A Study to Assess the Effectiveness of Self-Instructional Module on Nursing Management of Patient with Chest Tube Drainage in Selected Hospital at City

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Abstract: One group pre-test post-test design with an evaluative approach was adopted to evaluate the "effectiveness of self-instructional module on nursing management of patients with chest tube drainage" for staff nurses in a selected hospital at Aurangabad.

Objectives: Develop a SIM on nursing management of patient with chest tube drainage. Find the effectiveness of SIM on nursing management of patient with chest tube drainage in terms of gain in knowledge scores.

Methods And Materials: The research approach is used is a descriptive research approach, the research design is descriptive research design, the population for the study was Nursing staff, Aurangabad, sample used in the study was nursing staff, sample size of the study was 60 Nursing staff, the was conducted in Kamalnayan Bajaj Hospital, Aurangabad, the sampling technique was non-randomize purposive sampling, the tool used was structured questionnaire including demographic variable. Results: The findings reveal that the percentage of post- test knowledge scores was more when compared to the pre-test knowledge scores. Hence it is observed that the SIM was effective in increasing the knowledge of staff nurses on 'management of patients with chest tube drainage". The analysis and findings of the data collected from 60 staff nurses. Findings revealed that the mean knowledge scores of the staff nurses in the pre-test was 12.6 ±4 . 8 whereas the post- test mean knowledge score was 18.5 ± 4.6.

Conclusion: Self-instructional module is an important teaching strategy that help nurses to gain up to date knowledge, regarding the concerned topic and to enhance their self-learning skills.

Key Words: Chest tube drainage; Staff Nurses; Nursing management; Self-Instructional module; Effectiveness.

INTRODUCTION

Nursing staff development process helps to shape the future of the Profession and of nursing service. Staff development is the key to quality nursing care that helps to facilitate the competence of nurses in practice. It began with Florence Nightingale's efforts in the Crimean war when she worked with nurses to improve the care they were providing. Part of her responsibility as a supervisor or director of nursing care was to ensure that the "nurses" provided care based on standards. She also encouraged nurses to continue to learn, saying. "Let us never consider ourselves finished nurse's we must be learning all our lives" [1].

Teaching is a deliberate intervention that involves the planning and implementation of instructional activities and experiences to meet intended learner outcomes according to a teaching plan. Teaching is also a highly versatile strategy that can be applied in preventing, promoting maintaining and modifying a wide variety of behavior in a learner who is receptive, motivated, and adequately informed[2].

Chest tube drainage are the most common intervention performed in ICU patients especially with Pneumothorax. Chest tubes are inserted into a large fluid collection and are usually connected to a water-seal drainage. Maintaining chest tube patency to achieve adequate drainage is often a problem in the ICD[4].

II. PROBLEM STATEMENT

"A study to assess the effectiveness of self-instructional module on nursing management of patient with chest tube drainage in selected hospital at Aurangabad."

III. OBJECTIVES

1. Develop a SIM on nursing management of patient with chest tube drainage.
2. Find the effectiveness of SIM on nursing management of patient with chest tube drainage in terms of gain in knowledge scores.

IV. METHODOLOGY

- *RESEARCH APPROACH*: Descriptive approach.
- *RESEARCH DESIGN*: Descriptive research design.
- *POPULATION*: Nursing staff, Aurangabad
- *SAMPLE*: Nursing staff
- *SAMPLE SIZE*: 60 nursing staff.
- *SETTING*: The study was conducted in, Aurangabad
- *SAMPLING TECHNIQUE*: Non-randomize purposive.
- *TOOL*: Structured Questionnaire including demographic variables will be used for the study.20
- *SAMPLING CRITERIA*

Inclusion Criteria

- Nurses who are willing to participate in the study.
- Nurses who are present at the time of study.
- Nurses who have passed General nursing, B.Sc. Nursing, Post-basic B. Sc. Nursing course, and M.Sc. Nursing.
- Nurses who are having state council registration.

Exclusion criteria

- Nurses who are not willing to participate in the study.
- Nurses who are not present at the time of study.
- Nurses who are not having state council registration.

V. RESULT

The present study has been taken up "A study to assess the effectiveness of self-instructional module on nursing management of patient with chest tube drainage in selected hospital at Aurangabad." Analysis and interpretation is based on the objective of study. A self-instructional module was used for the data collection. The analysis was done by inferential and descriptive statics.

Comparison of mean percentage of the knowledge scores of the pre-test and post-test reveals an increase of 21.85% nurses after administration of SIM. Comparison of Area-wise mean, and SD of the knowledge scores in the area of 'anatomy and physiology including signs and symptoms' shows that the pre-test mean knowledge scores was, 57.3% (6.3 + 1.8) whereas post-test mean knowledge score was 77.3% (8.5 + 1.9). This shows an increase of 20% in the mean knowledge score of staff nurses

AREA-WISE MEAN, SD AND MEAN PERCENTAGE OF THE KNOWLEDGE SCORES IN PRE-TEST AND POST-TEST

KNOWLEDGE AREAS	MAX^{m} SCORE	PRE-TEST (x_1)		POST-TEST (x_2)		EFFECTIVENESS (x_2-x_1)	
		Mean +SD	Mean %	Mean + SD	Mean %	Mean + SD	Mean %
Anatomy & physiology including sign & symptoms.	11	6.3 + 1.8	57.3	8.5 + 1.9	77.3	2.2 + 0.1	20
Mechanics & principles involved in CTD	5	1.5 + 1		3 + 1.1	60	1.5 + 0.1	30
Assessment care of patient with CTD	10	4.8 + 2	43.6	7 + 1.6	66.6	2.2 + 0.4	23
TOTAL	26	12.6 + 4.8	46.7	18.5 + 4.6	68.52	5.9 + 0.6	21.85

Table No. 1

LESS THAN OGIVES OF PRE-TEST AND POST-TEST SCORES OF STAFF NURSES ON MANAGEMENT OF PATIENTS WITH CHEST TUBE DRAINAGE

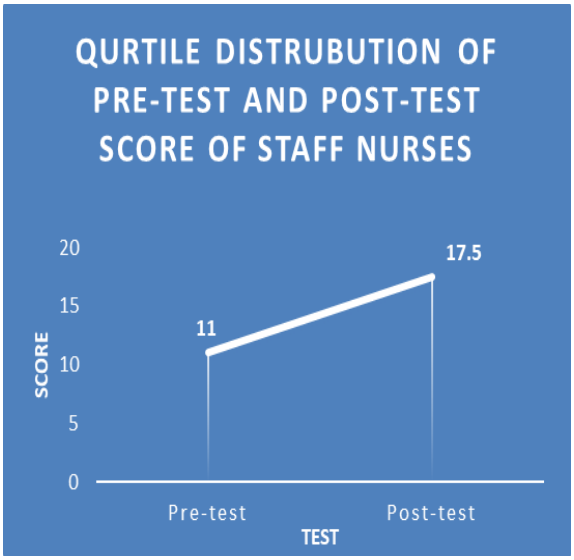

Fig No: 1

The area-wise effectiveness of SIM on nursing management of patients with chest tube drainage revealed that the overall mean percentage of effectiveness was (20%).

The overall findings reveal that the percentage of post- test knowledge scores was more when compared to the pre-test knowledge scores. Hence it is observed that the SIM was effective in increasing the knowledge of staff nurses on 'management of patients with chest tube drainage'.

VI. DISCUSSION

After the detailed analysis of the samples, assessment of the effectiveness of the SIM. The data presented in the form of Ogives showed significant difference between pre-test and post-test knowledge scores. By graphical method, the pre-test median score is 11 whereas the post-test median score is 17.5. The difference between the different quartiles of pre-test and post-test is more. This revealed that there is significant increase in the knowledge of staff nurses, regarding management of patients with chest tube drainage.

The area-wise effectiveness of SIM on nursing management of patients with chest tube drainage revealed that the overall mean percentage of effectiveness was (20%).

Verstracten Andre, Slabbynck Hans, Peter Driesen, Alexander Patrick, Noppen Mare (2003) conducted a randomized, prospective multicentre pilot study on manual aspiration versus chest tube drainage in first episodes of primary spontaneous pneumothorax in UK. 60 patients with a first episode of primary spontaneous pneumothorax were randomly allocated to manual aspiration (n=27) or chest tube drainage (n=33). Immediate success was obtained in 16 out of 27 (59.3%), in the manual aspiration group, and in 21 out of 33 (63.6%) in the chest tube drainage group (P=0.9). In the chest tube drainage group, treatment patients. One week success rate in the chest tube drainage group was 28 out of 33 or 85%. With simple aspiration. The investigators concluded that thoracic drainage via a chest tube was significantly more effective in the treatment of pneumothorax, than simple aspiration[7].

Klein J, Barbieri C, Mcdonald J. (1995) conducted a study on "Management of parapneumonic effusion and the impact of practice patterns on clinical outcome", in a testing care medical centre in Phoenix, Aris, USA. 39 patients with complicated parapneumonic effusion and separate group of 191 patients admitted with community-acquired pneumonia were analysed. The findings of the study revealed that, 38 out of 39 patients with complicated parapneumonic effusions underwent thoracentesis that was "delayed" in 16 patients. Chest tube or surgical pleural drainage was delayed in 10of 38 patients who underwent thoracentesis. Delay in initiating drainage were associated with prolonged hospitalization (P=.04). Delayed interventions accounted for a mean cost increment per patient of $ 8462 for delayed thoracentesis and $ 9332 for delayed drainage. Of the 191 patients with community acquired pneumonia 99 (52%) had pleural effusions but only 15(15%) underwent thoracentesis. So, the study concluded that the physicians practice patterns of delaying thoracentesis and chest tube drainage leads to longer and more costly hospitalization. Thus, adequate knowledge regarding the initiation of chest tube drainage will account for lesser duration of hospitalization[3].

Shan, Strange, Lemense (1991) conducted a study on "Empyema thoracis, therapeutic management and outcome" at a teaching institution Charleston, USA. Retrospective chart review of 43 patients over a 44-months period were reviewed. The results of the study revealed that, out of 43 patients, 24(56%) cases were parapneumonic empyema. 40(93%) patient had symptoms attributable to empyema. Seventy-nine procedures were needed to treat 43 patients. Success rates ranged from 11 percentage for tube thoracostomy to 95 percentage for decortications. (P=0.0001). Mean recovery after successful intervention ranged from 9 to 19.3 days depending on the procedure and the delays between procedures. To conclude, multiple options exist for the treatment of thoracic empyema. Adequate knowledge regarding selection of optimal therapy or selection of most appropriate procedure for each patient can bring out speedy recovery. Hence nurses require adequate knowledge regarding each procedure especially in managing a patient with chest tube drainage as this procedure is indicated for thoracic empyema[6].

VII. CONCLUSION

Conclusion of This study adds to the SIM was effective in increasing the knowledge of staff nurses regarding management of patients with chest tube drainage. Which reported that self-instructional module is an important teaching strategy that help nurses to gain up to date knowledge, regarding the concerned topic and to enhance their self-learning skills.

VIII. RECOMMENDATION

Recommendations for further study based on the findings of the study the following recommendations could be made-

- A similar study can be undertaken for the large sample generalizes the findings.
- A similar study can be conducted on the effectiveness of the SIM on chest tube drainage care of the patient.
- A similar study may be conducted on a larger population for generalization of findings.

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