.37			



Graph 1: Multiple bar diagram showing comparison of pre-test and post-test knowledge scores.



Graph 2: Bar diagram showing significance of difference between pre-test and post-test knowledge score among subjects in relation to shock and its management