



KNOWLEDGE OF STAFF NURSES REGARDING CARE OF PATIENT WITH CHEST TUBE DRAINAGE IN SELECTED HOSPITALS, KAMRUP (M), ASSAM.

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ABSTRACT

Background of the study: Chest tube drainage which is also known as Under water seal drainage (UWSD), tube thoracotomy, or intercostal drainage, has a paramount importance in some emergencies or critical care situation. Inefficient nursing care or malfunction in chest tube drainage may associated with life threatening complications, or can be deadly for a patient in a matter of second. **Aim:** The aim of the study was to assess knowledge of staff nurses regarding care of patient with chest tube drainage. **Method:** Descriptive research design was adopted and 178 staff nurses working in ICU were selected by using non probability convenience sampling technique in selected hospitals, Kamrup (M), Assam and who fulfills the inclusion criteria. **Results:** It was found that majority 97(55%) of the respondents had moderately adequate knowledge, 68(38%) respondents had inadequate knowledge, and 13(7%) had adequate knowledge. The mean and standard deviation of knowledge level is 15 and 4 respectively. The association was statistically tested by using Chi square at $p \leq 0.001$ level of significance. **Conclusion:** The study shows that, out of 178 respondents, 68 (38%) had inadequate knowledge, 97 (55%) had moderately adequate knowledge and 13 (7%) had adequate knowledge regarding care of patient with chest tube drainage. So the investigator concluded that the in-service education in regular basis is very important for continuous learning.

KEYWORDS :

INTRODUCTION

The chest tube is inserted in the emergency department (ED), at the patient's bedside, or in an operating room during chest surgery. It is a flexible tube that is inserted through the chest wall and into the pleural space or mediastinum.¹ The purpose of chest tube is to remove air and fluid from the pleural space and to restore normal intrapleural pressure so that the lung can reexpand.² Chest tubes are placed in the pleural space, between the parietal and visceral pleurae. The parietal (outer) pleura covers the chest wall and diaphragm, contains of a serous fluids (about 50 ml) that coats the opposing surfaces, allowing the visceral and pleurae to glide over each other without friction while enabling the pleural surfaces to adhere to each other.¹ The indication for chest tube insertion include:- Post cardiac or thoracic surgery, pneumothorax, hemothorax, chylothorax, pleural effusion and empyema.³ Cardiac surgery has undergone rapid and extraordinary development, growing rapidly driven by the growth of many underlying procedures, commonly includes: Surgical Heart valve replacements, Transcatheter aortic valve replacement, Transcatheter mitral valve replacements, CABG, Angioplasty repair and Heart transplant.⁴

Thoracic injuries are one of the common causes of major mortality and morbidity. Approximately 20-25% of death due to trauma. 16,000 deaths occurs per year in India alone as a result of chest trauma.⁵

Knowledge is important in the field of nursing. Nurses who are working in thoracic surgical units should possess good knowledge and skills while taking care of clients regarding chest tube position, identifying when to change and empty the containers, caring of the tube and drainage system during transportation of patient. Nurses should know the purpose and understanding of chest tube drainage as well the precautions which are to be practices to prevent air and fluid entering the chest cavity which can prevent the complication causes collapse of the lung and life threatening respiratory insufficiency.⁶

Objectives

- To assess the knowledge of staff nurses regarding care of patient with chest tube drainage.
- To determine the association between knowledge with selected demographic variables.

REVIEW OF LITERATURE

Section I: Literature related to prevalence of chest tube drainage insertion.

Section II: Literature related to knowledge of staff nurses regarding care of patient with chest tube Drainage.

Conceptual framework: The conceptual framework was used based on Modified Nola J Pender's Health Promotion Model

RESEARCH METHODOLOGY

Research approach: Quantitative research study.

Research design: Descriptive Research design.

Research variables: Knowledge regarding care of patient with chest tube drainage.

Demographic variables: In this study the demographic variables are age, gender, qualification, total years of working experience, total years of working experience in ICU, care of patient with chest tube drainage and special training attended regarding care of patient with chest tube drainage.

Setting: The study was conducted at: GNRC Dispur Hospital Guwahati Assam, GNRC North Guwahati Assam, Hayat hospital Guwahati Assam and Health city hospital Guwahati Assam.

Population: Staff nurses.

- Target population: staff nurses working in ICU.
- Accessible population: Staff nurses working in ICU in selected hospitals of Kamrup (M), Assam.

Sample: Staff nurses working in ICU in selected hospitals, who fulfilled the inclusion criteria.

Sample size: sample size was 178.

Sampling technique: Non probability convenience sampling technique.

Inclusion criteria: Staff nurses who were present on the day of data collection.

Exclusion criteria: Staff nurses who were not willing to participate. Tool: Structured knowledge questionnaire.

Technique: - The technique used for this study was self-report.

Scoring Key: The correct answer was given score of 1(one) and wrong answer score 0(zero). The total score on knowledge regarding care of patient with chest tube drainage was 28.

Categories of knowledge level

Inadequate <50% (<14 marks)
Moderate 50-75% (14-21 marks)
Adequate > 75% (>21 marks)

Content validity of the tool:

The prepared instrument along with the problem statement and

objective was submitted to five nursing expert in the field of medical surgical nursing, 1 nursing expert in the field of nursing administration and 3 medical expert in CTVS department and Internal medicine.

Reliability of the tool:

The reliability of the tool was done by Split half method, the value of “r” was 0.89 which shows that the tool was reliable.

Pilot Study:

The pilot study was conducted from 9th to 14th November, 2020, GNRC Six Mile, Guwahati, Assam. Eighteen samples were selected by using convenience sampling technique and the study was found to be feasible.

Main study: Data collection for main study is done from 14th December 2020 – 14th January 2021.

RESULT:

Table I: Frequency and Percentage Distribution Of Respondents According To Demographic Variables.

n= 178

VARIABLES		FREQUENCY (f)	PERCENTAGE (%)
a) Age	≤ 30 years	146	82%
	31-40 years	32	18%
	41-50 years	0	0%
	> 50 years	0	0%
b) Gender	Female	170	96%
	Male	8	4%
c) Qualification	GNM	135	76%
	Post-Basic B.Sc. Nursing	8	4%
	B.Sc. Nursing	35	20%
	M.Sc. Nursing	0	0%
d) Total years of working experience	< 5 years	129	72 %
	5 – 10 years	35	20%
	10 – 15 years	12	7 %
	> 15 years	2	1 %
e) Total years of working experience in ICU	< 1 years	78	44%
	1 – 5 years	69	39 %
	5 – 10 years	26	14 %
	> 10 years	5	3 %
f) Care of patient with chest tube drainage.	Yes	138	78%
	No	40	22%
g) Special training done on care of patient with chest tube drainage	Yes	44	25%
	No	134	75%

Table – II: Frequency And Percentage Distribution Of The Respondents According To The Level Of Knowledge

n= 178

Knowledge	Frequency	Percentage	Mean	SD	Range of Score	Total score
Inadequate (<50%) (Marks <14)	68	38%	15	4	7 - 24	28
Moderately Adequate (50-75%) (Marks 14-21)	97	55%				
Adequate (>75%) (Marks >21%)	13	7%				

The result of the study was supported by descriptive study conducted by Devi DL and Thejaswi V. (2016), on Knowledge regarding care of patients with chest tube drainage among 30 staff nurses who were working in NMCH, Nellore. They found that 13.3 % had B+ Grade,

46.7% scored B Grade, 30 got C Grade, and 10 got D Grade.⁷

Table – III: Association Of Level Of Knowledge Regarding Care Of Patients With Chest Tube Drainage Among Staff Nurses With Their Selected Demographic Variables.

n= 178

DEMOGRAPHIC VARIABLES	CHI SQUARE VALUE	df	P-VALUE	REMARKS
1. Age	32.105	2	0.0001	S as p<0.001
2. Gender	2.832	2	0.269	NS as p>0.05
3. Qualification	10.718	6	0.065	NS as p>0.05
4. Total years of working experience	44.441	6	0.0001	S as p<0.001
5. Total years of experience in ICU	57.327	6	0.0001	S as p<0.001
6. Have you taken care of patient with chest tube drainage?	33.004	2	0.0001	S as p<0.001
7. Any special training done on care of patient with chest tube draining?	14.796	2	0.0001	S as p<0.001

S – Significant, N.S – Not Significant, df – degree of freedom

The table III reveals the association of level of knowledge regarding care of patients with chest tube drainage shows that the demographic variables such as age, total years of working experience, total years of experience in ICU, care of patient with chest tube drainage and special training undergone on care of patient with chest tube drainage had shown significant association with knowledge at p≤0.001 with chi-square value of (X²=32.105, p=0.0001), (X²=44.441, p=0.0001), (X²=57.327, p=0.0001), (X²=33.004, p=0.0001) and (X²=14.796, p=0.0001) respectively. The other demographic variables such as gender and qualification had not shown association with level of knowledge regarding care of patients with chest tube drainage.

CONCLUSION

It was observed that the level of knowledge regarding care of patients with chest tube drainage shows that out of 178 respondents, 68 (38%) had inadequate knowledge, 97 (55%) had moderately adequate knowledge and 13 (7%) had adequate knowledge regarding care of patient with chest tube drainage. It was found that there were significant association between knowledge with age, total years of working experience, total years of experience in ICU, care of patient with chest tube drainage, special training done on care of patient with chest tube drainage. The other demographic variables had not shown statistically significant association with level of knowledge regarding care of patients with chest tube drainage.

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