

A Study to Evaluate the Effectiveness of Competency Programme on Central Venous Catheter Care in Terms of Knowledge and Practice among I C U Nurses at Selected Hospital at Meerut

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Abstract:-

Objectives: Problems that might need critical care treatment include complications from surgery, accidents, infections and severe breathing problems. These can sustain life but can also increase the risk of infection. Central venous catheters are the devices that can be inserted under the skin into the larger veins. The study were conducted evaluate the effectiveness before and after implementation of competency programme in improving knowledge and practice regarding central venous catheter care among ICU nurses, Methods: An evaluative research approach was used in the study to determine the effectiveness of competency programmeme in terms of knowledge regarding central venous catheter care among staff nurses working in ICU at selected hospitals, Meerut. The research design selected for the study was Quasi-experimental nonequivalent control group pre-test post-test design. 60 staff nurses (30 in experimental and 30 in control group) were selected in hospital setting by non-probability purposive sampling technique. Structured knowledge questionnaire and checklist were used to assess the knowledge regarding central venous catheter care among staff nurses working in ICU. Results: Conclusion: To conclude it can be said that staff nurses working in ICU were having deficit knowledge regarding CVC care and competency programmeme was found to be an effective method to improve the knowledge of ICU nurses.

I. INTRODUCTION

“Diseases can rarely be eliminated through early diagnosis or good treatment, but prevention can eliminate disease.” People with life-threatening injuries and illnesses need critical care. Critical care involves close, constant attention by a team of specially-trained health professionals. It usually takes place in an intensive care unit or trauma center. Problems that might need critical care treatment include complications from surgery, accidents, infections and severe breathing problems. Monitors, intravenous tubes, feeding tubes, catheters, ventilators and other equipment are common in critical care units. These can sustain life but can also increase the risk of infection. Central venous catheters are the devices that can be inserted under the skin into the larger veins. Central venous catheters are small, flexible tubes placed in large veins for people who require frequent

access to the bloodstream. To prevent the needle stick injury nurses should follow proper guidelines. The main advantages of using these devices are administering large volumes of fluids and medications simultaneously quickly and safely. In India, the use of central venous catheter (CVC) is routine in critically ill patients, in fact 78% of the patients had some form of central venous catheter. Central venous catheterization may cause different complications including infection, haemorrhage and thrombosis. Catheter related bacteraemia is a major and common clinical problem particularly in critically ill patients. Catheter related bacteraemia rates up to 43% .

II. STATEMENT OF PROBLEM

“A study to evaluate the effectiveness of competency programme on central venous catheter care in terms of knowledge and practice among I C U nurses at selected hospital at Meerut.”

III. OBJECTIVES OF THE STUDY

- To develop and validate competency programme regarding central venous catheter care in terms of knowledge and practice among ICU nurses.
- To evaluate the effectiveness before and after implementation of competency programme in improving knowledge and practice regarding central venous catheter care among ICU nurses in experimental group.
- To compare the post-test knowledge and practice score regarding central venous catheter care among ICU nurses between experimental and control group.
- To find the correlation between knowledge and practice scores regarding central venous catheter care among ICU nurses in experimental and control group.
- To find the association between post-test knowledge and practice score regarding central venous catheter care with their selected socio demographic variables.

IV. RESEARCH HYPOTHESIS (at 0.05 level of significance)

- H1– There is a significant difference between pre-test and post-test knowledge} and practice scores regarding central venous catheter care among ICU nurses before and after implementation of the competency programme in the experimental group.

- H2- There is a significant difference between post-test knowledge and practice} score regarding central venous catheter among ICU nurses in experimental and control group.
- H3- There is a significant correlation between knowledge and practice} regarding central venous catheter care among ICU nurses in the experimental and control group.
- H4- There is a significant association between post-test knowledge and} practice score regarding central venous catheter care with their selected Socio- demographic variables.

V. RESEARCH METHODOLOGY

An evaluative research approach was used in the study to determine the effectiveness of competency programmeme in terms of knowledge regarding central venous catheter care among staff nurses working in ICU at selected hospitals, Meerut. The research design selected for the study was Quasi-experimental nonequivalent control group pre-test post-test design. 60 staff nurses (30 in experimental and 30 in control group) were selected in hospital setting. by non-probability purposive sampling technique. Structured

knowledge questionnaire and checklist were used to assess the knowledge regarding central venous catheter care among staff nurses working in ICU. Competency programme was given regarding central venous catheter care to staff nurses working in ICU Data was collected and analyzed using descriptive and inferential statistics.

VI. RESULTS

The data of experimental group pre-test, majority i.e 27 (90%) of the nurses had average knowledge and only 2i.e (7%) had good knowledge and 1 (3%) of them had poor knowledge. On the other hand, post test score shows that majority of nurses i.e 28 (93%) had good knowledge and only 2 (7%) of nurses had average knowledge regarding central venous catheter care. In control group pre-test, majority i.e 26 (86%) of the nurses had average knowledge and vey less no of nurses 2 i.e (7%) had poor knowledge and 2 (7%) had good knowledge whereas post test score shows that maximum number of nurses 27 (90%) had average knowledge and 1(3%) had poor knowledge and 2(7%) had good knowledge regarding central venous catheter care.

N-60

| Level of assessment of CVC care practice | Experimental group | | Control group | |
|--|--------------------|-----------|---------------|-----------|
| | Pre test | Post test | Pre test | Post test |
| | f(%) | f(%) | f(%) | f(%) |
| Good practice | 21(70%) | 26 (87%) | 18(57%) | 28(94%) |
| Need Practice | 7(23%) | 4(13%) | 12(33%) | 2(6%) |
| Poor Practice | 2(7%) | 0 (0%) | 0 (0%) | 0 (0%) |

Table 1: Assessment of practice regarding central venous catheter care among ICU nurses in experimental and control group

Data represents the comparison of mean pre and post-test knowledge score regarding CVC care in experimental group. The mean post-test knowledge score (20.6) was significantly higher than the mean pre-test knowledge score (13.03) with the mean difference of 7.6. The pre-test (3.14) and post-test (2.55) standard deviation was compared with the SD difference 0.27. Standard error is 0.57 and 0.46 respectively. The obtained paired calculated t-value was 10.75 which was higher than the tabulated value 2.05 at df 29 at 0.05 level of significance. Hence null hypothesis Ho is rejected so accepted alternative hypothesis (H1). So it is statistically interpreted that the competency programme is effective in educating nurses working in ICU regarding CVC care.

VII. CONCLUSION

The study reveals that nurses should improve their knowledge and skills. It was concludes that staff nurses working in ICU were having deficit knowledge regarding CVC care and competency programmeme was found to be an effective method to improve the knowledge of ICU nurses.

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