

A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING VERSUS DEMONSTRATION OF ENDOTRACHEAL INTUBATION REGARDING KNOWLEDGE AMONG B.Sc. NURSING 2ND YEAR STUDENTS OF SELECTED NURSING COLLEGES, KANPUR, U.P.

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Abstract

Endotracheal intubation involves passing an Endotracheal tube passing through the mouth or nose into the trachea. Intubation provides a patent airway when the patient is having respiratory distress that cannot be treated with simpler methods and is the method of choice in emergency care. Objectives of the study were to assess the pre-test level of knowledge regarding Endotracheal Intubation, to assess the effectiveness of video-assisted teaching on knowledge, to assess the effectiveness of demonstration, to compare the effectiveness of video-assisted teaching versus demonstration on the level of knowledge and to find out the association between the pre- test knowledge score of Endotracheal intubation with the selected demographic variables. A Factorial research design was used for this study. A simple random sampling technique was used. Sample size was 60 and data was collected by Structured Questionnaires. The validity and reliability of tool was established. Data was analyzed by using descriptive and inferential statistics. Finding of the study is revealed that Most Highest percentage was in Group 1 of (60%) (18) Group1 students had moderate level of knowledge during pre test. 86.67 % (26) Group1 had moderate level of knowledge during post test 73.33% (22) Group 2 had moderate level of knowledge during pre test. 80% (24) Group 2 had moderate level of knowledge during post test. The overall mean score of Group1 during pre test was 11.23. The overall mean score of Group2 during post test was 18.46. The overall mean score of Group1 during pre-test was 12.3. The overall mean score of Group2 during post-test was 17.46. There was significant difference was found between the pre and the post test score of knowledge score among Group 2 students and Group1 regarding Endotracheal Intubation. The finding of the present study it can be concluded that effect of video-assisted teaching and demonstration are shows equal effect on knowledge of Endotracheal Intubation.

Keywords:- Endotracheal Intubation, Effectiveness, Video-assisted Teaching, Demonstration, Knowledge.

Introduction:

The American Association of Critical -Care Nurses (AACN) defines critical care nursing as that specialty dealing with human responses to life -threatening problems. Critical care nurses care for patients with acute and unstable physiologic problems, and their caregivers

The intensive care unit is one of the most unnerving areas in the hospital. Most of the patients are extremely sick and need constant, close monitoring and support from the staff, equipment and medication to keep normal body functions going. It is a common for patients to be connected to a number of different machines, procedures, or devices. Some of the patients in the intensive care will need support for their breathing.²

Patients in the ICU often need mechanical assistance to maintain airway patency. Inserting a tube into the trachea, by passing upper airway and laryngeal structures, creates an artificial airway. Endotracheal intubation is the placement of a tube into the trachea (windpipe) in order to maintain an open airway in patient who are unconscious or unstable to breathe on their own.²

Endotracheal intubation is the process by which a tube is inserted into the trachea. This may be accomplished through the larynx . Intubation is a procedure that is performed daily in many locations around the world—electively in the operating room and urgently in emergency rooms, in clinics, and in the field. Practitioners should be familiar with this lifesaving skill. Proficiency at intubation is a requirement for practitioners whose practices put them in an environment in which advanced cardiac life support, paediatric/neonatal advanced life support, and advanced trauma life support skills are used on a regular basis and in which advanced backup (an anaesthesia care provider) is not rapidly accessible.³

The technique has been performed since the 18th century (Roberts, 1983); however, its use as we know it today became more common in the 1940s. The value of intubation is well established⁴. The ability to place an unobstructed conduit into a patient's airway to assist with ventilation and to protect the airway is potentially a lifesaving skill. Endotracheal intubation is placement of an endotracheal tube (ETT) into the trachea as a conduit for ventilation or other lung therapy. The benefits of endotracheal intubation are ,a patent airway by oral, nasal or tracheal routes, Controlled ventilation with up to 100% oxygen, Ventilation with high airway pressure, airway protection from aspiration, removal of secretions, and other advantages are the facilitation of ventilation and oxygenation.⁵

Objectives

- To assess the pre-test level of knowledge regarding Endotracheal Intubation among B.Sc. Nursing 2nd year students.
- To assess the effectiveness of video-assisted teaching on knowledge regarding Endotracheal Intubation among B.Sc. Nursing 2nd year students.
- To assess the effectiveness of demonstration on knowledge regarding Endotracheal intubation among B.Sc. Nursing 2nd year students.
- To compare the Effectiveness of video-assisted teaching verse demonstration on the level of knowledge of B.Sc. Nursing 2nd year students.
- To find - out the association between the pre- test knowledge score of endotracheal intubation with the selected demographic variables.

Hypothesis

H₁- There is a significant difference between effect on video assisted teaching and demonstration of endotracheal intubation regarding knowledge among B.Sc. Nursing 2nd year students.

H₂- There is a significant association between demographic variables and knowledge of the B.Sc. Nursing students.

Assumptions

The B.Sc. nursing students have inadequate knowledge regarding endotracheal intubation.
The demonstration improves their knowledge than Video- assisted teaching.

Methodology*Research Approach*

Experimental research approach was used in this study.

Research Design

A True experimental design-Factorial research design was used for the present study.

*Variables**Independent variable*

In this study Video - assisted teaching & demonstration is independent variable.

Dependent variable

In this study dependent variable refers to Knowledge on Endotracheal intubation among B.Sc. Nursing 2nd year students.

Setting of the study

This study was conducted in selected Nursing Colleges in Kanpur UP. The study setting was selected as per availability of samples and feasibility of conduction of study and ethical clearance

Population

In this present study the target populations are B.Sc. Nursing 2nd year students.

Sample

In this study B.Sc. Nursing 2nd year students is sample.

Sample size

The sample size of this study will consist of 60 B.Sc. nursing 2nd year students. Who were divided into two groups.

Group-I-30 Sample of B.Sc. Nursing 2nd year.

Group-II-30 Sample of B.Sc. Nursing 2nd year.

Sampling technique

Sampling refers to the process of selecting the portion of population to represent the entire population.⁷

In this study, Probability Simple Random Sampling technique is used for selecting samples.

Sampling criteria

Sampling criteria is that which specifies the characteristics that the sample in the population must possess to be included in the study or to be excluded from the study.⁷

Inclusion criteria

- Student who are willing to participate in the study.
- Those students who are present in the selected college.
- B.Sc. Nursing students only.

Exclusion criteria

- Students who are sick & absent.
- Other than B.Sc. Nursing 2nd year.

Description of the tool

The tool consists of two parts which include:

Part 1: Demographic Variables

It consisted items for obtain information on age, gender, source of information, previous knowledge, living area.

Part 2: Structured Questionnaire schedule for collection data regarding knowledge of students about Endotracheal Intubation.

The total score for entire item is 25. Each correct answer will have "1" mark and each wrong answer will have "0" mark.

Grading of Marks:-

S.No	Score	Percentage	Level of Knowledge
1	01 - 10	< 40	Inadequate Knowledge
2	11 - 20	44 – 80	Moderately Adequate Knowledge
3	21 – 25	>84	Adequate Knowledge

Plan for Data Analysis

Data will be analysed by both descriptive (mean percentage, standard deviation) and inferential statistics (paired t-test, Unpaired t- test and chi square test).

Results

The result of the data analysis is organized and presented under the following broad heading.

Section A: Distribution of knowledge level among group-1 & group-2 regarding Endotracheal Intubation.

Section B: Effectiveness of Demonstration and Video-assisted teaching regarding Endotracheal Intubation among group-1.

Section C: Comparison of effectiveness between Video-assisted teaching and Demonstration.

Section D: Association of Pre-test knowledge score with demographic variables of Group-1 and Group-2.

Section A

Table 1: Distribution of Knowledge level on endotracheal intubation among Group 1 students

Knowledge Level	Score	Group 1 (Demonstration)			
		Pre Test		Post Test	
		Frequency	Percentage	Frequency	Percentage
Inadequate Knowledge	0 – 10	12	40	0	0
Moderately Adequate knowledge	11 – 20	18	60	26	86.7
Adequate Knowledge	21 - 25	0	0	4	13.3

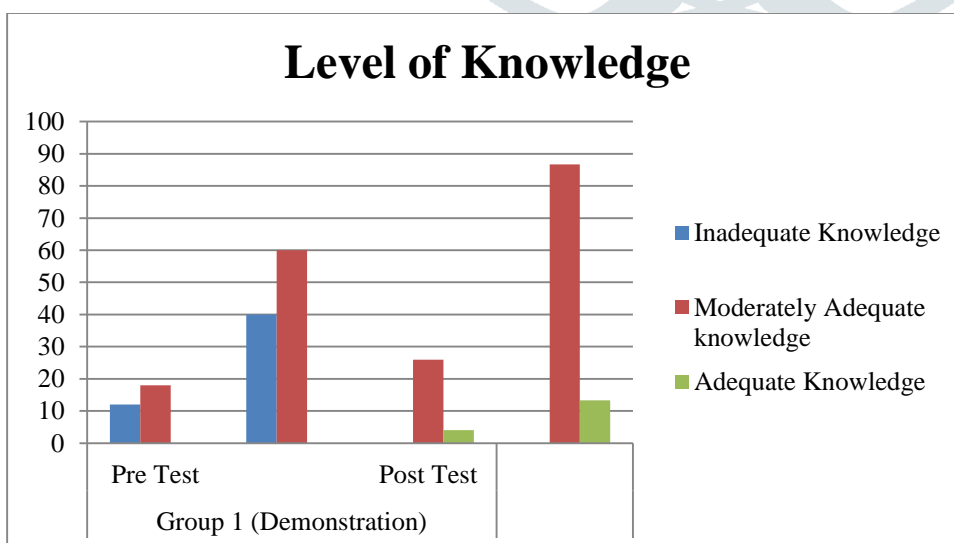


Fig 01: Shows the Knowledge level on endotracheal intubation among Group 1 students

(Tab.No.1 & Fig. No.1) depicts that 0 (0%) student has adequate knowledge, 18 (60%) students have moderate knowledge & 12 (40%) student have Inadequate knowledge score on pre test whereas 4 (13.33%) students has adequate knowledge, 26 (86.67%) student has moderate & 0(0%) student has inadequate knowledge on post test on Demonstration.

Table 2: Mean and Standard Deviation of Knowledge level of group 1 Students

Test	Mean	Standard Deviation
Pre Test	11.23	2.24
Post test	18.46	2.16

Above table 2 shows the Pre test mean is 11.23 with SD 2.24 whereas Post test mean is 18.46 with SD 2.16.

Table 3: Distribution of Knowledge level on Endotracheal intubation among Group 2 students

Knowledge Level	Score	Group 2 (Video Assisted Teaching)			
		Pre Test		Post Test	
		Frequency	Percentage	Frequency	Percentage
Inadequate Knowledge	0 – 10	8	26.7	1	3.3
Moderately Adequate knowledge	11 – 20	22	73.3	24	80
Adequate Knowledge	21 - 25	0	0	5	16.7

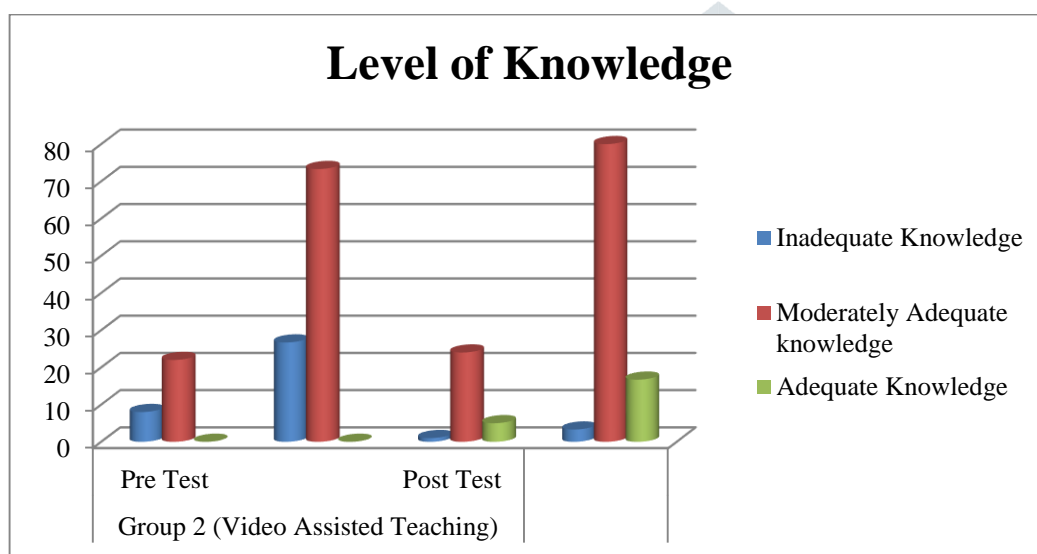


Fig 02: Shows the Knowledge level on endotracheal intubation among Group 2 students

(Tab.No.03 & Fig. No.02) Clustered cylindrical diagram depicts that 0 (0%) student has adequate knowledge, 22 (73.33%) students have moderate knowledge & 8 (26.67%) student have Inadequate knowledge score on pre test whereas 16.67% (5) students has adequate knowledge, 24 (80%) student has moderate & 1 (3.33%) student has inadequate knowledge on post test in Video Assisted Teaching Module.

Table 4: Mean and Standard Deviation of Knowledge level of group 1 Students

Test	Mean	Standard Deviation
Pre Test	12.3	2.84
Post test	17.46	3.16

Above table 4 shows the Pre test mean is 12.3 with SD 2.84 whereas Post test mean is 17.46 with SD 3.16.

Section B

Table 5: Effectiveness of Demonstration and Video Assisted Teaching Programme

S.No	Variable	Paired 't' value	Remark
01	Demonstration	13.09	Significant (t = 2.05)
02	Video Assisted Teaching	12.17	Significant (t = 2.05)

Paired 't' test value for Demonstration is 13.09 and for Video Assisted teaching is 12.17. Hence, there was statistically significance difference between the pre test and post test knowledge level among Group 1 and Group 2 students respectively.

Section C

Table 6: Comparison of Effectiveness between Video-assisted teaching & Demonstration

S.No	Variable	Unpaired 't' value	Remark
01	Comparison between effectiveness of Demonstration Vs Video Assisted Teaching	1.38	Significant (t = 2.00)

Above Table 6 Shows that, Unpaired 't' test value is 1.38 which is less than the Table value (t=2.00), it is not significant. Hence this shows that there is no significant difference between the effectiveness of Video-assisted teaching and demonstration. Hence, H₁ there is a significant difference between effect on video assisted teaching and demonstration of endotracheal intubation regarding knowledge among B.Sc. Nursing 2nd year students is rejected.

Section D

Association of Knowledge level with Selected Demographic variables

The association between the pre-test knowledge score of Demonstration with demographic variables of group 1 students was found not significant. The association between pre-test score of knowledge of Video Assisted Teaching with demographic variables of group 2 students was found not significant. Hence, H₂: There is a significant association between demographic variables and knowledge of the B.Sc. Nursing students is rejected.

Implications

The present study has several implications in nursing practice, nursing education, nursing research, nursing administration.

Nursing Practice

This study creates awareness among nurses and students the effectiveness of video-assisted teaching and demonstration of endotracheal intubation regarding knowledge. These study findings help to increase level of knowledge among B.Sc. Nursing students.

Nursing Education

The finding of present study can be a foundation for conducting the study on large section of population. The study can be a baseline for future studies to build up and motivate to conduct further studies. The implication of the study can be used as motivation for nurses to conduct research in future areas regarding Endotracheal intubation to assess the knowledge.

Nursing Administration

The nurse administrator may allocate resources and provide motivation for further study in urban areas. In – service education can be conducted to disseminate the research findings to all nurses.

Nursing Research

The findings of the study can be utilized for conducting research regarding effects of Video-assisted teaching and demonstration of endotracheal intubation regarding knowledge. Future investigators can use the findings and the methodology as reference material. It highlights the area, which requires further exploration. The suggestions and the recommendations can be utilized by other researchers for conducting further studies in the same field.

Conclusion:

The present study was conducted to assess the effectiveness of Demonstration Vs Video assisted Teaching on knowledge regarding Endotracheal Intubation among B.Sc (N) students. The result shows that both the teaching methods have shown effectiveness in gaining knowledge. When comparing with these two methods of teaching which shows no significant.

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