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A Study to Assess the Effectiveness of Video Assisted Teaching Program on Knowledge Regarding Management of Patient with Chest Tube Drainage among Allied Health Science Students Studying in Selected College, Namakkal

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ABSTRACT

A pneumothorax is a collection of air outside the lung but within the pleural cavity. It occurs when air accumulates between the parietal and visceral pleurae inside the chest. The air accumulation can apply pressure on the lung and make it collapse. The degree of collapse determines the clinical presentation of pneumothorax. Air can enter the pleural space by two mechanisms, either by trauma causing communication through the chest wall or from the lung by rupture of the visceral pleura.**Objectives:** To assess the effectiveness of Video assisted Teaching Program on knowledge regarding Management Of Chest Tube Drainage , Allied Health Science Student. **Design:** Pre experimental one group pre test and post test design was used. **Setting:** Allied Health Sciences Students , Kumarapalayam. **Sample size:** Total sample size was 30. **Sampling technique:** Purposive Sampling Technique was used to select the sample. **Methods:** Pre test was done by using structured knowledge questionnaires and practice scale. Video assisted Teaching Program on knowledge regarding Management Of Chest Tube Drainage . Then the post test was given by using the same questionnaires . **Results:** The major frequency and percentage distribution of pre test knowledge score regarding management of patient with chest tube drainage among allied health sciences students 47% of them had inadequate level of knowledge,40% of them had moderately adequate level of knowledge and 23% of them had adequate level of knowledge, where post test 53.34% of them got adequate level of knowledge 33.3% of them have got moderately adequate knowledge and 13.3 of them have got inadequate level of knowledge. The video assisted teaching program on management of patient with chest tube drainage among allied health sciences students was more effective. The

pre test knowledge scores of mean was12, standard deviations was 6, mean percentage was 40%, whereas post test knowledge scores of mean was 21, standard deviations was 7, mean percentage was 70% and the difference in mean percentage was 30%..The paired 't' value was calculated to analyze the effectiveness between pre and post test knowledge scores of allied health sciences students. The paired 't' value for knowledge was 16.41Which is high when compared with table value 2.05 at 29 of degree of freedom. The result revealed that the video assisted teaching program on management of patient with chest tube drainage among allied health sciences students The video assisted teaching program on management of patient with chest tube drainage among allied health sciences students was more effective **Interpretation and Conclusion:** There was significant increase in knowledge of Allied Health Science Students Studying in selected college, Kumarapalayam regarding Management Of Chest Tube Drainage after Video assisted teaching Program. Therefore it was concluded that the Video assisted teaching Program was effective.

Key words: Chest tube drainage, video assisted teaching program, knowledge, allied health science students.

INTRODUCTION

Chest tube placement is a common procedure in daily clinical practice which is performed to drain fluid, blood, or air from the pleural cavity. It also serves as a route to instill antibiotics, sclerosing agents as well as fibrinolytics, and saline .On the other hand, indwelling pleural catheters are becoming a first-line palliative therapy for symptomatic malignant and persistent benign pleural effusions. The insertion of a chest tube can be performed at the bedside or the endoscopic suite for most patients, except for those which are placed after cardio-thoracic surgery. A single chest tube is sufficient for most drainage indications, but occasionally two simultaneous or consecutive tubes may be necessary for the effective drainage of non-communicating infected fluid collections following a trial of intrapleural fibrinolytics. **(José M. Porcel, 2018)**

The study aims to assess nurses knowledge and practice for patient connected to chest drain. Although more than 60% of them didn't know exactly underwater-seal, position of patient during insertion the tube, routine milking or striping will increase pleural pressure and mobility of patient with chest drain. Also nurses had average knowledge about the basic principles of drain function, complications, actions when tubes leakage, displacement or dislodge. The nurse with master degree and experience from 1-5years had insignificant high knowledge than those with bachelor degree and experience more than 5 years (P-value > 0.05). Majority of nurses demonstrated poor level of practice towards preparation of equipment for insertion of chest drains and routine patient care. The study concluded nurses were demonstrated deficit in knowledge and practice**. (Badria Elfaki, 2016)**

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of video assisted teaching program on knowledge regarding management of patient with chest tube drainage among allied health sciences students studying in selected college, Namakkal.

OBJECTIVES

1. To assess the pre test and post test level of knowledge regarding management of patient with chest tube drainage

2. To assess the effectiveness of video assisted teaching programme on knowledge regarding management of patient with chest tube drainage

3. To find out the association between the pre-test level of knowledge regarding management of patient with chest tube drainage with their selected demographic variables in allied health science students

MATERIALS AND METHODS

Pre experimental research approach was used for this present study. The research design selected for the present study was one group pre test and post test design design was selected to evaluate the effectiveness of video assisted teaching program on patient with chest tube drainage among allied health science students. The present study was conducted in selected college namakkal. The population for then present study was allied health science students, the sample selected for the present study was allied health science students were fulfilling the inclusion criteria. The inclusion criteria were allied health science students who are students at the age group 17

years and above, students who are in 3rd years and student who are interested. A study was conducted with 30 allied health science students . The sample were selected by using convenient sampling technique. I excluded Students who are at absent of during Data collection students who are in 1st and 2nd years students who are not interested. Statistical methods adopted were mean, median, mode, paired and unpaired, chi - square value for assessing the effectiveness of video assisted teaching program

Development of the Tool

There are 2 parts of tools were used. They are,

Part - I

Demographic Variables - it consists of demographic characteristics of allied health science students,

- ❖ Age in years
- ❖ Gender
- ❖ Religion
- ❖ Clinical exposure
- ❖ Workshop attended

Part - II

It consists of 3 sections they are,

- ❖ Section - A : Knowledge regarding anatomy and physiology of lungs
- ❖ Section - B : Knowledge regarding general information of chest tube drainage
- ❖ Section - C : knowledge regarding management of cheswt tube drainage

Scoring procedure :

Part - II:

It consist of structured questionnaire of 30 questions to assess the knowledge of allied health science students regarding management of chest tube drainage. A score of 1 is given for each correct response and a score of 0 is given for incorrect response. The total knowledge score is 30. The knowledge level is categorized in the following group.

Table :1 Scoring procedure for knowledge level

Category	Range of Scores
Inadequate	1 - 10
Moderately adequate	11 - 20
Adequate	21 - 30

CONTENT VALIDITY

Validity of the tool was established by submitting the tool to five experts in the field of medical surgical nursing. After establishment of validity the tool was translated into English to validate the language.

Period of data collection
Data was collected with in 2 weeks.
Pre test
Immediately after selection of sample to conducted the pre test by using knowledge structured questionnaire.

Implementation of video assisted teaching program
After conduction of pre test administered the video assisted teaching program on management of chest tube drainage among allied health science students.

Post test
Post test was conducted after a week of administration of video assisted teaching program by using same knowledge structured questionnaire .

RESULTS

DISCUSSION

Table 2: Frequency and percentage distribution of demographic variables of Allied health sciences students

(n = 30)

S.No	Demographic Variables	Allied health Sciences Students	
		Frequency	Percentage
1	**Age**		
	a. 17-18 Years	0	0%
	b. 19-20 Years	26	86.67%
	c. Above 21 Years	4	13.33%
2	**Gender**		
	a. Male	13	43.33%
	b. Female	17	56.67%
3	**Religion**		
	a. Hindu	29	96.67%
	b. Christian	1	3.33%
	c. Muslim	0	0%
4	**Clinical exposure**		
	a. Yes	28	93.33%
	b. No	2	6.67%
5	**Workshop attended**		
	a. Yes	8	26.67%
	b. No	22	73.33%

Table 2 Reveals that the demographic variables of Allied health sciences students such as age, gender, religion, clinical experience, and workshop attended to the allied health sciences students. Distribution of samples according to their age group was 86.7% of allied health sciences students were in the age group of 19-20 years and 13.3% were in the age group of above 21 years. Distribution of samples according to their gender were 43.3% of them were male and 56.7% of them were female. Distribution of samples according to their religion was 96.7% were Hindus, 3.3% were Christians.Distribution of samples according to their clinical exposure were 93.3% of exposure to their clinical exposure and 6.7% of not exposure to clinical exposure Distribution of

samples according to workshop attended to their 26.7% were attended in workshop and 73.3%were not attended workshop.

Table - 3

Frequency and percentage distribution of pre and post test knowledge scores of allied health sciences students regarding management of patient with chest tube drainage

(n = 30)

S.No.	Level of Knowledge	Range of Marks	Pre-Test		Post-Test	
			f	%	f	%
1	Inadequate	1-10	14	47%	4	13%
2	Moderate Adequate	11-20	12	40%	10	33%
3	Adequate	21-30	4	13%	16	54%
Total			**30**	**100%**	**30**	**100%**

Table 3 Shows that the frequency and percentage distribution of pre test knowledge score regarding management of patient with chest tube drainage among allied health sciences students 47% of them had inadequate level of knowledge,40% of them had moderately adequate level of knowledge and 23% of them had adequate level of knowledge, where post test 53.34% of them got adequate level of knowledge 33.3% of them have got moderately adequate knowledge and 13.3 of them have got inadequate level of knowledge. The video assisted teaching program on management of patient with chest tube drainage among allied health sciences students was more effective.

Table 4 Paired 't' test value of pre and post test knowledge scores of allied health sciences students

Level	t-Value	df	table Value	p-Value	Inference
Knowledge	16.41	29	2.05	P<0.05	Significant

Table 4 The paired 't' value was calculated to analyze the effectiveness between pre and post test knowledge scores of allied health sciences students. The paired 't' value for knowledge was 16.41Which is high when compared with table value 2.05 at 29 of degree of freedom. The video assisted teaching program on management of patient with chest tube drainage among allied health sciences students was more effective.

Table 5 Mean, Standard deviation, mean percentage and difference in mean percentage of pre and post test knowledge scores of allied health sciences students

Test	Maximum Score	Level of Knowledge			
		Mean	SD	Mean%	Difference in Mean(%)
Pre Test	30	12	6	40%	30%
Post-Test		21	7	70%	

Table 5 shows that the pre test knowledge scores of mean was12, standard deviations was 6, mean percentage were 40%, whereas post test knowledge scores of mean was 21, standard deviations was 7, mean percentage was 70% and the difference in mean percentage was 30%. The result revealed that the video assisted teaching program on management of patient with chest tube drainage among allied health sciences students.

Table - 6 Chi square value of association between pre test knowledge scores of allied health sciences students with their demographics variables

S.No	Demographic Variables	Level of Knowledge				Inference
		x2 value	df	Table Value	p value	
1	Age	1.051	4	9.49	p<0.05	NS
2	Gender	2.127	2	5.99	p<0.05	NS
3	Religion	4.514	4	9.49	p<0.05	NS
4	Clinical Exposure	0.337	2	5.99	p<0.05	NS
5	Workshop attended	6.019	2	5.99	p<0.05	**S****

Table 6 shows that the Chi square was calculated to find out the association between pre test knowledge scores of allied health sciences students with their selected demographic variables regarding management of patient with chest tube drainage. It revealed that there was significant association (P<0.05) found between pre test knowledge scores of allied health sciences students and their health status. There was no significant association found between pre test knowledge scores and other demographic variables like age, gender, religion, clinical exposure of allied health sciences students.

CONCLUSION

The present study was intended to assess the effectiveness of video assisted teaching program in knowledge regarding management of patients with chest tube drainage. The report of this study was found that video assisted teaching was inexpensive and more effective in improving knowledge regarding management of patients with chest tube drainage .The participant's involvement is also mandatory.

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