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A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED DEMONSTRATION PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING TRACHEOSTOMY CARE AMONG TRAINEE STAFF NURSES AT SELECTED HOSPITALS IN MYSURU

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ABSTRACT

Background of the study: Tracheostomy care is a major health issue in various parts of the world. The number of patients with tracheostomy is increasing in both developed and developing countries. Tracheostomy is commonly performed surgical procedure in ENT practice. Postoperative care is the most important aspect for achieving good patient outcomes. Unavailability of standard guidelines on tracheostomy management and inadequate training can make this basic practice complex. The nursing staff plays a very important role in bedside management, both in the ward and in the intensive care unit (ICU) setup. To sustain the patency of the airway, a competent nurse is required to deliver care for such kind of patients. **Aim:** The aim of this study was to assess the effectiveness of planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses in selected hospital in Mysuru. **Methods:** In this study, pre experimental design was used and non-probability purposive sampling technique was adopted to select 60 trainee staff nurses from JSS Hospital at Mysuru. Pilot study was conducted, the tool and study design were found to be feasible. Trainee staff nurses are assessed by using structured knowledge questionarie and structured observational check list. The tool was validated by experts and reliability was established by inter rated method. The data were collected and analyzed using descriptive and inferential statistics. **Results:** The study results revealed that, there was statistically significant correlation between knowledge and practice scores of trainee staff nurses regarding tracheostomy care. r= 0.48 at 0.05 level of significance. The pre-test mean knowledge scores of trainee staff nurses was 17.38 with SD ±1.89, ranged from 13-21 whereas, the post test mean knowledge score of trainee staff nurses is 25.5 with SD ±1.18 ranged from 24-28. The association between the knowledge score of the trainee staff nurses regarding their personal variable. There was statistical significance between the knowledge of trainees staff nurses with the their age and gender variables of knowledge and the age variable was 4.87 which is significant at 0.05 level. **Conclusion** The study concluded that nursing staff and student can consider the outcome of the study to plan and provide tracheostomy care for the patients admitted in hospital ward and critical care units, which will be helpful to prevent complication associated with tracheostomy and also to maintain quality of nursing care.

KEYWORDS: Trainee staff nurses, Planned demonstration programme. ENT.

I. INTRODUCTION

Constant attention by a good nurse may be just as important as a major operation by a surgeon. Dag Hammarskjold

Health (or health care) is the diagnosis, treatment and prevention of disease, illness, injury, and other physical and mental impairments in humans. Health care is delivered by practitioners in medicine, dentistry, nursing, pharmacy and allied health.[1]

Nurses care for patients continuously, 24 hours a day. They help patients to do what they would do for themselves if they could. Nurses take care of their patients, making sure that they can breathe properly, seeing that they get enough fluids and enough nourishment, helping them rest and sleep, making sure that they are comfortable, taking care of their need to eliminate wastes from the body, and helping them to avoid the harmful consequences of being immobile, like stiff joints and pressure sores. The nurse often

makes independent decisions about the care the patient needs based on what the nurse knows about that person and the problems that may occur.[2]

The primary purpose of the respiratory system is gas exchange, which involves the transfer of oxygen and carbon dioxide between the atmosphere and the blood. The respiratory system is divided into two parts: the upper respiratory tract and lower respiratory tract. The upper respiratory tract starts from the nose and ends in trachea. The trachea or windpipe is about five inches (1 0 to 12cm) long. The support of U shaped cartilages keeps the trachea open but allows adjacent oesophagus to expand for swallowing. The trachea bifurcates into the right and left main-stem bronchi at a point called carina. The carina is located at the level of the manubriosternal junction, also called angle of Louis. The carina is highly sensitive and touching it during suctioning causes vigorous coughing.[1]

A tracheostomy is the formation of an opening into the trachea usually between the second and third rings of cartilage. Tracheostomy is indicated to facilitate weaning from mechanical ventilation by decreasing anatomical dead space, prevention / treatment of retained tracheo-bronchial secretions, chronic upper airway obstruction and bypass acute upper airway obstruction.[3]

A tracheostomy is a surgically created opening in the trachea. A tracheostomy tube is placed in the incision to secure an airway and to prevent it from closing. Tracheostomy care is generally done every eight hours and involves cleaning around the incision, as well as replacing the inner cannula of the tracheostomy tube. After the site heals, the entire tracheostomy tube is replaced once or twice per week, depending on the physician's order.

The goals of tracheostomy care are to maintain the patency of the airway, prevent breakdown of the skin surrounding the site, and prevent **infection**. Sterile technique should be used during the procedure.

The tracheostomy consists of two parts. **Inner cannula**—Smaller tube that fits inside the tracheostomy tube, which can be removed quickly if it becomes obstructed. This is often used for patients who have copious secretions. **Tracheostomy tube**—An indwelling tube used to maintain patency of the tracheostomy. It can be made of metal (for long term use) or disposable plastic. The tube can be cuffed (a balloon is inflated to keep the tube in place) or uncuffed (air is allowed to flow freely around the tube). It can also be fenestrated, which allows the patient to speak. Extra precautions should be taken when performing site care during the first few days after the tracheostomy is surgically created. The site is prone to bleeding and is sensitive to movement of the tracheostomy tube. It is recommended that another health care professional securely hold the tube while site care is performed. Tracheostomy care should not be done while the patient is restless or agitated, since this increases the chance that the tube may be pulled out and the airway lost. The nurse has the primary role in tracheostomy care, as he or she is responsible for doing it in the acute care setting. The respiratory therapist mayassist the nurse during the procedure and during respiratory assessment. Some patients may be sent home with a tracheostomy. In this case, the nurse and respiratory therapist are both responsible for teaching the patient and the family how to perform site care at home.[4]

Tracheostomy care and management is more and more necessary in both the intensive care setting and the general ward. It is, therefore, ever more important that trained nurses are equipped with the appropriate skills, knowledge and support to meet the unique needs of each patient safely and competently.[6]

The nursing model or framework used should be creative, responsive, holistic and individualized, based on sound knowledge in accordance with local policies. A recent tracheostomy nursing care audit indicated a need for further education to increase overall competency.[7]

The education should always begin from the basic level. Planned teaching programmes helps staff nurses to improve their knowledge on patient care and management of tracheotomies and helps in increasing their competencies in future Health is defined by the WHO as not only the absence of illness but a state of complete physical, mental and social well-being. This definition of health accordingly includes a clear objective which has to be pursued in an ongoing process. Thus Nursing care focuses on individuals of all ages and cultural backgrounds who are healthy and ill in a holistic manner based on the individual's physical, emotional, psychological, intellectual, social, and spiritual needs.[2]

Tracheostomy is among the most commonly conducted procedures in critically ill patients. It is performed predominantly in patients who require prolonged mechanical ventilation, frequent suctioning for broncho-pulmonary toilet, or have obstruction of the upper airway. Tracheostomy on the body stimulates the emergence of a strong emotional reaction, a direct impact on treatment and prognosis of the disease.[4]

Tracheostomy is one of the oldest known surgical procedure. A tracheostomy is an opening in the trachea when an individual natural airway is compromised and requires long term ventilation at the same time tracheostomy care is essential to prevent infection. A permanent opening between the trachea and anterior

surface of neck is called stoma. A tube called tracheostomy tube is placed into the opening.[3]

The tracheostomy tube allows the patient to breathe in the air directly into windpipe instead of through the mouth and nose. The surgical opening is done between 2- 3 tracheal rings into the trachea below the larynx. The tracheostomy tube is an artificial airway consisting of plastic or metal tube which is surgically implanted just below the larynx in the trachea by passing the mouth and upper airways.

Need for the study

Most patients who require mechanical ventilation are initially managed with an endotracheal tube, which can be quickly inserted in an emergency. A tracheostomy requires surgical dissection and is therefore not typically an emergency procedure. Several advantages make a tracheostomy the better option for long term care. With a tracheostomy there is less risk of long term damage to the airway. Patient comfort may be increased because no tube is present in the mouth. The patient can eat with a tracheostomy because the tube enters lower in the airway, because the tracheostomy tube is more secure, mobility may be increased. The cleaning procedure removes mucus from the inside of the tube. Tracheostomy care is a basic nursing skill. While it is a matter of routine procedure in the practice of otolaryngology and critical care nurses, general nurses in other areas may perform infrequently.[14]

Tracheostomy is a common procedure done in all ICUs. Care of a patient with tracheostomy includes suctioning the air way to remove secretions, cleaning around the stoma and changing tracheostomy ties. A variety of tubes are available to meet the individual patient needs. All tracheostomy tubes contain a faceplate or flange, which rests on the neck between clavicles and outer cannula. Some tracheostomy tubes have inner cannula which can be removed for cleaning. If a disposable or non disposable inner cannula is used, tracheostomy care also involves inner cannula care. Both cuffed and uncuffed tubes are available. A tracheostomy tube with an inflated cuff is used if the patient is at risk of aspiration or needs mechanical ventilation. Because an inflated cuff exerts pressure on tracheal mucosa, it is important to inflate the cuff with the minimum volume of air required to obtain an air way sea. The cuff inflation pressure should not exceed 25mmof Hg because higher pressure may compress tracheal capillaries, limit blood flow, and predispose to tracheal necrosis.[7]

Critically ill patients on mechanical ventilation undergo tracheostomy to facilitate weaning. The practice in India may be different from the rest of the world and therefore, in order to understand this, ISCCM conducted a multicentric observational study “Dilatational percutaneous vs Surgical tracheostomy in intensive Care unit: A practice pattern observational multicenter study (DISSECT Study)” followed by an ISCCM Expert Panel committee meeting to formulate Practice recommendations pertinent to Indian ICUs. All existing International guidelines on the topic, various randomized controlled trials, meta-analysis, systematic reviews, retrospective studies were taken into account to formulate the guidelines. Wherever Indian data was not available, international data was analysed. A modified Grade system was followed for grading the recommendation. After analyzing the entire available data, the recommendations were made by the grading system agreed by the Expert Panel. The recommendations took into account the indications and contraindications of tracheostomy; effect of timing of tracheostomy on incidence of ventilator associated pneumonia, ICU length of stay, ventilator free days & Mortality; comparison of surgical and percutaneous dilatational tracheostomy (PDT) in terms of incidence of complications and cost to the patient; Comparison of various techniques of PDT; Use of fiberoptic bronchoscope and ultrasound in PDT; experience of the operator and qualification; certain special conditions like coagulopathy and morbid obesity. This document presents the first Indian recommendations on tracheostomy in adult critically ill patients based on the practices of the country. These guidelines are expected to improve the safety and extend the indications of tracheostomy in critically ill patients.[37]

An Exploratory study was conducted among 315 conveniently selected staff nurses working in tertiary care hospitals of Uttarakhand State from May 2015 to June 2016 and data was collected with self-structured questionnaire and practices check list. Independent sample two tail 't' test was used for comparing the mean knowledge score two groups and One-way ANOVA was used for comparing the mean knowledge score. The project was duly approved by institute Ethical committee. It has been observed that mean age of nurses was 29.74 (SD=6.315) and females are 62.5%. Among the participants, 76.2% had diploma as their professional qualification and approximately 40% nurses had working experience in lCU for less than one year followed by 32.7% working for 1-3 years. Majority of nurses had their professional nursing education / training from private institutes (81.9%).[8]

A Pre-Experimental study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Practice regarding Tracheostomy Care among Staff Nurses at selected Hospitals of Punjab. Tracheostomy educational program significantly improved care provider confidence and comfort in assessing and treating tracheotomy patients and facilitated communication among team members.[11]

An explorative study on nurses' knowledge and competence in acute and high dependency ward areas about tracheal suctioning. With an increasing demand for intensive care beds more nurses in acute and high dependency wards would be expected to care

competently for patients with tracheostomy tubes. Aims of this study was to explore nurses' knowledge and competence in performing tracheal suctioning in acute and high dependency ward areas and to investigate discrepancies between knowledge and practice using method triangulation. Twenty-eight nurses were observed using non- participant observation and a structured observation schedule. Each subject was interviewed and questioned about their tracheal suctioning practices, and subsequently completed a knowledge-based questionnaire. Scores were allocated for knowledge and practice. The findings demonstrated a poor level of knowledge for many subjects. This was also reflected in practice, as suctioning was performed against many of the research recommendations. Many nurses were unaware of recommended practice. Inaddition, there was no significant 11 relationship. between knowledge and practice. However, during the interviews, many nurses were able to provide a rationale for specific aspects of practice that were perhaps not based on current research recommendations. The study raised concern about all aspects of tracheal suctioning and has highlighted the need for changes in practice, clinical guidelines and focused practice-based education.[8]

Tracheostomy care is a complex nursing activity and has many potential complications. However, aspects of tracheostomy care appear to be carried out without uniformity and with some confusion as to correct techniques, especially outside the ear, nose and throat and intensive care environments. Some aspects of the literature appear contradictory, leaving nurses to make individual judgments about correct procedures. It is the nurse who is accountable for the care given; therefore, with the wealth of evidence available, it is important that the nurse is adequately trained and fully competent in the care of a patient with a tracheostomy.[6]

Tracheostomy is probably the most common surgical procedure performed on critically ill patients. Approximately 10 percent of mechanically ventilated critically ill patients undergo tracheostomy to facilitate prolonged airway and ventilator support1. Most critically ill patients with respiratory failure tolerate tracheal intubation for short duration with minimal complications, but longer duration (> 1week) of mechanical ventilation will have adverse outcomes. A descriptive study conducted in two hospitals of Davangere (Karnataka) for the period of five years between April 2005 and January 2010 reported the complications of bedside tracheostomy for up to 60 days after the procedure. Complications were classified as early complications, for events directly related to the surgical procedure occurring during tracheostomy tube placement and up to 24 hours after the procedure. Late complications included those occurring during the hospital stay or at home after discharge. Each complication was classified as major or minor according to its clinical relevance and whether or not it was life threatening. Patient's relatives were educated by the intensivist and ICU nurse regarding routine tracheostomy care, changing the tracheostomy tube and possible complications that could be experienced and their management.[9]

The prevalence of tracheostomy was 10% in the long-term ventilated patients (defined as > 24 h), or 1.3 % of all patients. Most tracheotomies were performed during the 2nd week of ventilation. The frequency of tracheostomy varied widely (0-60 %) and was only slightly associated with the different language regions of our country and with the policy of hospitals to accept or refuse intubated patients on their normal wards. Most units offered either conventional surgical tracheostomy (69 %) and/or percutaneous procedures (57 %). The decision to perform a tracheostomy was made mostly by the intensivist and the procedure was more often performed in the ICU (65 %) than in the operating theatre (35 %). Units where the intensivist had exclusive control used only percutaneous techniques. An overall complication rate of 13 % was reported, bleeding and infections being at the top of the scale. Only 27 % of the units performed late follow-up protocols.[11]

To assess the frequency, timing and technique of tracheostomy and its variation between different intensive care units (ICUs) in Switzerland. Retrospective, descriptive prevalence study. A questionnaire was sent to all intensive care units formally recognized by the Swiss Society of Intensive Care Medicine. Excluded were paediatric ICUs. A total of 48 ICUs (70 %) responded. In 1995 and 1996 the participating units had admitted 90,412 patients for a total of 243,921 ICU days. Seventy percent of the contacted ICUs answered the questionnaire. The prevalence of tracheostomy was 10% in the long-term ventilated patients (defined as > 24 h), or 1.3 % of all patients. Most tracheostomies were performed during the 2nd week of ventilation. The frequency of tracheostomy varied widely (0-60 %) and was only slightly associated with the different language regions of our country and with the policy of hospitals to accept or refuse intubated patients on their normal wards. Most units offered either conventional surgical tracheostomy (69 %) and/or percutaneous procedures (57 %). The decision to perform a tracheostomy was made mostly by the intensivist and the procedure was more often performed in the ICU (65 %) than in the operating theatre (35 %). Units where the intensivist had exclusive control used only percutaneous techniques. An overall complication rate of 13 % was reported, bleeding and infections being at the top of the scale. Only 27 % of the units performed late follow-up protocols. Despite its frequency, tracheostomy in Swiss ICUs is far from being standardized with regard to indication, timing and choice of technique.[46]

Summary

This chapter had dealt with the background of the study and need for the study regarding tracheostomy care In this section the research and non-research literature was discussed to provide an outline to the relevance and significance of the research problem.

II. OBJECTIVES

Statement of the problem; A study to assess the effectiveness of Planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru.

Objectives of the study

1. To assess the knowledge and Practice regarding tracheostomy care among trainee staff nurses.
2. To evaluate the effectiveness of Planned demonstration programme on tracheostomy care among trainee staff nurses.
3. To find the relationship between knowledge and practice regarding tracheostomy care.
4. To find the association between level of knowledge and their selected personnel variables.
5. To find the association between level of practice and their selected personnel variables.

Operational definitions

1. **Assess-** It refers to the process of documenting knowledge, skills, attitudes and beliefs. In this study it refers to the knowledge scores of trainee staff nurses regarding tracheostomy care using a self administered knowledge questionnaire.
2. **Knowledge-** It refers to the information acquired through experience or education; the theoretical and practical understanding. In this study it refers to the amount of information of the trainee nurses regarding tracheostomy care which is measured in terms of correct responses to the items in the structured knowledge questionnaire and is expressed in terms of knowledge scores.
3. **Practice:** It refers to performance in order to improve, carryout or to be engaged in a particular activity. In this study it refers to the amount of information of the trainee nurses regarding tracheostomy care which is measured in terms of correct responses to the items in the observational checklist and is expressed in terms of practice scores
4. **Effectiveness:** It refers to the quality or capacity of being able to bring and effective planned demonstration programme regarding tracheostomy care. It refers to significant gain in knowledge of Trainee staff nurses regarding tracheotomy care determined by significant difference between pre- test and post test knowledge scores.
5. **Planned demonstration programme:** It refers to a systematically organized demonstration of one hour duration on definition, indications, complications and management of tracheostomy care by using appropriate A.V.aids. In this study it refers to the systematically developed demonstration programme designed to impact knowledge of trainee staff nurses tracheostomy care
7. **Trainne staff nurses:** In this study it refers trainee staff nurses are nurses who has completed their Basic degree (GNM/BSc) in Nursing whose registration with state nursing councils in process (Certificate awaited)and presently working as staff Nurses in selected wards. In this study it refers to the nurses who is currently working as staff nurses and are working on to complete as registered nurse.
8. **Tracheostomy care:** It refers to caring of the tracheostomy tube placed in the incision to secure an airway. In this study it refers to the care of a patient with tracheostomy includes suctioning the air way to remove secretions, cleaning around the stoma and changing tracheotomy ties.

Conceptual framework

The conceptual frame work of this study will be based on Imogen King's goal attainment theory.

The framework of the study is based on imagine goal attachment theory (1960). This study is based on an assumption that humans are open systems in constant instruction with environment. The conceptual framework is composed of three interacting system, namely

I) Personal system
II) Interpersonal and
III) Social system

Kings identifies several concepts for each system concepts for personal system consists of variables that are unique to each person. It includes perception, self, growth and development, Body image, space time. Interpersonal system includes the variables that exist when interaction between the persons occur. The concept is related to interpersonal system are Interaction, Communication, Transaction, Role & knowledge concepts for social system occur when socially accepted roles and boundaries are accepted and followed as a mechanism to regulate interaction. It includes organization, authority, power, status, decision making.

The Major elements of the theory are seen in the interpersonal system, in which two people, who are usually strangers, come together in a health care organization to help and be helped to maintain a state of health that permits functioning in roles. The main concept of interpersonal system are interaction, perception, communication transaction, self, role, knowledge, growth and development, time and space.

The perception
The Personal system includes perception self growth and development, body image and space. The perception is the representation of a person's reality. The investigator selects trainee staff nurses who are working in selected hospitals based on their inclusion criteria.

In this process, the perception of trainee staff nurses regarding the investigates and the perception of the investigator regarding tracheostomy care. The investigate perceives the trainee staff nurse have some knowledge and skill regarding tracheostomy care. The perception of trainee staff nurse about the investigators knowledge and skill readiness of investigator in maintaining dignity of trainee staff nurse, maintenance of confidentiality about trainee staff nurses and the ability of the investigator to clarify the doubts of trainee staff nurse and also maintaining the interpersonal relationships.

The Interaction
It is the process of perception and communication between the person and environmental and between the person and person, represented by verbal and nonverbal behaviors that are goal directed.

In this study, in interaction phase two persons that is the investigator and trainee staff nurse come together for the purpose of exchanging ideas regarding

The communication
In this process, the information is given from one person to another either directly in face –face meeting is indirectly through telephone, T.V or written word. In this study the investigator communicates the information to the trainee staff nurse regarding planned demonstration programme regarding tracheostomy care The trainee staff nurse respond to the investigator appropriately by answering the questionnaire and demonstration programme. Hence the exchange of the information between the investigator and trainee staff nurse.

Action/Interaction
Action all interaction is observable behaviors of two or more persons in mutual presence. In this study the investigator providing planned demonstration programme to the trainee staff nurse for enhancing the knowledge and skill regarding tracheostomy case.

Transaction
Transaction is the observable behavior of human being interacting with there environment when the process of communication is completes the transaction. Transaction occurs between the investigator and trainee staff nurse. The trainee staff nurse responds to the planned demonstration programme will improve the knowledge and skill and was measured through SKQ and S O checklist.

The goal of the investigator will be attached when there is a successful transaction phase. This may be either effeteness of Planned demonstration programme or no effeteness of Planned demonstration programme. If there is effectiveness is found, the goal is achieved, if there is no effectiveness the whole process need to be reconsidered.

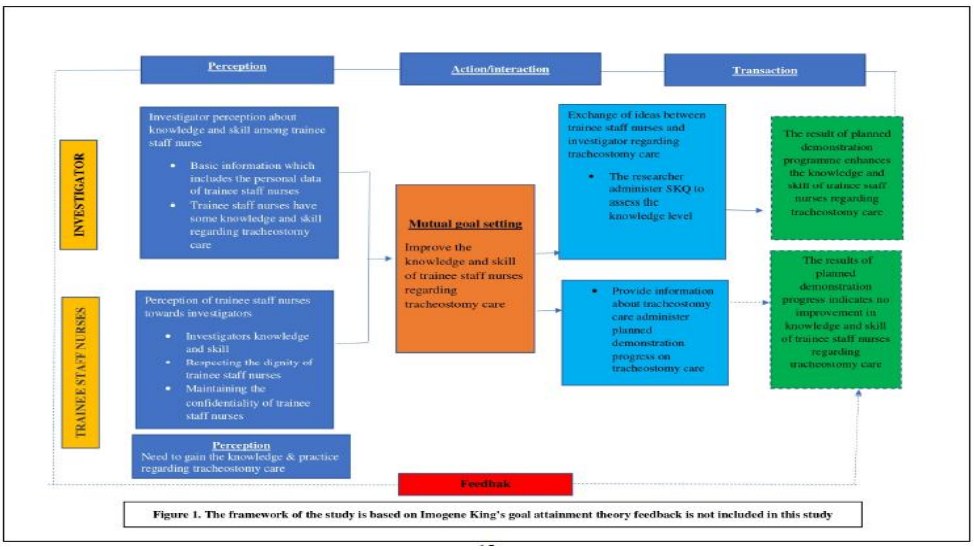

Figure 1. The framework of the study is based on Imogene King's goal attainment theory feedback is not included in this study

Hypotheses
Hypotheses is a statement of predicted relationship between variables.

To achieve the stated objectives, the following hypotheses have been developed which will be tested at 0.05 level of significance.

H1: The mean post test knowledge scores of trainee staff nurses regarding tracheostomy care will be significantly higher than the mean pre test knowledge scores.
H2: The mean post test Practice scores of trainee staff nurses regarding tracheostomy care will be significantly

higher than the mean pre test practice scores.

H3: There will be statistically significant relationship between knowledge scores and practice scores of trainee staff nurses regarding tracheostomy care

H4: There will be a statistically significant association between level of knowledge among trainee staff nurses and their selected personnel variables.

H5: There will be a statistically significant association between level of practice among trainee staff nurses and their selected personnel variables.

Assumptions

1. Trainee nurses may have some knowledge regarding tracheostomy care.
2. Knowledge and practice are interrelated.
3. Planned demonstration programme is an effective method to increase the knowledge and skill among trainee

Delemitation

1. The study is limited to only trainee nurses.
2. The study is limited to assess the knowledge and practice regarding tracheostomy care

Summary

This chapter had dealt with the statement of the problem, objectives, operational definition of terms used in this study, conceptual framework, hypotheses, assumptions and delimitations.

III. Review of literature

Literature reviews provide a handy guide to a particular topic with the idea to convey to the readers about the work already done and the knowledge and ideas that have been already established on a particular of research.

It aims to review the critical points of particular topic with its current knowledge an findings bring the researcher up to date with current literature and also future research that may be needed in the area. An extensive review of literature relevant to the research study topic was done to gain information and insight and to build foundation of the study.

The literature review of the present study is organized and presented under the following headings

1. Knowledge and Practice regarding tracheostomy care.
2. Effectiveness of Planned demonstration programme on tracheostomy care.

1. Knowledge and Practice regarding tracheostomy care

A study was conducted to assess the knowledge on tracheostomy care among the staff nurses working at K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka. Majority of the staff nurses were female 62%, and 38% were male, 52% staff nurses belonged to the age group between 20–25 years and 56% staff nurses were B. Sc. (N). Majority of the staff nurses have 0–5 years of work experience that is (86%). More than 5 year is (12%), 24.99% of the staff nurses got information through continuing education, 20% through books, 16.2% through workshops and 20% through mass media and others.[15]

A study was examined among 104 new graduate nurses' (GNs) comfort level before and after a tracheostomy in-service educational session. Results of the study indicated no correlation between reported comfort level and knowledge in caring for patients with tracheostomies. Findings also demonstrated that GNs can benefit significantly from in-service education and skills integration. This also suggests that hands-on skills content should be a priority for inclusion into nurse residency programs, particularly with specialized, high-risk, low-incidence nursing skills, regardless of how comfortable nurses report they are with a given patient population.[6]

A descriptive cross sectional study was conducted to assess the level of knowledge on tracheostomy care among staff nurses and student nurses in Narayana medical college and hospital The study results showed that among 15 staff nurses 8(53.3%) have moderately adequate knowledge and in student nurses 6(40%) have moderately inadequate knowledge. The study concluded that majority of staff nurses and nursing students had moderate knowledge of tracheostomy care.[10]

Tracheostomy care and management are more and more necessary in both the intensive care setting and the general ward. It is, therefore, ever more important that trained nurses are equipped with the appropriate knowledge, skills, and support to meet the unique needs of each patient safely and competently. The Non-probability purposive sampling technique was used for the study. The samples for the present study consisted of 60 B.Sc. nursing 3rd year students at selected college of Nursing, Kolhapur. Results: It shows the distribution of demographic variables of 3rd year B.Sc. nursing students. With regards to their age, the majority 38 (63.33%) of the 3rd year B.Sc. nursing students were 20-21 years, 18 (30%) were 22-23 years, 04 (6.67%) were 24 and above years. The majority of sources of information of students is 01 (0%) from Newspaper, 02 (13.34) from the Internet, 03 (25%) from Book. And other students are 04 (61.66) from Newspaper, Internet, and Book. The level of knowledge scores among 3rd year B.Sc. nursing students. The samples were having good knowledge 5 (8.33%) and 50 (83.33%) of them were having average knowledge, and 5 (8.33%) were having poor knowledge.[12]

A descriptive study was done to assess the knowledge and skills on tracheostomy care among 100 staff nurses working in selected hospitals of district Mohali, Punjab. Knowledge of staff nurses was assessed using structured

knowledge questionnaire and skills were assessed using checklist for tracheostomy care. The collected data was analyzed by using descriptive and inferential statistics. Study showed that 57% of staff nurses were having average knowledge and 43% staff nurses were having good knowledge. Moreover, 44% and 56% staff nurses were having fair and good skills regarding tracheostomy care respectively. Study also depicted that there was a weak positive correlation between knowledge and skills on tracheostomy care (r= 0.198). Study also indicated that there was a significant association of knowledge with age, total work experience, present area of work and educational program attended on tracheostomy care. No association was found between skills and selected socio-demographic variables i.e. age, gender, educational qualification, total work experience (in years), present area of work, experience of work in present area and educational program attended on tracheostomy care.[13]

A study was conducted to assess the knowledge of nurses about tracheostomy care and to find out relationship between nurses knowledge about tracheostomy care and selected variables. Major findings of the study were there was no significant difference in mean knowledge according to age and experience.[11]

A descriptive cross sectional study design was used to find out the knowledge regarding Tracheostomy care among nursing students. The study was conducted among all the PCL nursing 3rd year students of Lumbini Nursing College and Meditech Nursing College, Butwal, Rupandehi. Nonprobability purposive sampling technique was used where 80 PCL nursing 3rd year students were selected for study sample. Findings of the study showed that out of 80 respondents all most all the 95% had knowledge about Tracheostomy and purpose of its care. More than half 60% of respondents had knowledge about contraindication of the Tracheostomy. More than half of the respondent 61% had knowledge regarding the time of suctioning and 40% respondents had knowledge about the duration of the suctioning. Less than half of the respondent 42% had knowledge about suctioning pressure in adult and 38.8% had knowledge about the Tracheostomy suctioning pressure in child. Half of the respondent 47.5% had knowledge about the routine management of the Tracheostomy care. More than half of the respondents 58.8% had knowledge regarding the position recommended after the Tracheostomy care and 67.5% of the respondent had knowledge about the uses of the Tracheostomy ties.

Findings of the study showed that only half of the respondents had knowledge regarding Tracheostomy care so this study suggests that there is need for strengthening the knowledge on Tracheostomy care among the students.[14]

Tracheostomy is one of the most ancient procedures in surgery. Although it was traditionally used for treatment of upper airway stenosis, its primary surgical indication is now in the long-term intensive care unit patient. Here, the aims are avoidance of damage to the larynx, earlier weaning from artificial respiration, and improved nursing care. Apart from the conventional operating method, minimally invasive procedures have been increasingly employed. More than 20,000 ICU patients per annum are now treated in Germany by these modern methods. Common features of these procedures are the initial puncture of the trachea with subsequent dilatation of the puncture channel. Current meta-analyses of prospectively randomised studies show a lower complication rate than with conventional methods. Furthermore, serious sequelae such as tracheal stenosis are rare in the long-term course. However, conventional operative tracheostomy still has its place, particularly in circumstances where the new methods are contraindicated.[34]

Percutaneous tracheostomy is an alternative to conventional surgical tracheostomy, if is less invasive and linked to a lower degree of complication. The median age of the 115 reviewed patient was 65 years. The most common admission reasons were: brain vascular accident in 25 cases, head and neck injury in 21, cancer in 11 and sepsis in 10 patients. Tracheostomy was indicated because prolonged mechanical ventilation in 52 patients, comma in 28 and emergency or scheduled surgery in 10 cases. Median length of stay in the ICU, and 52 from the Hospital. The remaining patients died during their hospital stay. Serious complications appeared in 5 patients (4%); 3 of them were the development of fistulae and all of them occurred in patients in whom the tracheostomy was performed in the ICU at bedside. Before the procedure, 72 patients were under mechanical ventilation, but only 56 received ventilatory support 24 hours after tracheostomy. When PEEP-mod values were analyzed, first monitoring of median value was 1.6 (range 0 to 2), 4-6 hours time median value was 2 (1 4-2.45), and 24 hours later median value was 1.2 (0-2) (global variation, $p < 0.001$).[35]

Tracheostomy is one of the most common procedures performed in the intensive care unit. Early tracheostomy however might be preferable in selected patients percutaneous tracheostomy has become a popular, relatively safe procedure in the intensive care unit. A number of retrospective studies and a single prospective study have shed some light on this issue. Most report favour the performance of tracheostomy with in 10 days of respiratory failure.[3]

A study on the assessment of healthcare professionals' knowledge of managing emergency complications in patients with tracheostomy was conducted among seventy staff members in two

large teaching hospitals. The subjects completed an interview questionnaire comprising a simple clinical scenario. The results showed that there were significant gaps in knowledge among healthcare professionals regarding the management of specific tracheostomy-related emergencies. The knowledge of tracheostomy-related emergencies appeared to be insufficient among healthcare professionals. This needs to be addressed in order to maximize patient safety.[38]

A cross-sectional survey on identifying and improving knowledge deficit of emergency airway management of tracheostomy and laryngectomy patients as a patient safety initiative was done among nurses, physicians and respiratory therapist at a tertiary care hospital prior to and 24 conducted hours after introduction of bedside emergency airway access (EAA) in the form of pre and post intervention revealed several knowledge deficits. Pre-intervention, 37% of medical internists and 19% of overall did not know that laryngectomy patients cannot be orally ventilated, and 67% of the internists could not identify the purpose of stay sutures in recently created tracheostomies. After the intervention these numbers improved for all groups. A knowledge deficit is identified in care givers expected to provide emergency management of patients with altered airway anatomy. Safety initiatives such as the EAA form may improve knowledge among care providers.[39]

To identify the knowledge of tracheostomy care among B.Sc. nursing 3rd year students. To prepare the nursing care protocol on tracheostomy care. The Non-probability purposive sampling technique was used for the study. The samples for the present study consisted of 60 B.Sc. nursing 3rd year students at selected college of Nursing, Kolhapur. It shows the distribution of demographic variables of 3rd year B.Sc. nursing students. With regards to their age, the majority 38 (63.33%) of the 3rd year B.Sc. nursing students were 20-21 years, 18 (30%) were 22-23 years, 04 (6.67%) were 24 and above years. The majority of sources of information of students is 01 (0%) from Newspaper, 02 (13.34) from the Internet, 03 (25%) from Book. And other students are 04 (61.66) from Newspaper, Internet, and Book. The level of knowledge scores among 3rd year B.Sc. nursing students. The samples were having good knowledge 5 (8.33%) and 50 (83.33%) of them were having average knowledge, and 5 (8.33%) were having poor knowledge.[28]

A study on tracheostomy care and management in general wards and community settings tried to identify the current perspectives and areas for research regarding care and management of tracheostomized adult patients discharged to general wards and the community. The increased number of tracheostomies has led to more tracheostomized patients being discharged to non-specialized areas. Staff within these diverse areas may lack the skills, knowledge and confidence to provide safe tracheostomy care. Although best practice is applied to the care of tracheostomized adult patients. Research is very limited in relation to the care and management of tracheostomized adult patients outside specialized areas, yet there is morbidity and mortality associated with this patient group. Best method of education is widely recommended for healthcare professionals who care for tracheostomized patients on an infrequent basis. Research is required to determine the best methods of promoting best practice to improve tracheostomy care.[40]

A study on the assessment of healthcare professionals' knowledge of managing emergency complications in patients with tracheostomy was conducted among seventy staff members in two large teaching hospitals. The subjects completed an interview questionnaire comprising a simple clinical scenario. The results showed that there were significant gaps in knowledge among healthcare professionals regarding the management of specific tracheostomy-related emergencies. The knowledge of tracheostomy-related emergencies appeared to be insufficient among healthcare professionals. This needs to be addressed in order to maximize patient safety.[38]

2. Effectiveness of planned demonstration programme regarding tracheostomy care

A study described tracheostomy care practices of registered nurses (RNs) and respiratory therapists (RTs) who regularly perform tracheostomy care in critical care settings. The procedure was video-recorded and the researchers also used an observation checklist. Equipment used and steps performed were compared to hospital policy and the American Association of Critical-Care Nurses (AACN) Procedure Manual. Data were analyzed with descriptive statistics. No one performed in the order recommended in the AACN Procedure Manual. Wide variability in practices emphasizes the need for establishing an evidence-based approach for performing tracheostomy care. Discussion: Research supported the belief that variation to technique and supplies does exist when performing tracheostomy care. Tracheostomy varied from provider to provider within one hospital unit, demonstrating the need for further research and protocols for tracheostomy care. Education on existing protocols and evidence-based practice should be conducted to ensure that providers are following unit protocols.[9]

A study was conducted to explore nurses' knowledge and competence in performing tracheal suctioning in acute and high dependency ward areas and to investigate discrepancies between knowledge and practice using method triangulation. The findings demonstrated a poor level of knowledge for many subjects. This was also reflected in practice, as suctioning was performed against

many of the research recommendations. Many nurses were unaware of recommended practice and a number demonstrated potentially unsafe practice. In addition, there was no significant relationship between knowledge and practice. The study raised concern about all aspects of tracheal suctioning and has highlighted the need for changes in practice, clinical guidelines and focused practice-based education.[14]

A quasi experimental design was undertaken in Vinayaka Mission Hospital, Salem among 50 staff nurses to assess the effectiveness of video assisted teaching module on tracheostomy care. Findings revealed that most of the staff nurses (86%) were in the age group of 21-25 years, 68% were females, majority (78%) had GNM qualification, 60% were working in ICU, majority (58%) had less than one year of experience, 62% had previous exposure to tracheostomy care through books, 72% had attended in-service education on tracheostomy care. Overall post-test mean score was 23.58 ± 2.21 which was 78.6% of the total score, revealed good knowledge of staff nurses. The difference in mean percentage between pre and post-test was around 27.4% shows that video assisted teaching module was effective in improving the knowledge of staff nurses regarding tracheostomy care. The study results also showed that there was highly significant difference between pre and post-test knowledge and skill scores.[8]

A study was aimed at primarily to assess knowledge and practice of staff nurses regarding tracheostomy care working in selected tertiary care hospitals of Uttarakhand State among 315 staff nurses. Findings showed that male nurses trained from private institutes and nurses having longer working experience in ICU had significantly higher tracheostomy suctioning related knowledge score compared to their counterparts. The study raised concern about all aspects of tracheal suctioning and has highlighted the need for changes in practice, clinical guidelines and focused practice-based education. Unsafe practices may jeopardize patient safety, and thus the quality of nursing care; regular auditing and prompt feedback would be beneficial.[15]

A Pre-Experimental study to conducted to assess the effectiveness of Structured Teaching Programme on Knowledge and Practice regarding Tracheostomy Care among Staff Nurses at selected Hospitals of Punjab. The results of study showed that post-test knowledge sore (20.26 2.89) regarding tracheostomy care among staff nurses was higher than pre-test knowledge score (13.58 2.65) and moreover in case of practice score regarding tracheostomy care post-test practice score (20.2 4) was higher than pre-test practice score (17.36 4.39) and there is moderate relationship between knowledge score and practice score. Hence it was concluded that STP was effective as evidence by the result of pre-test and post-test knowledge and practice score regarding tracheostomy care.

The knowledge and skills of nurses can be improved through in-service education programme.[17]

A study conducted at California, an evidence based evolution of tracheostomy care practices. Adverse outcome related to tracheal occlusion and peritracheal skin breakdown stimulated a review of tracheostomy care. An evidence- based practice approach was taken to evaluate the problem. Organizational tracheostomy care policies were reviewed. A literature review was done. National experts were surveyed. A geographical survey was taken and vendors of tracheostomy products were interviewed. Physicians, staff, and patients were interviewed. Nurses and respiratory therapists reported difficulty providing tracheostomy care due to suturing technique and securing methods. Several conflicting policies existed regarding tracheostomy care, none of which identified responsibility for performing care: respiratory versus nursing or time standards for care. New supplies were trialed. Finally the researcher gave a list of practice changes were agreed upon by respiratory, nursing, and medical staff. Primary responsibility for tracheostomy care was shifted to the registered nurse.[25]

Tracheostomy care in ICU patients is a basic nursing procedure. It can lead to many complications and is associated with a lot of distress among clients. Study design: Cross sectional descriptive study. Total of 75 nurses were recruited in study that involved ICU of three tertiary care hospitals in Lahore. Convenient sampling technique was used. For data collection a self-structured questionnaire was used. The collected data was analyzed by using SPSS version 25. Chi Outcome was applied with p-value of less than 0.05 as significant. There was significant association (p-value 65% had adequate knowledge. The findings of the current study revealed, that nurses are having adequate level of knowledge and practices regarding tracheostomy in managing tracheostomy in ICU patients. Hence, health care settings are required to provide organized clinical guidelines and protocols for patient's safety.[24]

A descriptive study was conducted in ENT, OPD PGIMER, Chandigarh. The Sampling technique was total enumeration. The study includes the participants visiting ENT, OPD PGIMER, Chandigarh. The tool was validated by experts in the □eld of nursing and ENT Department. Each interview took 5- 10 minutes to complete. Most of the participants (84%) had difficulty in communication so responses were collected by writing or by pointing. One third (39%) of the participants were in the age group of 40- 60years. Majority (82%) of the participants were male. More than half (58%) of the participants were doing stoma care once a day. Nearly half (42%) of the participants were using the antiseptic solution (dettol) for cleaning of stoma. In majority (96%) of the participants secretions were removed through suctioning and only 4% of

participants use to cough to remove secretions. Three fourth (72%) of the participants were not using any solution for storage of tracheostomy tube. Majority (92%) of the participants were using a plastic container for storage of tracheostomy tube. The study found that few participants adapt correct practices whereas few adapt wrong practices regarding the care of tracheostomy tube.[26]

A cross sectional hospital-based study was done among nurses having more than 6 months working experience in all ICUs of NHSL. A self-administered questionnaire was developed using American Association of Respiratory Care (AARC) clinical Practice guideline 2010. Data was analyzed by using SPSS statistical package version 16. The majority (91%) had almost 10 years of ICU experience. Mean age was 31.74 years (SD± 5.69). Only half had good knowledge (50.8%) on endotracheal tube care. Mean knowledge was 69.7 ±12.662SD. Majority had good knowledge on oral care (98.9%), humidification (95.1%) and optimal cuff pressure (83.1%). Knowledge was poor for statements on "oral secretions may pool above the cuff leading to ventilator associated pneumonia" (VAP) (12%), selecting suitable suction catheter (44%) and relationship with vaporized water and micro-organism will lead to aspirations (18%). Reported correct practices was 57.8% (N= 107). Only 18% had practiced proper oral hygiene in mechanically ventilated patients. The majority (63.2%) reported incorrect practices related to suction method and measuring the suction catheter length. Most nurses were unaware of the current protocols or guidelines related to ET tube care. The most significant deficiencies were related to tracheal complications and activities that cause tracheal trauma, and activities which can lead to serious and harmful effects to patients.[27]

This study was conducted among the nurses who work in this institution. It was a descriptive cross-sectional study with quantitative methods of data collection. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 17.0. Descriptive statistics were presented in frequency distribution tables. Statistical significance was determined using a cut off value of 0.05 The results study showed that 80% respondents most favoured failed intubation as indication 82.5% were of the opinion that effective mobilization of secretion is the major area of scope in management of tracheostomy. Their knowledge associated with proper techniques of suctioning is also a source of concern (21%). The nurses have high opinion about clinical outcome of tracheostomy (above 66%). The result also showed that there is significant difference between the ICU and surgical ward staff knowledge of indication for tracheostomy (. T-tab was 1.6 while t-cal was 5.04 at p-level of 0.05. the result showed a high value of t-cal of 5.04). Also, the result showed the values of mean and standard deviation which were collated and computed using t-test as; T-tab was 1.6 while t-cal was3.69 at p-level of 0.05. The result showed a high value of t-cal of 5.04 showing significant difference between the Icu and the wards.[28]

The present study was aimed at primarily to assess efficacy of planned teaching on knowledge regarding tracheostomy suctioning among staff nurses working in selected hospitals of Vidarbha Region in Maharashtra. The subjects consisted of 50 staff nurses. A pre experimental one group pre-test post test design was used. Tool used for this study was structured knowledge questionnaire. The findings of the present study show a significant improvement of knowledge scores after the planned teaching There is association found between knowledge score with the gender, and there is no significant association with the age, professional qualification, total years of experience, area of working, years of experience in present working area and participation in training.[29]

An evaluative approach with pre-experimental one group pre-test post-test design was adopted in order to evaluate the effectiveness of planned teaching programme on knowledge regarding body mechanics among the 60 samples selected by simple random sampling technique using lottery method. The study findings showed that the mean percentage of post-test (83.89%) knowledge score was higher than the mean percentage of pre-test (49.33%) knowledge score. The't' value computed between mean pre-test and post-test scores is statistically significant (t(59)=25.57, table value t(59)=1.670) P < 0.05). This revealed that there was a significant difference between the mean pre-test and post- test knowledge scores on body mechanics among second year Basic B.Sc. nursing students. The study concluded that the second year Basic B.Sc. nursing students had less knowledge regarding body mechanics and the overall findings of the study indicated that there was an increase in the knowledge of samples following the administration of planned teaching programme. This showed that planned teaching programme was effective in improving the knowledge of second year Basic B. Sc. nursing students.[32]

A quasi-experimental design was use The study was conducted in the intensive care unit at Beni-Suef University and general Hospitals. All convenient samples 45 nurses working in intensive care unit at Beni-Suef University and general Hospitals. Two tools were used a self administered questionnaire sheet to assess knowledge and observational checklist to assess practice regarding tracheostomy care. This study showed that the majority of the nurses had unsatisfactory knowledge and practice regarding tracheostomy care pre program implementation (91.1% and 86.7% respectively) which improved significantly immediately post program (86,7% and 82,2% respectively) while this improvement lowered slightly post 3 months at follow up (73,3% and 71,1% respectively). there was significant improvement in nurse's knowledge and practices regarding

tracheostomy care post the program implementation, while this improvement lowered slightly post three months at follow up, which supported the study hypothesis. Recommendation that Intensive care unit must have a clinical nurse educator responsible for coordinating the education, training for intensive care nursing staff.[33]

To develop an effective video based learning resource material about tracheostomy care in adults, for providing knowledge and developing skills of care providers, for providing home care to the patients discharged from the hospital with tracheostomy tube in-situ Pre-Experimental research design (one group pre test post test design) on 29 care providers from neurosurgery and neurology wards, AIIMS, New Delhi. Purposive sampling technique was used and data collection was done by using a knowledge questionnaire and observation checklist. The pre test, post test I and post test II mean knowledge scores were 12.3 ± 2.2, 18.6 ± 1.2 and 18.2 ± 1.4 respectively. The mean pre test, post test I and post test II skill scores were 38.2 ± 7.3, 74.4 ± 6.7 and 71.7 ± 6.9 respectively. The mean post test knowledge and skills scores at post test I and post test II were significantly higher as compared to the pre test knowledge and skills scores at $p<0.000$ level of significance. The video teaching program was found effective in bringing about an increase in knowledge and effective skills of care providers regarding tracheostomy care in adults. So, the video as a teaching tool can be utilized by nurses in providing discharge teaching to the tracheotomised patients and their care providers.[34]

The impact that a new specialist tracheostomy service, designed specifically for the care of patients with tracheostomies, was assessed in terms of type of tracheostomy tube used, time to first tube change, time to decannulation, and incidence of tracheostomy related complications in a teaching hospital with no on-site ear, nose, and throat facility. A total of 170 patients were studied. After service implementation, fewer patients (17.6%, n = 21) were discharged from the intensive treatment unit to the wards with tracheostomy tubes compared with the first group (39%, n = 20) ($p = 0.006$), and the number of tracheostomy related complications on the wards were significantly reduced ($p= 0.031$).[30]

Summary

This chapter had dealt with the review of research and non- research literature related to the problem stated. These reviews had provided an understanding and broadened the investigator's outlook necessary for the research study. This chapter consists of review of literature to the knowledge and practice regarding tracheostomy care.

IV. RESEARCH METHODOLOGY

The methodology of research indicates the general pattern for organizing the procedure and for gathering valid and reliable data for investigation. Methodology is merely the study of a particular method or method for reaching a desired end. This chapter deals with methodology adopted for the study. It includes research approach, research design, the setting, the population, sample, sampling technique, development and description of tool, pilot study and procedure for data collection and plan for data analysis. The present study was aimed to assess the effectiveness of planned demonstration Programme on knowledge and practice regarding tracheostomy care among trainee staff nurses in selected hospital in Mysuru.

Research Approach and Design

The research approach indicate the basic procedure for conducting research. As the aim of the study is to assess the effectiveness on planned demonstration Programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals of Mysuru.

Research approach

Pre experimental approach is adopted for the present study.

Research design: One group pretest post test design the variables of the study were.

Dependent variable

Knowledge and Practice of trainee staff nurse.

Independent variable

Planned demonstration programme on tracheostomy care.

Other variables

Selected personal variables viz. age, gender, educational qualification, working area, have you been trained in giving care of tracheostomy patient during your student period and how frequently tracheostomy patients comes to your ward.

Setting of the study

The study was conducted in JSS hospital Mysuru.

Population

In the present study population comprises of trainee staff nurses in selected hospitals.

Sample and Sampling

Sample is the representative unit of a target population or is the subset of population. The sample of the present study comprised of 60 trainee staff nurses in selected hospital Mysuru.

Sample size estimation

The sample size for present study is determined on the basis of the proposed statistical analysis, based on Cochran's standard sample size formula.

$$n=\frac{Z^2(pq)}{e^2}$$

n= sample size
z= Standard error associate with the chosen level of confidence (Typically 1.96) q= 1-p
e= acceptable sample error
p= variability/standard deviation (it can be taken from previous studies or pilot study) Therefore assume,
Variability(p)= 0.5 confidence level = 95% sampling error(e)= 13%

$$n=\frac{(1.96)^2(0.5)(0.5)}{(0.013)^2}$$

$$n=\frac{(3.8416x0.25)}{(0.000169)}$$

$$n=\frac{0.9604}{0.000169}$$

$$n = 56$$

Hence sample size for present study is calculated as 60.

Sampling technique
Sampling is the process of selecting representative units from an entire population of a study. Non probability purposive sampling technique was used in the present study.

Criteria for sampling inclusioncriteria

- Trainee Staff nurses who are
- Working in selected hospitals, Mysuru.
- Willing to participate in the study.
- Are able to read and understand Kannada and English

Exclusive criteria

- Trainee Staff nurses who are
- On leave or absent during the data collection period.
- Undergone training programme on Tracheostomy care.
- Registered staff nurses

Sampling frame

Preparation of tool and PDP based on ROL.
↓
Establishing validity and reliability of the content
↓
Administrative approval from hospital authorities to conduct the study
↓
Selection sample as per criteria
↓
Pre test (administering SKQ and SOC)
↓
Planned Demonstration on Tracheostomy Care
↓
Post test (administering SKQ and SOC)
↓
Analysis of the Data

Data collection Technique and Instrument
Selection and Development of tools
The research instrument is a device used to measure the concept of interest in a research project that a researcher used to collect data. Based on the review of literature the following tools were decided to be used.

The data collection technique used by the researcher are as follows

- Section A-Performa for selected personal variables
- Section B-Structured knowledge questionnaire
- Section c-Structured observational checklist.

The proforma for selected personal variables Includes: (Annexure-D)
Age, Gender, educational qualification, working area, have you been trained in giving care of tracheostomy patient during your student period and how frequently tracheostomy patients comes to your ward.

Description of the structured knowledge questionnaire: (Annexure-E)
The structured knowledge questionnaire was used to assess the level of knowledge of trainee staff nurses regarding tracheostomy care The items were selected after reviewing research and non-research literature regarding tracheostomy care. A blue print was prepared on the following areas, the anatomy of trachea function of trachea definition, indications, suctioning, method of suctioning, tracheostomy care and prevention of infection. The structured knowledge questionnaire consists of 30 items and was used to measure the respondents' level of knowledge. There were four options for each questions from which the participants have to choose one best option; a score value of one (1)

was allotted to each correct response and zero (0) was allotted to incorrect response. The total score ranged from 0 – 30 The scores were further divided arbitrarily as follows: poor knowledge (0 – 15), average knowledge (16 – 25) and good knowledge (26 – 30).

Description of Structured observational checklist: (Annexure-F)
An observational check list was prepared after extensive review of literature and current practice guidelines. There were 23 statements were stated. The practice of tracheotomy care was assessed by scoring the observation check list were arbitrarily divided as adequate Practice (above 90%), In adequate Practice (below 90%)

Content validity
The Proforma for Selected personal variables, Structured knowledge questionnaire and Structured observation check list were content validated by Six experts from the field of ENT(1), Anaesthesia (1) Nursing (4). The experts were requested to give their opinion and suggestions regarding appropriateness and relevance of the items. Majority had given 100% agreement and few suggestions given by the experts were incorporated after discussing with guide. However, few suggestions were given such as to modify the stem and to change the options and the corrections were incorporated in the final draft, after discussing with the guide.

Reliability
Reliability is the degree of consistency or dependability with which an instrument measures the target attribute which it is designed to measure. It is the major criterion for assessing quality and adequacy of an instrument.

Structured knowledge questionnaire: The reliability was established on 14.4.2022 through split half method for knowledge questionnaire by administering it to 30 staff nurses in JSS hospital Mysuru. The coefficient of correlation for knowledge questionnaire was r = 0.78 the tool was found to be reliable.

Structured observational checklist: The reliability was established on 15.4.2022 inter rater method and observed the practice of 30 Staff nurses in JSS hospital Mysuru. The coefficient of correlation value was r = 0.87 hence the tool was found to be reliable.

Pilot study
The pilot study was conducted in JSS hospital Mysuru on 20.4.2022 to 27.4.2022. Permission was taken from the authorities prior to the data collection. The purpose of pilot study was to find out the feasibility of conducting the study and to decide upon the plan of statistical analysis. The sample of 06 Trainee staff nurses were selected as per sampling criteria by using non probability purposive sampling technique. The structured knowledge questionnaire and structured observation check list were administered to the sample after getting the written consent. The tool and the study design were found to be feasible.

Data collection procedure
Permission for conducting the study was obtained from Medical superintendent of JSS hospital. Ethical clearance for conducting the study was obtained from the ethical committee of JSS medical college. Data were collected from02/05/2022 to 25/05/2022. To obtain a free and true response, the subjects were explain about the purpose and usefulness of the study and assurance about the confidentiality of their responses was also provided. An informed consent was obtained from each participant to indicate their willingness to participate in the study. The samples were selected by using Non probability purposive sampling technique and administered the structured knowledge questionnaire to assess the knowledge and structured observation check list to assess the tracheostomy care. Samples took 30 minutes to complete the questionnaire and the demonstration and re demonstration of tracheostomy care was done in 16 days. The contact information of the researcher were provided and the data collection process was terminated after thanking the participant.

Plan for data analysis
Data analysis is the process of organizing and synthesizing the data so as to answer research questions and test hypothesis. Data analysis consists of examining, categorizing, tabulating or otherwise re-combining the evidence to address initial propositions of the study. The data would be coded and edited into a master sheet. It was planned to use both the descriptive and inferential statistics for the data analysis.

Descriptive statistics
Frequency and percentage would be used to describe selected personal variables. Mean, median and standard deviation would be used to analyze the level of knowledge.

Inferential statistics
Karl Pearson's coefficient of correlation would be used to describe the relationship between knowledge and Practice of tracheotomy care.

Chi-square would be computed to analyze the association between the level of knowledge and Practice of tracheotomy care with their selected personal variables.

Summary
This chapter had dealt with the research approach, setting, population, sample, sampling technique and sampling criteria and also includes content validity, reliability, pilot study, data collection tool and technique, procedure for data collection and plan of data analysis.

V. RESULTS

Analysis is the process of organizing and synthesizing the data so as to answer research questions and test

hypothesis. Interpretation is the process of making sense of the results of a study and examining their implications.

This chapter deals with the analysis and interpretation of the data collected to assess the effectiveness of planned demonstration Programme on Knowledge and Practice regarding Tracheostomy care among trainee staff nurses in selected hospital Mysuru. The data were analyzed on the basis of the study objectives, using both descriptive and inferential statistics.

Objectives

The objectives of the study are:

1. To assess the knowledge and Practice regarding tracheostomy care among trainee staff nurses.
2. To evaluate the effectiveness of Planned demonstration programme on tracheostomy care among trainee staff nurses.
3. To find the relationship between knowledge and practice regarding tracheostomy care.
4. To find the association between level of knowledge and their selected personnel variables.
5. To find the association between level of practice and their selected personnel variables.

Hypothesis

H1: The mean post test knowledge scores of trainee staff nurses regarding tracheostomy care will be significantly higher than the mean pre test knowledge scores.

H2: The mean post test Practice scores of trainee staff nurses regarding tracheostomy care will be significantly higher than the mean pre test practice scores.

H5: There will be a statistically significant association between level of practice among trainee staff nurses and their selected personnel variables.

H3: There will be statistically significant relationship between knowledge scores and practice scores of trainee staff nurses regarding tracheostomy care

H4: There will be a statistically significant association between level of knowledge among trainee staff nurses and their selected personnel variables.

Organization of findings

The data collected were tabulated, analyzed and interpreted by using descriptive and inferential statistics. The findings are presented under the following headings.

Section 1: Description of selected Personal variables of study subjects

- Frequency and percentage distribution of trainee staff nurses according to their selected personal variables.

Section 2: Effectiveness of Planned demonstration programme on tracheostomy care among trainee staff nurses

Part-A

a) Description of knowledge scores of trainee staff nurses regarding tracheostomy care
b) Gain in knowledge: comparing pre-test and post-test knowledge scores.

- Significance difference between pre-test and post-test knowledge scores of trainee staff nurses regarding tracheostomy care.

Part-B

c) Description of practice scores of trainee staff nurses regarding tracheostomy care
d) Gain in practice: comparing pre-test and post-test practice scores.

- Significance difference between pre-test and post-test practice scores of trainee staff nurses regarding tracheostomy care.

Section 3: Findings related to association of level of knowledge of trainee staff nurses regarding tracheostomy care with their selected personal variables

Section I: Description of selected personal variables of study subjects

Frequency and Percentage distribution of trainee staff nurses according to their selected personal variables

The study sample comprised of 60 trainee staff nurses from selected hospitals of Mysuru. The selected personal variables were age, gender, educational qualification, working area, have u been trained to giving care for tracheostomy patient during your student period and how frequently tracheostomy patient comes to your ward. The data related to frequency and percentage distribution of sample according to their selected personal variable is presented in **Table 1**.

Table 1: Frequency and Percentage distribution of trainee staff nurses according to their selected personal variables.

n=60

Sl no	Sample characteristics	Frequency	%
1.	**Age in years**		
	1.1) 20-21 years	35	58.3%
	1.2) 22-23 years	25	41.7%
2.	**Gender**		
	2.1) Male	6	10%
	2.2) Female	54	90%
3.	**Educational qualification**		
	3.1) GNM	60	100%
	3.2) PBBSC	0	0
4.	**Working area**		
	4.1) ICU	31	51.7%
	4.2) General ward	20	33.3%
	4.3) Private ward	9	15%
5.	**Have you been trained to giving care for tracheostomy patient during your student period**		
	5.1) Yes	42	70%
	5.2) No	18	30%
6.	**How frequently tracheostomy patient comes to your ward**		
	6.1) Weekly once	0	0
	6.2) Monthly once	34	56.7%
	6.3) Almost always	26	43.3

Age

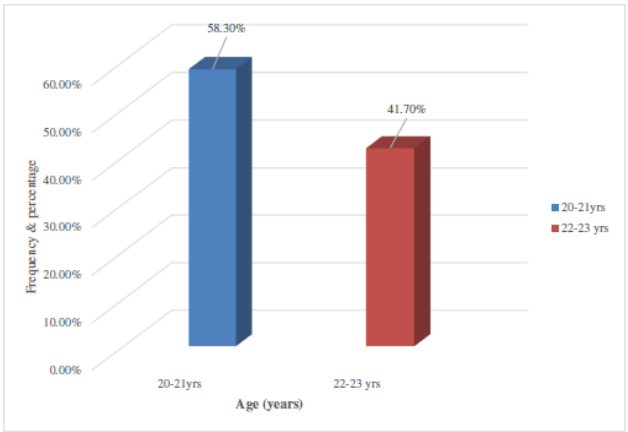

Figure 2: Frequency and Percentage distribution of trainee staff nurses according to their age.

Data Presented Table 1 and Figure 3 shows that, majority of the samples in the study 35 (58.3%) are in the age group of 21 years and 25 (41.7%) of trainee staff nurses in the age group of 22-23 years respectively.

Gender

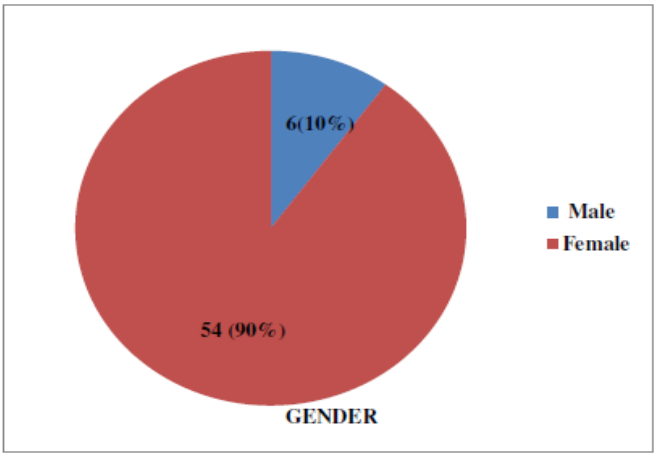

Figure 3: Frequency and Percentage distribution of trainee staff nurses according to their gender.

From Table 1 and Figure 4 it is evident that, majority of the samples 54(90%) were female trainee staff nurses.

Educational qualification

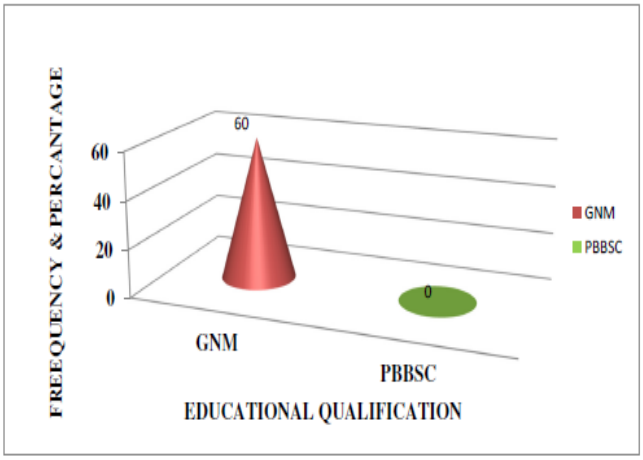

Figure 4: Frequency and Percentage distribution of trainee staff nurses according to their educational qualification.

From Table 1 and Figure 5 it is evident that, all the samples 60(100%) had GNM as their educational qualification.

Working area

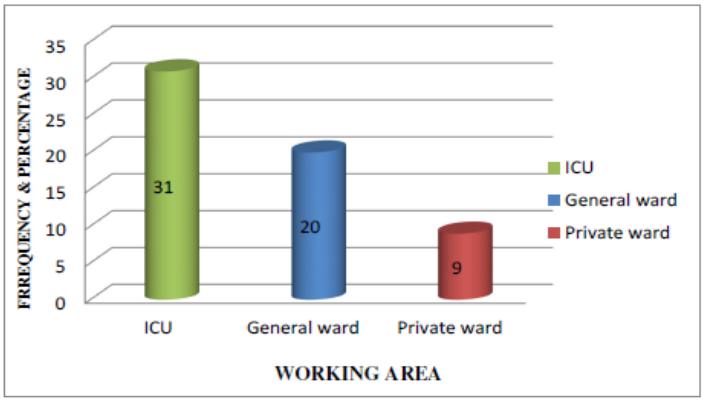

Figure 5: Frequency and Percentage distribution of trainee staff nurse according to their working area.

From the Tatble 1 and figure 6 it is evident that, majority of the samples, 31(51.7%) were working in ICU wards, 20 (33.3%) samples were working in general wards staffs and only 3(15%) trainee staffs nurses were working in private wards.

Previous training regarding care for tracheostomy patient during student period

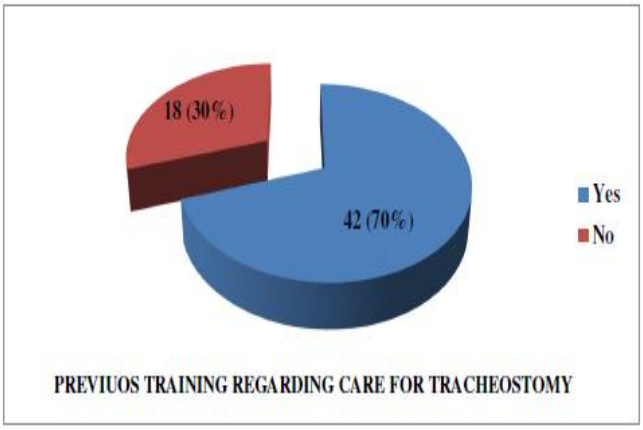

Figure 6: Frequency and percentage distribution of trainee staff nurses according to previous training regarding care of tracheostomy patient during their student period.

From the Tatble 1 and figure 7 it is evident that, majority of the samples 42(70%) were had been to trained to care for tracheostomy patient during your student period and 18 (30%) samples were not had any training programme regarding care for tracheostomy patient during your student period.

Frequency of trachesotomy patient comes to ward

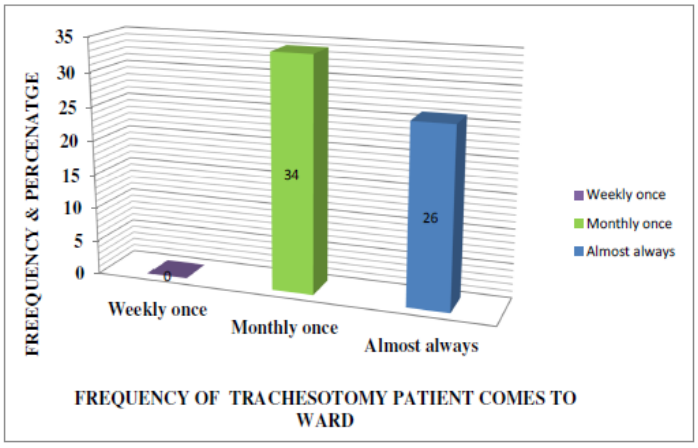

Figure 7: Frequency and Percentage distribution of trainee staff nurses regarding how frequently tracheostomy patient comes to their ward.

From Table 1 and Figure 8 it is evident that, majority of samples 34(56.7%) were had received patient with tracheostomy care monthly once and 26(43.3%) samples were had received the patient of tracheostomy care almost all the time.

Section 2: Effectiveness of planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses

Part-A

a) Description of mean knowledge scores of trainee staff nurses regarding tracheostomy care Mean, Median, Range, Standard deviation of pre-test and post-test knowledge scores of trainee staff nurses regarding tracheostomy care

The pre-test and post-test knowledge score obtained from the subjects were tabulated into a master sheet and mean, median, SD and range were computed, and the findings are presented in the **Table 2.**

Table 2: Mean, Median, Range, Standard deviation of pre-test and post-test knowledge scores of trainee staff nurses regarding tracheostomy care.

n=60

Variable	Pre test scores				Post test scores			
Knowledge	Mean	Median	Range	SD	Mean	Median	Range	SD
	17.38	17.50	13-21	±1.89	25.6	25.5	24-28	±1.18

The data presented in **Table 2** shows that the pre-test mean knowledge scores of trainee staff nurses was 17.38 with SD ±1.89, ranged from 13-21 whereas, the post test mean knowledge score of trainee staff nurses is 25.5 with SD ±1.18 ranged from 24-28.

Table 3: Frequency and Percentage distribution of trainee staff nurses according to their level of knowledge regarding tracheostomy care

Further the knowledge scores were arbitrarily divided as poor knowledge (0-15), average knowledge (16-25), and good knowledge (26-30). The findings are presented in **Table 3.**

Table 3: Frequency and Percentage distribution of trainee staff nurses according to their level of knowledge.

Level of Knowledge	f	n=60 (%)
Pre test		
Poor knowledge(0-15)	14	23.33%
Average knowledge(16-25)	46	76.67%
Good knowledge(26-30)	0	0
Post test		
Poor knowledge(0-15)	0	0
Average knowledge(16-25)	30	50%
Good knowledge(26-30)	30	50%

It is evident from the **Table 3** that in pre-test, majority of the samples 46(76.67%) were had average knowledge and 14(23.33%) were had poor knowledge. In post test, 30(50%) of samples had adequate knowledge, and 30(50%) samples had good knowledge level.

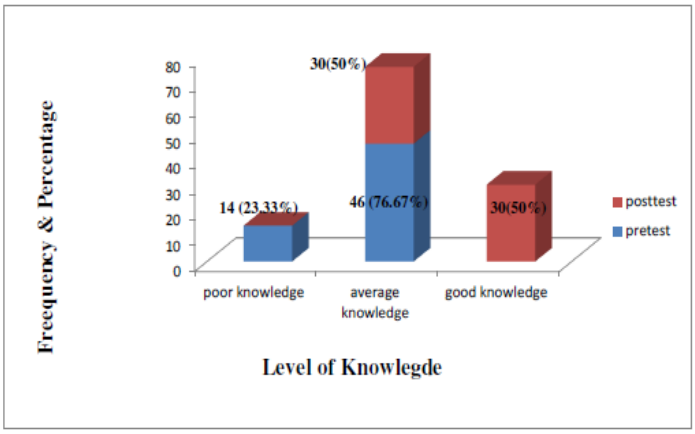

Figure 8: Frequency and percentage distribution of trainee staff nurses according to their level of knowledge.

a) Gain in knowledge: comparing pre-test and post-test knowledge scores

1. Significance of difference between pre-test and post-test knowledge scores of trainee staff nurses regarding tracheostomy care.

In order to find out the significance of difference between the mean knowledge scores of pre-test and post-test, paired 't' value was computed. The data are presented in the **Table 4.** To test the statistical value the following null hypothesis was stated.

H01: There will be no significance difference

between the mean pre test and post test knowledge scores of trainee staff nurses regarding tracheostomy care.

Table 4: Mean, mean difference, SD difference, SEMD, and paired 't' test of pre-test and post- test knowledge scores of trainee staff nurses regarding tracheostomy care.

n=60

Variables	Mean	Mean difference	SD difference	SEMD	't' value
Knowledge					
Pre test	17.38	8.22	±0.72	0.09	**26.97***
Post test	25.60				

t(59): 2.66; p<0.05; * Significant; p>0.05

The data presented in **Table 4** shows that the mean difference between pre-test and post test score was 8.22. To find the significance of difference in knowledge, the paired 't' test was computed and the obtained paired 't' value 26.97 was found to be significant at 0.05 level of significance. Hence, it was inferred that, there is a significant difference in the mean pre-test and post-test knowledge scores of trainee staff nurses regarding tracheostomy care. Thus it was concluded that, planned demonstration Programme was effective in increasing the knowledge of trainee staff nurses regarding tracheostomy care. Hence the null hypothesis is not supported and research hypothesis is accepted and inferred that the mean post-test knowledge score of trainee staff nurses regarding tracheostomy care will be significantly higher than their mean pre-test knowledge score.

Part-B

a) Description of mean practice scores of trainee staff nurses regarding tracheostomy care Mean, Median, Range, Standard deviation of pre-test and post-test practice scores of trainee staff nurses regarding tracheostomy care

The pre-test and post-test practice score obtained from the subjects were tabulated into a master sheet and mean, median, SD and range were computed, and the findings are presented in the **Table5.**

Table 5: Mean, Median, Range, Standard deviation of pre-test and post-test practice scores of trainee staff nurses regarding tracheostomy care.

n=60

Variable	Pre test scores				Post test scores			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Practice	14.98	15.00	12-18	±1.20	21.53	22.00	21-22	±0.50

The data presented in **Table 5** shows that the pre-test mean practice scores among trainee staff nurses was 14.98 with SD ±1.20, ranged from 12-18 whereas, the post test mean practice score is 21.53 with SD ±0.53 ranged from 21-22

Table 6: Frequency and Percentage distribution of trainee staff nurses according to their level of practice regarding tracheostomy care.

Further the practice scores were arbitrarily divided as adequate practice (>90%), inadequate practice (<90%). The findings are presented in **Table 6.**

Table 6: Frequency and Percentage distribution of trainee staff nurses according to their level of practice.

n=60

Level of practice	f	(%)
Pre test		
Inadequate practice (< 90 %)	60	100%
Adequate practice (> 90%)	0	
Post test		
Inadequate practice (< 90%))	0	100%
Adequate practice (>90%)	60	

It is evident from the **Table 6**, in pretest the samples 60(100%) were had inadequate practice(<90%) where as in post test all the samples 60(100%) were had adequate practice(>90%) regarding tracheostomy care.

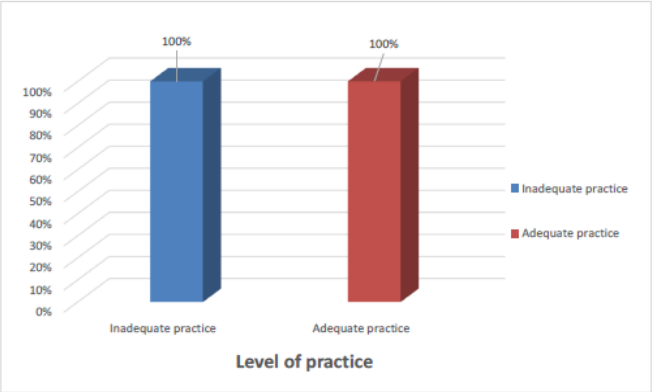

Figure 9: Frequency and Percentage distribution of trainee staff nurses according to their level of practice.

b) Gain in practice: comparing pre-test and post-test practice level Significance of difference between pre-test and post-test practice scores of trainee staff nurses regarding tracheostomy care

In order to find out the significance of difference between the mean practice scores of pre-test and post-test, paired 't' value was computed. The data are presented in the **Table 7.** To test the statistical value the following null hypothesis was stated.

H02: There will be no significance difference between the mean pre test and post test practice scores of trainee staff nurses regarding tracheostomy care.

Table 7: Mean, mean difference, SD difference, SEMD, and paired 't' test of pre-test and post- test practice scores of trainee staff nurses regarding tracheostomy care.

n=60

Variables	Mean	Mean difference	SD difference	SEMD	't' value
Practice					
Pre test	14.98				
		6.55	±0.7	0.09	38.43*
Post test	21.53				

$t_{(59)}$: 2.66; p<0.05; * Significant; p>0.05

The data presented in **Table 5** shows that the mean difference between pre-test and post test score was 6.55. To find the significance of difference in practice, the paired 't' test was computed and the obtained paired 't' value 38.43 was found to be significant at 0.05 level of significance. Hence, it was inferred that, there is a significant difference in the mean pre-test and post-test practice scores of trainee staff nurses regarding tracheostomy care. Thus it was revealed that, planned demonstration Programme was effective in increasing the practice of trainee staff nurses regarding tracheostomy care. Hence the null hypothesis is not supported and research hypothesis is accepted and inferred that the mean post-test practice score of trainee staff nurses regarding tracheostomy care is significantly higher than their mean pre-test practice score.

Section 3: Relationship between knowledge and practices of trainee staff nurses regarding tracheostomy care

The Karl Pearson's correlation coefficient was computed ascertain the relationship between knowledge and practice scores of trainee staff nurses regarding tracheostomy care. The findings were presented in the Table 8.

To test the statistical significance, the following null hypothesis was stated.

H03: There will be no statistical significant relationship between knowledge scores and practice scores of trainee staff nurses regarding tracheostomy care.

Table 8: Correlation coefficient between knowledge and knowledge scores and practice scores of trainee staff nurses regarding tracheostomy care.

n=60

Variables	Mean	Coefficient of correlation (r)	Significance level
Knowledge Scores	17.38		
		0.48*	0.05
Practice Scores	14.98		

t (58): 0.250; p<0.05; * Significant; p>0.05

It is evident from the Table 8, that trainee staff nurses knowledge and practices had positive correlation and it was found statistically significant at 0.05 level of significance Hence the null hypothesis is not supported and research hypothesis is accepted and it was inferred that, there is a significant relationship between knowledge and practice scores of trainee staff nurses regarding tracheostomy care.

Section 4

1. **Findings related to association of the level of knowledge scores of trainee staff nurses regarding tracheostomy care with their selected personal variables**

Chi square values were computed to find out the association between the pre-test level of knowledge and the selected personal variables. The data are presented in **Table 9.** To state it statistically significant following null hypothesis was stated.

Ho4- There will be no significant association between knowledge of trainee staff nurses regarding tracheostomy care with their selected personal variables.

Table 9: Chi square values between level of knowledge of trainee staff nurses regarding tracheostomy care of and their selected personal variables.

n=60

Selected Personal Variables	Below median	Median & Above median	Chi-square
Age in years			
1.1) **20 years**	14	21	**4.87***
1.2) **22 years and Above**	7	8	
Gender			
2.1) **Male**	6	0	**6.23***
2.2) **Female**	25	29	
Working area			
4.1) **ICU**	18	13	
4.2) **General ward**	9	11	# 1.05
4.3) **Private Ward**	4	5	
Have you been trained in giving care for tracheostomy patient during your student period			
5.1) **Yes**	24	8	
5.2) **No**	7	11	1.68
How frequently tracheostomy patient comes to your ward?			
6.1) **Monthly once**	**15**	**19**	1.83
6.2) **Almost Always**	**16**	**10**	

$X^2_{(1)}$= 3.84; $X^2_{(2)}$=5.99; p>0.05; p<0.05 # = yates correction done: * =

Significant: The data presented in Table 9 shows that there was statistical significance between the knowledge of trainees staff nurses with the their age and gender variables. Chi square value computed to find out the association between the pre-test level of knowledge and the age variable was 4.87 which is significant at 0.05 level and Chi square value computed to find out the association between the pre-test level of knowledge and the gender variable was 6.23 which is significant at 0.05 level. Therefore the research hypothesis is partially accepted and null hypothesis is rejected inferred that, there is a significant association between knowledge level of trainee staff nurses regarding tracheostomy care with their selected personal variables such as age and gender.

2. Findings related to association of the level of practice of trainee staff nurses regarding tracheostomy care with their selected personal variables

Chi square values were computed to find out the association between the pre-test level of practice and the selected personal variables. The data are presented in **Table 10.** To state it statistically significant following null hypothesis was stated.

$H_{o}5$- There will be no significant association between practice of trainee staff nurses regarding tracheostomy care with their selected personal variables.

Table 10: Chi square values between level of practice of and their selected personal variables. of trainee staff nurses regarding tracheostomy care

n=60

Selected Personal Variables	Practice level		Chi- square
	Below median	Median & Above median	
Age in years			
1.1) 20 years	8	27	0.042
1.2) 22 years and Above	5	20	
Gender			
2.1) Male	1	5	#0.17
2.2) Female	11	43	
Working area			
4.1) ICU	8	23	
4.2) General ward	3	17	# 0.73
4.3) Private Ward	2	7	
Have you been trained in giving care for tracheostomy patient during your student period			
5.1) Yes	9	33	# 0.04
5.2) No		14	
How frequently tracheostomy patient comes to your ward?			
6.1) Monthly once	9	26	#1.03
6.2) Almost Always	4	21	

$X^2_{(1)}$= 3.84; $X^2_{(2)}$=5.99; **p>0.05; p<0.05 # = yates correction done**

Significant: The data presented in Table 10 shows that there was no statistical significance between the practice of trainees staff nurses with the their selected personal variables. Therefore the null hypothesis is accepted, inferred that, there is no significant association between practice level of trainee staff nurses regarding tracheostomy care with their selected personal variables .

VI. DISCUSSION

The discussion brings the research report to closure. A well- developed discussion section "makes sense" of the research results. This is the most important section of any research report

This chapter presents the discussion of the findings with regards to the study objectives, hypotheses formulated and findings of other studies. The present study is aimed to assess the effectiveness of planned demonstration programme of tracheostomy care among trainee staff nurses in selected hospital in Mysuru.

Major findings of the study

1. Findings related to selected personal variables.
2. Findings related to effectiveness of planned demonstration programme
3. Findings related to relationship between knowledge and practice regarding planned demonstration programme on tracheostomy care.
4. Findings related to association of level of knowledge and there selected personal variables
5. Findings related to association of level of

practice and there selected personal variables

1. Finding related to selected personal variables

- Majority of trainee staff nurses 35 (58.3%) in the study were in the age group of 21 years. Similar findings observed in the study conducted in Vinayaka Mission Hospital, Salem among 50 staff nurses A quasi experimental design was undertaken. And K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka which revealed that 58.3% were in the age group of 21 years.[14,8]
- Majority of the sample 54(90%) were female staff Similar findings observed in the study conducted in K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka. Which revealed that 90% were in the female staffs.[14,8,28]
- Majority of the samples 60(100) had GNM as their educational qualification Similar findings observed in the study conducted in K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka. Which revealed that 100% were had qualification of GNM.[14.8]
- Majority of the samples 31(51.7%) were working in ICU, 20(33.3%) sample were working in general ward staffs in K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka. which revealed that 51.7 % staff r working in ICU.[14]
- Majority of the samples 42(70%) were had been to trained care for tracheostomy patient during the student period and 18 (30%) samples not have any training programme regarding care for tracheostomy patient during the student period.
- Majority of samples 34(56.7%) were had received patient with tracheostomy care monthly once and 26(43.3%) samples were had received the patient of tracheostomy care almost all the time.

2. Findings related to effectiveness of planned demonstration programme

- Findings of the study shows that trainee staff nurses 46(76.67%) were had average knowledge and 14(23.33%) were had poor knowledge. In post test, 30(50%) of samples had average knowledge, and 30(50%) samples had good knowledge level. Similar findings observed in a study conducted to assess the knowledge and skills on tracheostomy care among staff nurses working in selected hospitals of district Mohali, Punjab.[32]
- The mean pre-test mean knowledge scores of trainee staff nurses was 17.38 with SD ±1.89, ranged from 13 — 21 whereas, the post test mean knowledge score of trainee staff nurses is 25.5 with SD ±1.18 ranged from 24-28.
- Findings of the study shows that trainee staff nurses 60(100%) were had inadequate practice(<90%) in pre tets where as in post test all the samples 60(100%) were had adequate practice(>90%) regarding tracheostomy care. The pre-test mean practice scores among trainee staff nurses was 14.98 with SD ±1.20, ranged from 12-18whereas, the post test mean practice score is 21.53 with SD ±0.53 ranged from 21-22.
- Hence the planned demonstration programme was effective to improve the knowledge and skill of trainee staff nurses regarding tracheostomy care.

3. Findings related to relationship between Knowledge and Practice regarding planned demonstration programme on tracheostomy care

- Finding of the study revealed that there was statistically significant relationship between the knowledge and practice scores regarding tracheostomy care. At 0.05 level of significance Hence the null hypothesis is not supported and research hypothesis is accepted and it was inferred that, there is a significant relationship between knowledge and practice scores of trainee staff nurses regarding tracheostomy care.

4. Findings related to association of level of knowledge and their selected personal variables

- Findings of the study revealed that there was statistically significant association between the knowledge of trainee staff nurses regarding tracheostomy care and their age and gender. Therefore the research hypothesis is partially accepted and null hypothesis is rejected and is inferred that, there is a significant association between knowledge level of trainee staff nurses regarding tracheostomy care with their selected personal variables such as age and gender. Similar study findings also reveled that there will be significant association between knowledge level of trainee staff nurses regarding tracheostomy care with their selected personal variables such as age and gender.[13]

5. Findings related to association of level of practice and there selected personal variables

- Findings of the study revealed that there was no statistical significance between the practice of trainees staff nurses with the their selected personal variables. Therefore the null hypothesis is accepted, inferred that, there is no significant association between practice level of trainee staff nurses regarding tracheostomy care with their selected personal variables. Similar study findings also reveled that there will be no significant association between level of practice of trainee staff nurses regarding tracheostomy care with their selected personal variables.[13]

Summary

This chapter had dealt with the discussion of research findings based on the objectives and hypotheses of the study. The supporting studies were included in this chapter to enlighten the study findings.

VII. CONCLUSION

The main aim of the present study was to assess the effectiveness of planned demonstration programme on knowledge and practice regarding tracheostomy care. Data was collected from 60 trainee staff nurses working in selected hospital in Mysuru. The collected data was analyzed by using descriptive and inferential statistics and presented in the form of tables and figures. Frequency and percentage distributions mean, median, standard deviation was computed to analyze knowledge and practice score regarding tracheostomy care among trainee staff nurses. Chi square was applied to find out the association between level of knowledge level of practice regarding tracheostomy among trainee staff nurses with their selected personal variables. The study finding revealed that in that the pre-test mean knowledge scores of trainee staff nurses was 17.38 with SD ±1.89, ranged from 13-21 whereas, the post test mean knowledge score of trainee staff nurses is 25.5 with SD ±1.18 ranged from 24-28. The practice the pre-test mean practice scores among trainee staff nurses was 14.98 with SD ±1.20, ranged from 12-18; whereas, the post test mean practice score is 21.53 with SD ±0.53 ranged from 21-22.

The study revealed that there was statistically significant relationship between the knowledge and practice scores regarding tracheostomy care. At 0.05 level of significance Hence the null hypothesis is not supported and research hypothesis is accepted and it was inferred that, there is a significant relationship between knowledge and practice scores of trainee staff nurses regarding tracheostomy care. Findings of the study revealed that there was statistically significant association between the knowledge of trainee staff nurses regarding tracheostomy care and their age and gender. Findings of the study revealed that there was no statistical significance between the practice of trainees staff nurses with the their selected personal variables.

The study concluded that nursing staff and student can consider the outcome of the study to plan and provide tracheostomy care for the patients admitted in hospital ward and critical care units, which will be helpful to prevent complication associated with tracheostomy and also to maintain quality of nursing care.

Summary

This chapter gives the summary of the study, salient features, limitations, implication and recommendations for nursing practice, nursing education, nursing administration and nursing research.

Statement of the problem

"A study to assess the effectiveness of Planned demonstration program me on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru**"**.

Objectives

1. To assess the knowledge and Practice regarding tracheostomy care among trainee staff nurses.
2. To evaluate the effectiveness of Planned demonstration programme on tracheostomy care among trainee staff nurses.
3. To find the relationship between knowledge and practice regarding tracheostomy care.
4. To find the association between level of knowledge and their selected personnel variables.
5. To find the association between level of practice and their selected personnel variables

Hypotheses

H1: The mean post test knowledge scores of trainee staff nurses regarding tracheostomy care will be significantly higher than the mean pre test knowledge scores.

H2: The mean post test Practice scores of trainee staff nurses regarding tracheostomy care will be significantly higher than the mean pre test practice scores.

H3: There will be statistically significant relationship between knowledge scores and practice scores of trainee staff nurses regarding tracheostomy care

H4: There will be a statistically significant association between level of knowledge among trainee staff nurses and their selected personnel variables.

H5: There will be a statistically significant association between level of practice among trainee staff nurses and their selected personnel variables.

Conceptual/ Theoretical framework

The conceptual frame work of this study will be based on Imogen King's goal attainment theory. The framework of the study is based on imagine goal attachment theory (1960). This study is based on an assumption that humans are open systems in constant instruction with environment. The conceptual framework is composed of three interacting system, namely

i. Personal system
ii. Interpersonal and
iii. Social system

Kings identifies several concepts for each system concepts for personal system consists of variables that are unique to each person. It includes perception, self, growth and development, Body image, space time. Interpersonal system includes the variables that exist when interaction between the persons occur. The concept is related to interpersonal system are Interaction, Communication, Transaction, Role & knowledge concepts for social system occur when socially accepted roles and boundaries are accepted and followed as a mechanism to regulate interaction. It includes organization, authority, power, status, decision making

Methodology

An Pre experimental approach was adopted for the study. The samples were selected using Non probability purposive sampling technique. The data was collected with the structured knowledge questionnaire and structured observation check list regarding tracheostomy care. The tool was validated by six experts. The reliability of the tool was established through split half method for structured knowledge questionnaire and r value was found to be r = 0.78. and rater inret method for structured observation check list and r value was found to be r = 0.87 and the tool was found to be reliable. Pilot study was conducted on 22.7.2022. The tool and study design was found to be feasible. The data were collected from 05.5.2022. to 25.5.2022 The data analysis was done using both descriptive and inferential statistical methods.

Salient findings of the study

1) Findings related to selected personal variables.
2) Findings related to effectiveness of planned demonstration programme
3) Findings related to relationship between knowledge and practice regarding planned demonstration programme on tracheostomy care.
4) Findings related to association of level of knowledge and there selected personal variables
5) Findings related to association of level of practice and there selected personal variables

1. Finding related to selected Personal variables

- Majority of trainee staff nurses 35 (58.3%) in the study were in the age group of 21 years. Similar findings observed in the study conducted in Vinayaka Mission Hospital, Salem among 50 staff nurses A quasi experimental design was undertaken. And K.L.E.S Dr. Prabhakar Hospital and MRC, Belagavi, Karnataka which revealed that 58.3% were in the age group of 21 years.[14,8]
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- Majority of the samples 42(70%) were had been to trained care for tracheostomy patient during the student period and 18 (30%) samples not have any training programme regarding care for tracheostomy patient during the student period.
- Majority of samples 34(56.7%) were had received patient with tracheostomy care monthly once and 26(43.3%) samples were had received the patient of tracheostomy care almost all the time.

2. Findings related to effectiveness of planned demonstration programme

- Findings of the study shows that trainee staff nurses 46(76.67%) were had average knowledge and 14(23.33%) were had poor knowledge. In post test, 30(50%) of samples had average knowledge, and 30(50%) samples had good knowledge level. Similar findings observed in a study conducted to assess the knowledge and skills on tracheostomy care among staff nurses working in selected hospitals of district Mohali, Punjab.
- The mean pre-test mean knowledge scores of trainee staff nurses was 17.38 with SD ±1.89, ranged from 13 —— 21 whereas, the post test mean knowledge score of trainee staff nurses is 25.5 with SD ±1.18 ranged from 24-28
- Findings of the study shows that trainee staff nurses 60(100%) were had inadequate practice(<90%) in pre test where as in post test all the samples 60(100%) were had adequate practice(>90%) regarding tracheostomy care. The pre-test mean practice scores among trainee staff nurses was 14.98 with SD ±1.20, ranged from 12-18whereas, the post test mean practice score is 21.53 with SD ±0.53 ranged from 21-22.
- Hence the planned demonstration programme was effective to improve the knowledge and skill of trainee staff nurses regarding tracheostomy care

3. Findings related to relationship between knowledge and practice regarding planned demonstration programme on tracheostomy care

- Finding of the study revealed that there was statistically significant relationship between the knowledge and practice scores regarding tracheostomy care. At 0.05 level of significance Hence the null hypothesis is not supported and research hypothesis is accepted and it was inferred that, there is a significant relationship between knowledge and practice scores of trainee staff nurses regarding tracheostomy care.

4. Findings related to association of level of knowledge and their selected personal variables

- Findings of the study revealed that there was statistically significant association between the knowledge of trainee staff nurses regarding tracheostomy care and their age and gender. Therefore the research hypothesis is partially accepted and null hypothesis is rejected and is inferred that, there is a significant association between knowledge level of trainee staff nurses regarding tracheostomy care with their selected personal variables such as age and gender. Similar

study findings also reveled that there will be significant association between knowledge level of trainee staff nurses regarding tracheostomy care with their selected personal variables such as age and gender.

5. Findings related to association of level of practice and there selected personal variables

- Findings of the study revealed that there was no statistical significance between the practice of trainees staff nurses with the their selected personal variables. Therefore the null hypothesis is accepted, inferred that, there is no significant association between practice level of trainee staff nurses regarding tracheostomy care with their selected personal variables. Similar study findings also reveled that there will be no significant association between level of practice of trainee staff nurses regarding tracheostomy care with their selected personal variables.

Implications

The findings of present study have implications for nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

Several implications can be drawn from the findings of the present study for nursing practice. The present study findings as well as the review of literature show that tracheostomy care one of the most important and aseptic procedure that every trainee staff nurses should know. It is a skilled procedure which need to be taught/ demonstrated to every fresher during the adaptation programme. The present study also revealed that knowledge and practice regarding tracheostomy about tracheostomy care was respectively educational and training programmes can be conducted to enhance the knowledge and demonstration will help.

Nursing education

The nurse educators have the additional responsibility to up-date the trainee staff ans staff nurses regarding tracheostomy care. The findings of the study can help the nursing staffs and nurse educators to enhance their knowledge and practice of regarding tracheostomy care. The topic can be implement in the syllabus to upgrade the knowledge about tracheostomy care.

Nursing administration

Nurse administrator can plan and organize educational programme for the staff nurses especially who are working in hospital ICU, wards and postoperative units. Continuing nursing education enables the learner to keep abreast of changes and development in his/her field of specialty.

Nursing research

This topic has a great importance in the present day scenario of the health as the study documented that trainee nurses had in adequate practice regarding tracheotomy care. Further research can be carried out in this particular area to sensitize the staffs enhance the knowledge regarding tracheostomy care of healthy behavioral change and to incorporate into their daily life activities of the patient care.

Limitations

The limitations of the present study were:

1. The study was limited to trainee staff nurses in selected hospital in Mysuru.
2. The sample size was limited to 60; hence, this limits the generalization of findings beyond the study samples.

Recommendations

1. Similar study can be carried out on a larger sample for broader generalization.
2. The similar study can be carried out using an experimental design to assess the effectiveness of structured teaching programme on tracheostomy care.

Summary

This chapter had dealt with the brief summary of the study. The first section of this chapter summarized the methodology with the brief discussion on salient features of the study. The next section discussed the implications for nursing practice, nursing education, nursing administration, nursing research and the limitations and recommendations of the study.

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To God be all glory, honour, praise, wisdom and thanksgiving whose abiding grace made this study a great success. I acknowledge God the almighty for His bountiful blessing and unending graces made it possible to successfully complete this study.

This study has been done under the professional guidance and encouragement of my guide ***Mrs. Aswathy Devi M.K*** *Principal and professor Department of Medical Surgical Nursing, JSS College of Nursing, Words fail to express my gratitude to her, for her keen interest, sustained patience and motivation that opened a new window for my learning experience. Her strong determination and valuable suggestions ignited the inner motives to explore the possibilities and learn better till I accomplished my goal. I consider it as a great honour and privilege to be guided by her.*

I would like to express my sincere gratitude to ***Mrs. Anitha Victoria Noronha,*** *Associate Professor, Dept. Of Medical Surgical Nursing, JSS College of Nursing, Mysuru, for her worthwhile support and scholarly advices to make my efforts into reality.*

I would like to express my sincere gratitude to ***Mrs. Usha Thomas****, Professor, Medical Surgical Nursing, JSS College of Nursing, Mysuru, for her worthwhile support*

and scholarly advices to make my efforts into reality.

*I would like to express my sincere gratitude to **Mrs. Janet Mathias**, Chief of Nursing Services, JSS Hospital, for valuable guidance, direction, encouragement, inspiration, support as well as providing all facilities for the successful completion of this study.*

*I would like to acknowledge a deep sense of gratitude to all my **PG teachers**, JSS College of Nursing, Mysuru, for their esteemed guidance, critical comments and continuous inspiration to make this piece of work successful.*

*I am profoundly thankful to all the **experts** who have contributed their valuable suggestions in validating the tools.*

*I awe my indebtedness to the **authorities of the institutions,** where my studies were conducted and express my thanks to the **pupils** there. Their cooperation and willingness for being instrumental to my research process was immensely helpful to me.*

*A work of commendation is due to **Mr. Keshavamurthy**, Assistant Librarian, JSS College of Nursing, Mysuru. His assistance was most essential in carrying out the reviews of literature.*

*Sincere gratitude is expressed to **Mr. Selva Kumar**, Hangout Computers who helped in the graphic designing of the data.*

I owe my heartfelt gratitude to my friends and classmates for their help and support through this project.

*My healthy ovation of gratitude to most important persons in my life who were always near or far, never letting me down in any difficulties, words fall short to express my immense debts to my father **Mr. Anwar Basha K M**, my mother **Mrs. Jameela Begum** and my loving wife **Mrs. Shahista Taranum M G** for all unconditional love, supports, inspiration and encouragement throughout the fluctuating hard times.*

Lastly, I am grateful to all of them who have directly and indirectly helped me in the completion of this venture and pray the almighty God to bless all of them in abundance.

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Annexure-A
List of experts for tool validation

1. Dr. Sandhya Assistant Professor Dept. of ENT JSS Hospital Mysuru
2. Dr. Sarika M Shetty Associate Professor Dept. of Anesthesiology JSS Hospital Mysuru
3. Mrs. Janet Mathias Chief of nursing services JSS Hospital Mysuru
4. Prof.Sheela.A.J.Williams Principal, DR. B. R. Ambedkar Institute Of Nursing Bangalore
5. Mr. Ashwin Bromeo Associate Professor Dept. of MSN Father Muller College of Nursing Manguluru
6. Mrs. Dakshayini Principal Govt College of Nursing Holenarasipura

Annexure-B
Letter seeking expert opinion for content validity
From,
To,
Naveed Pasha A
II Year M.Sc. Nursing Student JSS College of Nursing Ramanuja Road
Mysuru
Respected Sir / Madam,

Subject: Requesting the opinion and suggestions by expert for establishing content validity of research tool
I am IInd year M.Sc. Nursing student of JSS College of Nursing, Mysuru. In partial fulfilment of the course requirement, I have to undertake a research project to be submitted to Rajiv Gandhi University of Health Sciences, Bangalore. The title of my project is **"Statement of the Problem; A study to assess the effectiveness of Planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru."**

I have prepared the following tools (copy enclosed) for the purpose of data collection and request you to go through the content of following tools for relevancy and appropriateness, which will help me to establish the content validity of these tools.

1. **Section A-Performa for selected personal variables**
2. **Section B-Structured knowledge questionnaire to assess the knowledge**
3. **Section c-Structured observational checklist to assess the practice**

Here with, I am enclosing the copy of the objectives of the study, hypothesis and criterion for content validity. Kindly go through these tools and give your valuable suggestion in the space provided against each item in the tool.
Your opinion and kind cooperation will be highly appreciated and acknowledged. I have enclosed a self-addressed stamped envelope for the return speed post.
Thanking you in anticipation
Place:
Date: Your Sincerely Naveed Pasha A

Annexure-C
Consent form
Dear Respondent,
I am Naveed Pasha A M.Sc. Nursing student of JSS College Of Nursing, Mysuru In Partial Fulfilment of the course requirement I have to Undertake a research project which is to be submitted to RGUHS, Bengaluru.

The purpose of the study is "To assess the effectiveness of Planned demonstration Programme on Knowledge and Practice regarding Tracheostomy care among trainee staff nurses in selected hospital Mysuru''. You are requested to participate in the study by filling the simple questionnaire which may take 30 to 40 minutes to complete.

Your kind cooperation is highly esteemed and your honest response are valuable I assure you that the information given by you will kept strictly confidential and used only for study purpose. If you are willing to Participate in this study please do sign in the consent form given below
Thanking You,

Date: Yours sincerely
Place: (Naveed Pasha A)

Consent form
I have been informed the purpose of the study and voluntarily give my consent to participate in this study.

Place: Signature of the respondent
Date: Name:

Annexure-D
Proforma for selected personal variables

Code no: [ ]

Instruction
Dear respondents,
I request you to answer the following questions regarding Personal variable with most appropriate response by marking tick mark( ) against each question. Information provided by you will be kept confidential and used only for the study purpose

1. Age in years
2. Gender
3. Educational Qualification

a. G.N.M
b. Basic Bsc/P.B.Bsc

4. Work experience
5. Working Area
6. Have you experienced in giving care for tracheostomy Patients during your student period

a. Yes
b. No

7. How Frequently tracheostomy patients comes to your ward

a. Weekly once
b. Monthly once
c. Almost always

Annexure-E
Structured knowledge questionnaire to assess the knowledge of trainee staff nurses regarding tracheostomy care
Instruction

Dear respondents,
I request you to answer the following questions regarding Tracheostomy care with most appropriate response by marking tick mark( ) against each question. Information provided by you will be kept confidential and used only for the study purpose.

1 Trachea is known as
1.1 Hypo pharynx.
1.2 Windpipe
1.3 Voice box
1.4 Epiglottis

2. Tracheostomy commonly performed downward to the level
2.1 5^{th} thoracic Vertebrae
2.2 6^{th} thoracic Vertebrae
2.3 7^{th} thoracic Vertebrae
2.4 8^{th} thoracic Vertebrae

3. Trachea approximately measures in adults
3.1 10 to 11cm
3.2 18 to 20cm
3.3 24 to 30cm
3.4 32 to 40cm

4. Number of hyaline cartilage is present in trachea
4.1 5 to10
4.2 10 to16
4.3 16 to20

4.4 20 to30

5. Important function of trachea EXECPT
5.1 Cough reflex
5.2 Patency of airway
5.3 Passage of food
5.4 Mucociliary escalator

6. Most common surgical site for Tracheostomy
6.1 Between 1st and 2nd Cartilage
6.2 Between 2nd and 3rd Cartilage
6.3 Between 4th st and 5th Cartilage
6.4 Between 6th and 7th Cartilage

7. Different types of Tracheostomy tube
7.1 Cricothyroide tube
7.2 E T tube cuffed and uncuffed
7.3 Plain cuffed and uncuffed fenestrated/ flange
7.4 Single canola with the tube

8. Tracheostomy is necessary in care of which Patients.
8.1 Endo-tracheal tube cannot be inserted
8.2 Contraindication in severe burns
8.3 Laryngeal obstruction
8.4 All of above

9. Indication for tracheostomy is
9.1 Obstruction in airway
9.2 Obstruction in nasal cavity
9.3 Obstruction in bronchi
9.4 Obstruction in the oral cavity

10. Tracheostomy tube is commonly made up of
10.1 Copper
10.2 Steel
10.3 Plastic
10.4 Zinc

11. Size of tracheostomy tube used for adults
11.1 4. to 5.5mm
11.2 7.to 7.5mm
11.3 10 to 10.5mm
11.4 12 to 12.5mm

12. Criteria for selecting the Tracheostomy tube size depends on
12.1 Inner diameter and external diameter
12.2 Length and inner diameter in millimeter
12.3 Length and external diameter
12.4 Inner diameter and external diameter

13. Parts of tracheostomy tube are
13.1 Outer cannula
13.2 Inner cannula
13.3 Cuff
13.4 All of the above

14. Cuff inflation pressure should not exceed more than
14.1 20mm of Hg
14.2 30mm of Hg
14.3 40mm of Hg

14.4 50mm of Hg

15 Size of suction catheter used for adult
15.1 6 or 8 French
15.2 10 or 12 French
15.3 14 or16 French
15.4 20 or 22 French

16 Recommended duration for Suctioning in tracheostomy
16.1 10seconds
16.2 15seconds
16.3 20seconds
16.4 25seconds

17 The main aim of suctioning is to
17.1 Maintain patient airway
17.2 Stimulate cough reflex
17.3 Prevent infection
17.4 All of the above

18 Which among the following is important prior to do tracheostomy suctioning
18.1 Ear suctioning
18.2 Nasal suctioning
18.3 Oral suctioning
18.4 All of above

19 Before doing the tracheostomy care assess the condition of stoma for the
19.1 Redness
19.2 Swelling
19.3 Discoloration
19.4 Bleeding

20 Solution used to clean the tracheostomy site is
20.1 Hydrogen peroxide
20.2 Sodium hypochloride
20.3 Betadin Solution
20.4 Zidex solution

21 Tape to secure the tracheostomy tube should be loose at the stoma
21.1 5 finger loose
21.2 4 finger loose
21.3 2 finger loose
21.4 1 finger loose

22 Tracheostomy site should be kept clean and dry is to
22.1 Avoid dislodgement of tube
22.2 Prevent tube obstruction
22.3 Prevent coughing
22.4 Prevent infection

23 Hand washing essential is before and after the procedure to
23.1 Reduce the contamination of the article
23.2 Reduce risk of cross infection
23.3 Reduce risk of infection to patient
23.4 Reduce risk of infection to nurse

24 Sign of respiratory difficulty in tracheostomy patients
24.1 Nasal breathing
24.2 Restlessness cyanosis
24.3 Intercostal retraction

24.4 All of the above

25 Patient on Tracheostomy should be constantly observe for
25.1 Tube displacement
25.2 Fever
25.3 Headache
25.4 Cold extremities

26 Precaution to be followed while giving tube feeding for tracheostomy Patient
26.1 Inflate cuff for at least 1 hr after feeding
26.2 Deflate cuff before feeding
26.3 Inflate cuff before feeding
26.4 All of the above

27 Complication of poor suction technique
27.1 Air way obstruction
27.2 Cross infection
27.3 Edema of the face
27.4 Plural effusion

28 How frequently Cuff pressure should be monitored
28.1 6Hour
28.2 12Hour
28.3 24Hour
28.4 48Hour

29 During the first day of tracheostomy ,the trachea should be suctioned every
29.1 Half hourly
29.2 One hourly
29.3 Two hourly
29.4 Four hourly

30 Complication of tracheostomy
30.1 Bleeding
30.2 Obstruction of airway
30.3 Cardiac arrest
30.4 Disturbed sleep

Annexure-F
Structuered observation check list.

Instructions: The investigator will observe the performance of the staff by using this check list and the steps are performed properly the score will be given as (1) and if not performed the score will be given as (0)

Code No:

L No.	Steps	Performed(1)	Not performed(0)
1	Gather supplies: bedside table, sterile gloves, pulse oximeter, PPE		
2	Perform hand hygiene.		
3	Introduce yourself, your role, the purpose of your visit and explain the process		
4	Confirm patient ID using two patient identifiers (e.g., name and IP NO).		
5	Ensure the patient's privacy and dignity.		
6	Place the patient in a semi-Fowler's position.		
7	Perform hand hygiene and Don appropriate PPE		
8	Perform tracheal suctioning if indicated		
	Remove and discard the tracheostomy dressing. Inspect drainage		

9	on the dressing for colour and amount and note any odour.		
10	Inspect stoma site for redness and signs and symptoms of infection.		
11	Remove the gloves and perform proper hand hygiene.		
12	Don sterile gloves		
13	Use sterile gauze to dry the area.		
14	Clean the area with sterile gauze using the forceps wipe the outer edge of stoma in single stroke only		
15	Replace tracheostomy ties as needed. Carefully remove the existing one		
16	Keep the betadine wet gauze around the stoma		
17	Keep the wet gauze to the tracheostomy tube if patient does not have in oxygen		
18	Remove gloves and perform proper hand hygiene discard in the biomedical waste as per policy		
19	Provide oral care.		
20	Assist the patient to a comfortable position, ask if they have any questions, and thank them for their time.		
21	Perform hand hygiene.		
22	Document the procedure and related assessment findings.		
	Total		

Annexure-G1

Criterion checklist for validation of selected personal variables

Dear validator,

Please go through the check list given below and place a tick mark (√) against the criteria of each item. The fourth column is for your valuable suggestion in case you find the respective item is not relevant or needs modification.

Item Number	Relevant	Not relevant	Need modification	Suggestion if not relevant/ need modification
1.				
2.				
3.				
4.				
5.				
6.				
7.				

Overall opinion **Signature and Seal of the validator**

Annexure-G2

Criterion Structured knowledge questionnaire to assess the knowledge of trainee staff nurses regarding tracheostomy care

Dear Validator,

Please go through the checklist given below and place a tick mark (√) against the criteria of each item. The fourth column is for your suggestions in case you find the respective item is not relevant or needs modification.

Item Number	Relevant	Not relevant	Needs modification	Suggestions if not relevant/ needs modification
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

9.				
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26.				
27.				
28.				
29.				
30.				

Overall opinion **Signature and seal of validator**

Annexure-G3

Criterion Structured observational check list of trainee staff nurses regarding tracheostomy care

Dear Validator,

Please go through the checklist given below and place a tick mark (√) against the criteria of each item. The fourth column is for your suggestions in case you find the respective item is not relevant or needs modification.

Item Number	Relevant	Not relevant	Needs modification	Suggestions if not relevant/ needs modification
1.				
2.				
3.				
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21.				

Annexure-H

Certificate of validation

This is to certify that the tool used by Mr. Naveed Pasha A 2nd year MSc. Nursing student, (Medical Surgical Nursing) of JSS College Of Nursing, Ramanuja Road, Mysuru – 4,working on dissertation titled "A study to assess the effectiveness of Planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru, has been validated by me and can be used for data collection.

Suggestions:
Tool:
Adequacy of tool measure objectives:
Organization of the tool:
Feasibility of the tool:
Signature: Name: Date: Institute: Place

Annexure-I

Letter seeking permission to conduct research

JSS COLLEGE OF NURSING, MYSURU-04

JSS/Com/44/2022-23 12.04.2022

To, Date:

The Medical Superintendent

JSS Hospital

Mysuru

Respected Sir/Madam

Subject: Requesting for permission to conduct Reliability

This is to introduce Mr. Naveed Pasha A II year MSc Nursing student of this college. He is conducting a research project which is to be submitted to RGUHS, Bangalore in partial fulfillment of the University for the Award of the Master of Nursing degree.

The topic of the study is as follows,

"A study to assess the effectiveness of Planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru.

As per his study plan, he needs to conduct the reliability study among staff nurses. I shall be obligated to you if you could kindly grant him permission to carry out the research study from 9.04.2022 to 15.04.2022. in your esteemed hospital. Further information of required will be furnished by the student personally.

Thanking you

permitted

MEDICAL SUPERINTENDENT
J.S.S. Hospital, M.G. Road
MYSORE-570 004

Yours sincerely,

Mrs. Aswathy Devi,
Principal.

PRINCIPAL
J.S.S. COLLEGE OF NURSING

Annexure-I

JSS COLLEGE OF NURSING, MYSURU-04

JSS/CON/MYS/2022-23 Dt:-12.04.2022

Date:

To,

The Medical Superintendent

JSS Hospital

Mysuru

Respected Sir/Madam

Subject: Requesting for permission to conduct the pilot study and the main research study

This is to introduce Mr. Naveed Pasha A II-year MSc Nursing student of this college. He is conducting a research project which is to be submitted to Rajiv Gandhi University of Health Sciences, Bengaluru in partial fulfillment of the University for the Award of the Master of Nursing degree.

The topic of the study as follows.

"A study to assess the effectiveness of Planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru

As per his study plan, he needs to conduct the pilot study and Main research study among Trainee staff nurses. I shall be obligated to you if you could kindly grant him permission to carry out the research study from 15-04-2022 to 21-05-2022. Further information if required will be furnished by the student personally.

Thanking you,

MEDICAL SUPERINTENDENT
J.S.S. Hospital, M.G. Road
MYSORE-570 004

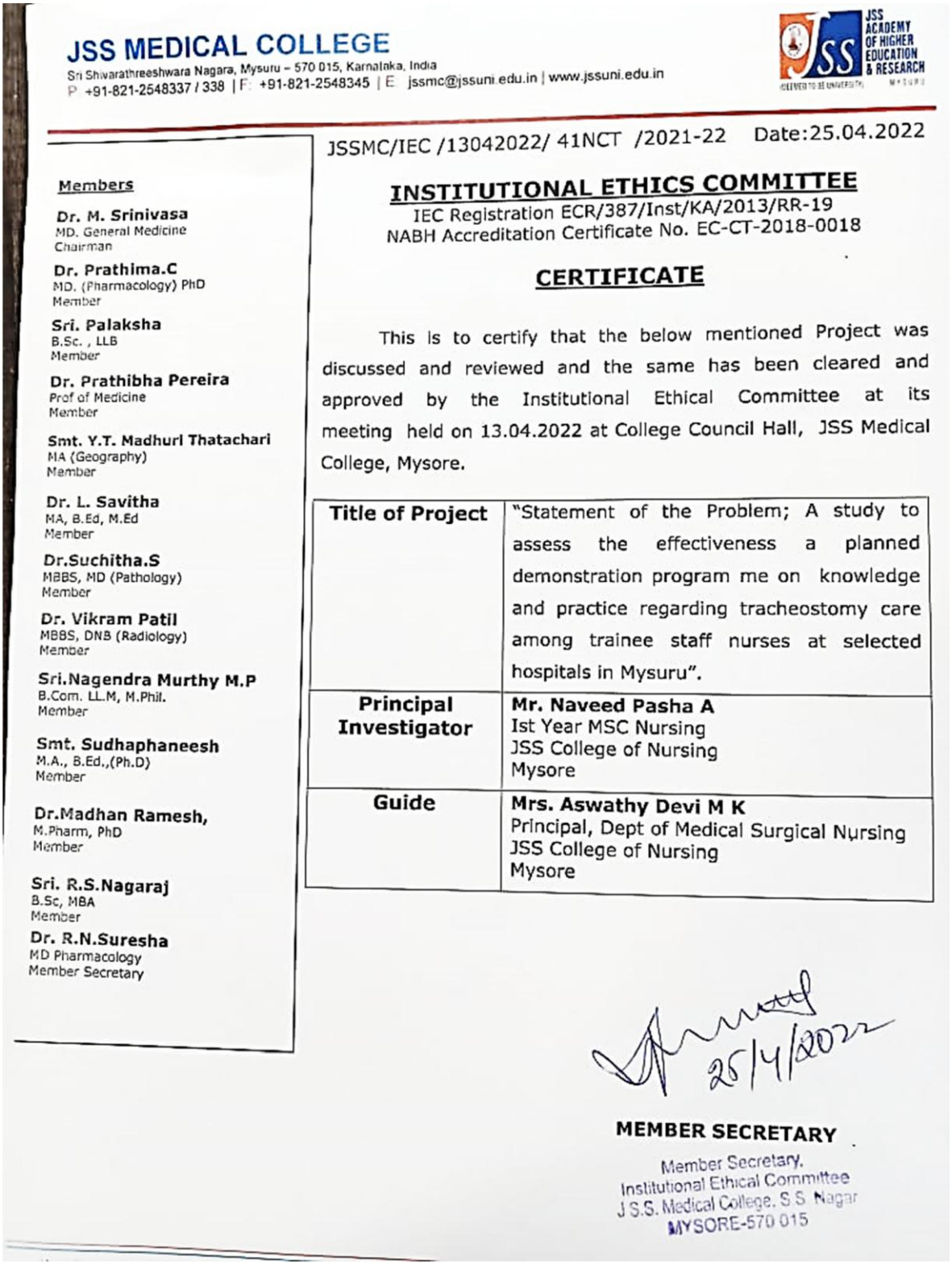
Yours Sincerely,

Mrs. Aswathy Devi,

Principal.

PRINCIPAL
J.S.S. COLLEGE OF NURSING
MYSORE

Annexure-J
Ethical clearance certificate



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JSS ACADEMY OF HIGHER EDUCATION & RESEARCH

JSSMC/IEC /13042022/ 41NCT /2021-22 Date:25.04.2022

INSTITUTIONAL ETHICS COMMITTEE
IEC Registration ECR/387/Inst/KA/2013/RR-19
NABH Accreditation Certificate No. EC-CT-2018-0018

CERTIFICATE

This is to certify that the below mentioned Project was discussed and reviewed and the same has been cleared and approved by the Institutional Ethical Committee at its meeting held on 13.04.2022 at College Council Hall, JSS Medical College, Mysore.

Title of Project	"Statement of the Problem; A study to assess the effectiveness a planned demonstration program me on knowledge and practice regarding tracheostomy care among trainee staff nurses at selected hospitals in Mysuru".
Principal Investigator	**Mr. Naveed Pasha A** Ist Year MSC Nursing JSS College of Nursing Mysore
Guide	**Mrs. Aswathy Devi M K** Principal, Dept of Medical Surgical Nursing JSS College of Nursing Mysore

Members

Dr. M. Srinivasa
MD. General Medicine
Chairman

Dr. Prathima.C
MD. (Pharmacology) PhD
Member

Sri. Palaksha
B.Sc. , LLB
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Annexure-K
Certificate of editing

This is to certify that the manuscript of the study **"A study to assess the effectiveness of planned demonstration programme on knowledge and practice regarding tracheostomy care among trainee staff nurses in selected hospital at Mysuru".** prepared by Naveed Pasha A, II Year M.Sc. Nursing student of JSS College of Nursing has been edited by me.

Signature:
Name:
Designation:
Address:

Annexure-L
Administration of Planned demonstration Programme.

Day	Batch	Demonstration (pdp)	Re demonstration(day 7)
1	1		
2	2		
3	3		
4	4		
5	5		
6	6		
7	7		✓ 1
8	8	✓	✓ 2
9	9	✓	✓ 3
10	10	✓	✓ 4
11			✓ 5
12			✓ 6
13			✓ 7
14			✓ 8
15			✓ 9
16			✓ 10

The following chart will show the demonstration of tracheostomy care among trainee staff nurses in batch wise each batch consist of 6 trainee staff nurses total 10 batches for 16 days schedule.

Lesson plan on tracheostomy care planned demonstration programme on tracheostomy care.

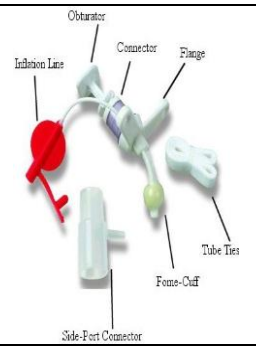
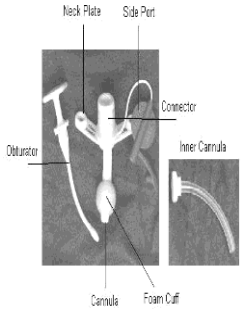
NAME OF THE TEACHER : Mr. NAVEED PASHA A TOPIC : TRACHEOSTOMY CARE.
GROUP : TRAINEE STAFF NURSE
PLACE : JSS HOSPITAL
DURATION : 1 HOUR NO.OF PARTICIPANT : 60 STAFFS
METHOD OF TEACHING : LECTURE CUM DEMONSTRATION TEACHING AIDS
: BLACK BOARD, POWER POINT

General objectives :
At the end of the class the trainee staff nurses will gain the knowledge regarding tracheostomy care and they can Apply this knowledge in the clinical setting with their desirable attitude.

Specific objectives:
1) To define Tracheostomy and Tracheotomy.
2) To explain the types of Tracheostomy.
3) To explain the Tracheostomy tube.
4) To explain about the Indication for tracheostomy .
5) To explain the Tracheostomy care
6) To explain about the suctioning.
7) To explain the procedure of suctioning.
8) To explain about nursing responsibility.

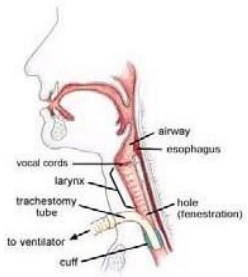
SL NO.	Time	Specific objectives	Content	Teaching activity	Learning activity	A.V Aids	Evalation
		To introduce the topic	Numerous teaching modalities are used when caring for patient with various respiratory condition the choice of modality is based on the oxygenation disorder and whether there is a gas ventilation diffusion or both. One of the commonest invasive therapeutic modality used in respiratory condition is tracheostomy (Surgical opening into the trachea) and tracheostomy Indwelling tube inserted directly into the trachea to assist with ventilation.	Introduce the topic	Listens		
		Explain position and structure	INRODUCTION TO TRACHEA The trachea or wind pipe is composed of smooth muscle with C-shape rings of cartilage at regular intervals **Position:** Trachea continuation of the larynx and extends downwards to about the level of the 5ththoracic vertebra where it divides at the carina into the ring and left bronchi it is approx 10-11 cm long and lies mainly in the median plane in the oesophagus . **Structure:** Trachea is composed of From 16-20 incomplete (C-shaped) rings of hyaline cartilage lyning one above the other. **Important function of trachea** 1) Support and patency 2) Mucociliary escalator 3) Cough reflex 4) Warming humidifying and filtering of air	Describes about trachea	Listening		Describe about trachea
		To define the tracheostomy and tracheotomy	**Definition of tracheostomy** A tracheostomy is a surgical procedure to create an opening through the neck into the trachea (windpipe). A tube is usually placed through this opening to provide an airway and to remove secretions from the lungs. **Tracheotomy** A surgical procedure in which an opening made into the trachea.	Explain about the define the tracheostomy and tracheotomy	Listens clarifies doubts. and the	Power point	define tracheotomy
		To explain the types Tracheostomy	Types of tracheostomy **1) permanent :** creation of a tracheostomy following total	Explain about the types of	Listening and clarifying		

		.	laryngectomy The top three tracheal cartridges are brought to the surface of the skin and structure to the neck wall ton form a stoma. The patient will breath through this stoma for the rest of **2) Temporary:** It is performed as an elective procedure. Eg-Major surgery at the time. **3) Emergency:** performed for an obstructed airway Eg-trauma, infection. Tumor **Indication of tracheostomy** 1. To relieve breathing difficulties by any blockage in the airway passages for example- - Foreign body Impactation in the airways. · Acute infection of the airways · Edema of the airways · Paralysis of vocal cords following injury · Tumors of the vocal cords · Trauma in the region 2. To improve respiratory functions by reducing the length of the airway, which may be required in special lung conditions like- Bronchopneumonia	tracheostomy	doubts		
			· Bronchitis with Emphysema · Chest injury In these conditions the tracheostomy tube also helps in aspiration of excessive secretion that may be caused due to infection or injury 3. Respiratory nerve damage temporary or permanent causing paralysis of chest muscles that assist in breathing. In these situations performing assisted or positive pressure respirations may be required in conditions like- · Unconsciousness associated with head injuries · Barbiturate poisoning · Poliomyelitis · Tetanus				
			These patients may also aspirate their gastric content into the lungs and a tracheostomy tube may be helpful for aspiration these secretions. 4. As a preliminary step in certain surgeries on the upper airway				

		Explain the Types of Tracheostomy Tubes.	**Types of Tracheostomy Tubes** A tracheostomy (trach) tube is a curved tube that is inserted into a tracheostomy stoma (the hole made in the neck and windpipe). There are several different brands of tracheostomy tubes, but all have similar parts. In double-cannula tubes, the inner cannula is inserted and locked in place after the obturator	Explains about the Types of Tracheosto m y Tubes	Listening and clarifying doubts		What are the types of tracheosto my tube
			is removed; it acts as a removable liner for the more permanent, outer tube. The inner cannula can be withdrawn for brief periods to be cleaned. The main parts of a double cannula tracheostomy tube are **The outer tube (or cannula),:** this is main body of the tube which passes into the trachea **The inner tube (or cannula)**:an inner cannula is a removable tube which passes into outer canula and can be removed and clean. **The obturator**: The obturator is used only to guide the outer tube during insertion and is removed immediately after the outer tube is in place. The outer tube has ties to			Parts of a Tracheostomy Tube Tube with inner Cannula 	
			secure it in place around the child's neck. **cuff:** A cuff is a soft balloon around the distal (far) end of the tube that can be inflated to allow for mechanical ventilation in patients with respiratory failure. The cuffs are inflated with air, foam or sterile water. There are several types of cuffs. The low volume cuff is similar to a balloon, a high volume cuff is barrel- shaped. The high volume cuff may be better to avoid complications such as stenosis, because it spreads the pressure out, rather than pushing on one spot in the airway				
			Fenestrated tubes: Fenestrated tubes have an opening in the tube that permits speech through the upper airway when the external opening is blocked, even if the tube is too big to allow airflow around the outer cannula. Fenestrated tubes are not recommended for small children, because they can obstruct the opening with granulation tissue. The opening of the hole must be at a correct angle to prevent problems. Also, in an emergency, a solid inner cannula must be inserted in order to ventilate the child through the trachea				
		To explain about the	• Identify the patient with name and UHID	To explain about the	Listening and	Power point	To e

		tracheostomy care	• Explain the procedure if patient is conscious • Wash hands • unsterile gloves remove and dispose of the soiled dressing. • Wash hands. Put on sterile gloves. • First, remove and clean the inner cannula using sterile pipe cleaners and normal saline. Dry it & Reinsert. • Secondly, clean the stoma site using gauze and normal saline / povidone iodine. Pat dry.	tracheostomy care	clarifying doubts		xplain about
			• Lastly, if ties are soiled and need changing, have a second nurse hold the tracheostomy tube securely in place, first secure the tube with new ties and then remove the old tie. • Ensure patient comfort. • Discard of used equipment as per hospital policy. • Wash Hands. • Always keep supplies at your patient's bedside for suctioning; tube and stoma care; delivery of oxygen, heat, and humidity; tracheostomy tube replacement; and artificial ventilation. • Begin assessing his tracheostomy by inspecting the stoma site, which is typically slightly larger than the tracheostomy tube.				
			• Note the amount, colour, consistency, and odour of tracheal and stoma secretions. Confirm the tracheostomy tube size and whether it's cuffed or fenestrated. • When your assessment findings (coarse breathe sounds, noisy breathing, and prolonged expiratory sounds) indicate that your patient's airway needs clearing, suction it using sterile technique. Hyper oxygenate him before and after suctioning and between passes tocompensate for suctioning induced hypoxemia. If the inner cannula is designed for reuse, clean it in a solution of equal parts hydrogen peroxide and 0.9% sodium chloride. Wear sterile gloves and maintain aseptic technique. Remove encrusted secretions from the lumen of a metal tube with sterile pipe cleaners or a soft sterile brush. For a plastic tube, use only sterile pipe cleaners to prevent damage by a brush. After				

			cleaning, thoroughly rinse the inner cannula with 0.9% sodium chloride solution. Reinsert the inner cannula and securely lock it into place.				
			• Secure new ties to the tracheostomy tube flanges before removing the old ones. Insert your little finger between the tie tapes and your patient's neck to check the fit and ensure his comfort. • Place a sterile split sponge under the tube flanges to absorb secretions. • Place the call bell where patient can easily reach it. • Don't clean and reuse an inner cannula designed for one-time use. • Don't cut gauze and place it under the tracheostomy tube flanges; inhalation could draw fibres into the patient's trachea. Use a manufactured split sponge.				
			• Don't lavage with 0.9% sodium chloride solution during suctioning unless you need to clear a blockage of clots or mucus.				
		To explain the procedure of suctioning	**Suctioning procedure** • Position patient in semi-Fowler's. Time suctioning for prior to eating. • Choose a catheter notifusing bag ventilation so as not to drive secretions deeper toward the lungs. • Insert catheter to a pre-measured depth matching thelength of the tube and only to a point ofresistance if deeper suctioning is necessary. • Use sane exceeding half ofthe diameter of the trach tube. • Hyperoxygenate beforeeach pass with the catheter, although some initial suctioning should be done	To explain the procedure of suctioning	Listening and clarifying doubts	Power Point	explains the procedure of suctioning

			• only as needed to loosen plugs. • Supply suction intermittently while rotating unless the catheter has side holes. • Limit suctioning to 5 seconds for pre-measured depth and 15 seconds for deep suctioning. • Use suction pressure between 120 and 150 mmHg. Limit suctioning to 3 passes and discontinue if heart rate drops by 20, increases by 40, produces arrhythmias, or decreases oxygen saturation to less than 90%. Suction mouth after trach suctioning to remove secretions above a cuffed tube, but do not contaminate the trach by going from mouth back to trach				
		Explain about the nurses responsibility	**Nurses responsibility in tracheostomy care** 1) Never alone the patient first 24 - 48 hr. 2) It may be necessary to suction the trachea every 30 minutes on first day 3) A common protocol is to check vital signs every fifteen minutes for an hour, every half an hour for the next hour, then hourly for four hours Follow the monitoring protocol for patients returning from	Explains about nurses responsibility of the Tracheostom y care	Listening and clarifying doubts		What are the nursing responsibility
			the operating room. 5) Respiratory secretions will temporarily increase in your patient after a tracheotomy. 6) Look for signs and symptoms of impaired gas exchange created by mucus plugs. 7) Encourage your patient to deep breathe and cough. 8) Ensure adequate humidification and fluid intake to keep secretions thinned. 9) Some inflammation commonly occurs at the surgical site, showing redness, pain, swelling, and drainage. Lowerrespiratory infection requires more frequent assessment and antibiotic intervention 10) Assessing the patient. Look for signs of hypoxia, infection, and				
			pain while establishing rapport. 11) Then check out the trach tube, any tubing and equipment connected to it, and the stoma site. Observe for redness, purulent drainage, and abnormal bleeding at the stoma site.. Listen to breath sounds with a stethoscope. 12) Before beginning any care ensure that the appropriate emergency trach replacement tubes and CPR equipment				

			is at the bedside. Deep breathing and coughing, chest physiotherapy, postural drainage, 13) oral and parenteral hydration, and supplemental humidification all help to thin				
			17) mobilize secretions. Humidifiers and nebulizers may be used with or independent of mechanical ventilation. 18) Tubing from an external moisture source accumulates moisture and needs frequent draining. **19)** Ensure the tubing is positioned lower than the patient to avoid aspiration.				
			Summary Today we have discussed about the knowledge and Practice regarding tracheostomy care and came to know about the definition and general information of trachea, tracheostomy type, tracheostomy care and tube, nurses responsibility after tracheostomy and suctioning **Recapitalization**. · Defined Tracheostomy and Tracheotomy. · Explained the types of Tracheostomy. · explained the Tracheostomy tube. · explained about the Indication for tracheostomy . · explained the Tracheostomy care · explained about the suctioning. · explained the procedure of suctioning. · explained about nursing responsibility				

Annexure-M
Pictures of data collection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