EFFECTS OF A PRE-OPERATIVE TEACHING INTERVENTION ON NURSES' KNOWLEDGE AND PRACTICE FOR PATIENTS UNDERGOING ELECTIVE ABDOMINAL HYSTERECTOMY IN A DISTRICT HOSPITAL IN EASTERN UGANDA

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UGANDA CHRISTIAN UNIVERSITY

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Declaration

This is to declare that the work presented in this research dissertation is my own original work and that it has never been submitted to this or any other institution known to me for the award of a degree or any other qualification. All the work from previous scholars has been cited accordingly, to acknowledge their contributions.

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Date: 2/October/2024

This work has been designed under our supervision and I approve that it is ready for submission to Uganda Christian University.

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Date: 11 October 2024

Dedication

This dissertation is dedicated to my parents, Mr. Okotel Richard and Mrs. Arionget.O. Benna, for their endless love and support throughout my life. You both have been the driving force behind me, instilling courage and determination in all aspects of my life. I love you unconditionally and thank you both from the bottom of my heart and I will always be indebted to God for blessing me with such wonderful parents.

I dedicate this dissertation to my children (Ernest, Calvin, Sherry, Noella, and Etham) and the rest of my family members. I want to thank you for being patient during this challenging journey and according me the time to work on my studies.

I dedicate this study to my husband Mwandha. You have shared an amazing experience with me and supported me in every possible way. Your constant reassurance, patience, motivation and valuable words of wisdom helped me stay grooved.

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Abstract

Background/Purpose: Pre-operative teaching is essential for patients undergoing elective abdominal hysterectomy. The majority of nurses in Uganda, however do not have adequate knowledge about pre-operative teaching, according to some academic research.This study aimed to assess the effects of a structured pre-operative teaching intervention, delivered through continuous nursing education (CNE), on nurses' knowledge and practice in a district hospital in Eastern Uganda.

Theoretical/Conceptual Framework: The Diffusion of innovation model was used to inform the process and procedure for introducing the intervention to the study participants. The theory highlights different components of the diffusion process (innovation, communication channels, social systems and time), the stages of the innovation decision process (knowledge, persuasion, decision and implementation) and the adopter categories (innovators, early adopters, early majority, late majority and laggards) which helped the researcher to successfully implement the pre-operative teaching intervention, CNE.

Methodology: A quantitative quasi-experimental research design with pre and posttest interventional study was used. Using census study approach, 30 participants who were nurses working on the gynecology ward participated in the study. A questionnaire was used to assess for knowledge and a checklist was used to assess for the practice of the nurses. The intervention was the continuous nursing education (CNE).

Results: The study discovered that after the CNE-based intervention, nurses' knowledge and practice has a statistically significant improvement. Before and after the intervention, the mean

knowledge scores rose, and observable practices including documentation, patient counseling, and surgical process explanations significantly improved.

Conclusion: An efficient way to improve nurses' pre-operative teaching practice and knowledge is through ongoing nursing education. In Uganda and other low-resource environments, implementing consistent, organized CNE programs at district hospitals may enhance the standard of pre-operative teaching and patient outcomes.

Recommendations: The Ministry of Health should create and implement policies to encourage nurses to participate in regular pre-operative teaching trainings for patients undergoing surgeries in general, and the hospital administration should make sure that CNE is widely adopted by nurses and make trainings on its use more accessible.

Key Terms: Pre-operative teaching, continuous nursing education, abdominal Hysterectomy, Knowledge and Practice.

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Acronyms and Abbreviations Commonly Used in This Paper

MOH- Ministry of Health

DIT- Diffusion of Innovation Theory

AORN- Association of Peri-Operative Nurses

AACN- American Association of Colleges of Nursing

CNE- Continuous Nursing Education

NPO- Nil per Os

SPSS- Statistical package for Social Sciences

WHO- World Health Organization

SSA- Sub-Saharan Africa

REC-Research Ethics Committee

NSAIDs- Non-steroidal anti-inflammatory drugs

UCU-Uganda Christian University

Chapter One: Introduction

In Uganda as well as other countries worldwide, elective abdominal hysterectomy is one of the most common gynecological procedures (WHO, 2019). In order to adequately prepare patients for surgery, lower anxiety levels, and encourage improved post-operative recovery, effective pre-operative teaching is crucial. Delivering this vital information is the responsibility of nurses, who are at the forefront of patient care (Deepika & Jaswinder, 2021). However, nurses in many Eastern Ugandan district hospitals frequently lack up-to-date information and consistent practice regarding pre-operative teaching.

The quality of patient teaching has been impacted by nurses' knowledge gaps, which have been exacerbated by inadequate training opportunities and restricted access to continuous professional development (Namagembe, 2018). Poor surgical results, a longer recovery time, and elevated patient anxiety might result from this deficiency. Continuous nursing education (CNE) was found to be a useful strategy for addressing this problem by giving nurses the most recent, evidence-based information and abilities required for pre-operative care (ICN, 2020; Vimala et al., 2021).

This study sought to assess the effect of a structured pre-operative teaching intervention through continuous nursing education for nurses at a district hospital in Eastern Uganda. The study aimed to improve the quality of pre-operative teaching, enhance patient preparedness, and hence contribute to better surgical outcomes.

Background

The World Health Organization (WHO) estimated that 1,540,000 women worldwide received hysterectomy in 2019 (as cited in Chale et al., 2021). Of these, 76% were abdominal

hysterectomies and 24% were vaginal hysterectomies. Therefore, abdominal hysterectomies are the most commonly performed major surgery on women that is not connected to pregnancy. About 600,000 hysterectomies are thought to be performed in the United States each year, with elective abdominal hysterectomies accounting for 60% of these procedures (Manandhar et al., 2020). With 85% of operations carried out annually, abdominal hysterectomies are becoming more common in Sub-Saharan Africa. Over 930,000 women are anticipated to have undergone abdominal hysterectomy in Sub-Saharan Africa between 2019 and 2020 (Rudnicki et al., 2021).

In Uganda, a total of 50,000 abdominal hysterectomies were performed across various regional and district hospitals in the period of 2018-2019 (MOH, 2020). In Uganda at Iganga Hospital between 2020 and 2021, there was a total of 135 women who underwent abdominal hysterectomy according to the hospital records and it was the most performed gynecological procedure in the hospital.

An elective abdominal hysterectomy is a planned surgical procedure that involves an incision in the abdomen to remove the uterus; it is not an emergency (Adenaya et al., 2020). According to Hymavathi et al. (2021) and Manandhar et al. (2020), women with benign tumors, ovarian tumors, pelvic organ prolapse, uterine fibroids, and chronic pelvic inflammatory illnesses have this operation. According to reports, the most common gynecological procedure carried out in Ugandan hospitals is the abdominal hysterectomy (Nahwere et al., 2021).

Patients having elective surgical operations need sufficient pre-operative teaching from the nurses, as this has a direct impact on the patients' comprehension of the instruction (Nahwere et al., 2021). Preoperative teaching is an interactive procedure that aids in a patient's post-

operative recovery by giving them knowledge, psychosocial and emotional support, and health education (Abboud et al., 2022).

Pre-operative teaching is thought to have been first implemented in the 19th century by Florence Nightingale, according to Halmin (2020). Before patients are moved to the operating room, "every nurse must offer pre-operative teaching to all surgical patients on the wards," (p. 19). Since then, the role that nurses play in pre-operative teaching has changed dramatically and is still changing (Halmin, 2020; Mahmoud et al., 2020). Pre-operative patient teaching, which dates back to the 19th century, is an essential component of nursing that aims to assist patients in understanding the details of their procedure and how to take care of themselves afterward depending on their needs, degree of knowledge, and overall health (Mahmoud et al., 2020). Prior to surgery, the nurse is crucial in helping the patient heal by offering knowledge, emotional support, and psychosocial support (Abboud et al., 2019; Fecher-Jones et al., 2021).

In a South African study, Malley et al. (2020) found that 95% of the nurses were not providing pre-operative teaching because they lacked the necessary knowledge. In a Tanzanian study, Carugno and Fatehi (2021) found that the majority of nurses did not know what to teach patients before to surgery, thus they did not. Due to their enormous workloads and lack of adequate pre-operative teaching knowledge, nurses in Uganda provide inadequate pre-operative teaching (Namagembe, 2018; Ngonzi et al., 2021).

Pre-operative teaching enhances patients' experiences by giving them coping mechanisms, psychosocial support, and health-related information before surgery, which leads to better post-operative results, according to a 2016 Joint Commission report (as cited in Shehutsoho & Wafaagameel, 2018). Additionally, it was observed that informed patients learn

important details about their illness and the course of their treatment, which may improve safety by lowering drug and procedure errors through regular interaction with the healthcare team.

Currently, it is seen that patients frequently enter operating theatre rooms without being fully informed about the type of surgery to be done, the anesthetic techniques to be employed, or the appropriate post-operative care instructions (Elgin, 2018; Mahmoud et al., 2020; Rohi et al., 2019). Mahmoud et al. (2020) noted that this frequently leads to a rise in post-operative complications, delays ambulation, failure to recognize the appropriate time to begin eating after surgery, and may cause psychological and physical discomfort in the patients. According to Hartani and Handayani (2021), patients who did not get the pre-operative instruction experienced anxiety, which exacerbated their pain and ultimately led to greater bleeding, blood vessel vaso-constriction, increased breathing rate, higher blood pressure and death.

Deepika and Jaswinder (2021), noted that nurses play a crucial role in pre-operative teaching since they directly care for patients and act as important liaisons between the surgical team and patients. Studies have revealed that, despite their vital role, many nurses in resource-constrained environments, such as Eastern Uganda, frequently lack the necessary skills and training in systematic pre-operative teaching. This problem is exacerbated by excessive patient loads, understaffing, and restricted access to ongoing professional development.

One crucial strategy for filling in these knowledge gaps is Continuous Nursing Education (CNE) (Harms, 2020; Mahmoud et al., 2021). It gives nurses up-to-date, scientifically supported knowledge and useful skills that they can use when providing daily patient care. However, CNE is either nonexistent or irregular in many district hospitals. The purpose of this study was to evaluate the effects of a structured continuing education program that emphasized pre-operative

teaching for nurses who provide care for patients having elective abdominal hysterectomy. By doing this, the study aimed to advance better nursing practices and knowledge, hence better surgical patient outcomes.

Statement of the Problem

Around 5,500,000 women worldwide undergo abdominal hysterectomy each year, which is a frequent elective procedure that requires good pre-operative teaching to optimize surgical outcomes (Chale et al., 2021). Approximately 930,000 women in sub-Saharan Africa have elective surgery each year, with a 7.4% death rate and a 24.2% complication rate as a result of insufficient pre-operative teaching (Rudnicki et al., 2021).

Between 2018 and 2019, around 50,000 women in Uganda underwent elective abdominal hysterectomy; however, they did not get adequate pre-operative teaching, which resulted into anxiety, worsened pain, elevated blood pressure, extended hospital stays, and even mortality (MOH, 2021; Nahwere et al., 2022). There are significant gaps in current knowledge and practice in Ethiopia, where 79% of nurses showed poor pre-operative teaching practices and only 11% of nurses had fair knowledge (Bazezew et al., 2023). There is limited literatureon nurses' knowledge and practices in Uganda.

This study therefore assessed the effect of a structured Continuous Nursing Education (CNE) intervention on nurses' knowledge and practice in pre-operative teaching for patients undergoing elective abdominal hysterectomy.

Purpose of the Study

The purpose of this study was to evaluate the effects of a pre-operative teaching intervention on nurses' knowledge and practice in caring for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda.

Research Question

What is the effect of a pre-operative teaching intervention delivered through continuous nursing education (CNE) on nurses' knowledge and practice for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda?

Specific Objectives

- To measure the effect of a Continuous Nursing Education (CNE)-based pre-operative teaching intervention on nurses' knowledge regarding care for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda.
- To determine the effect of a Continuous Nursing Education (CNE)-based pre-operative teaching intervention on nurses' practice in caring for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda.

Significance of the Study

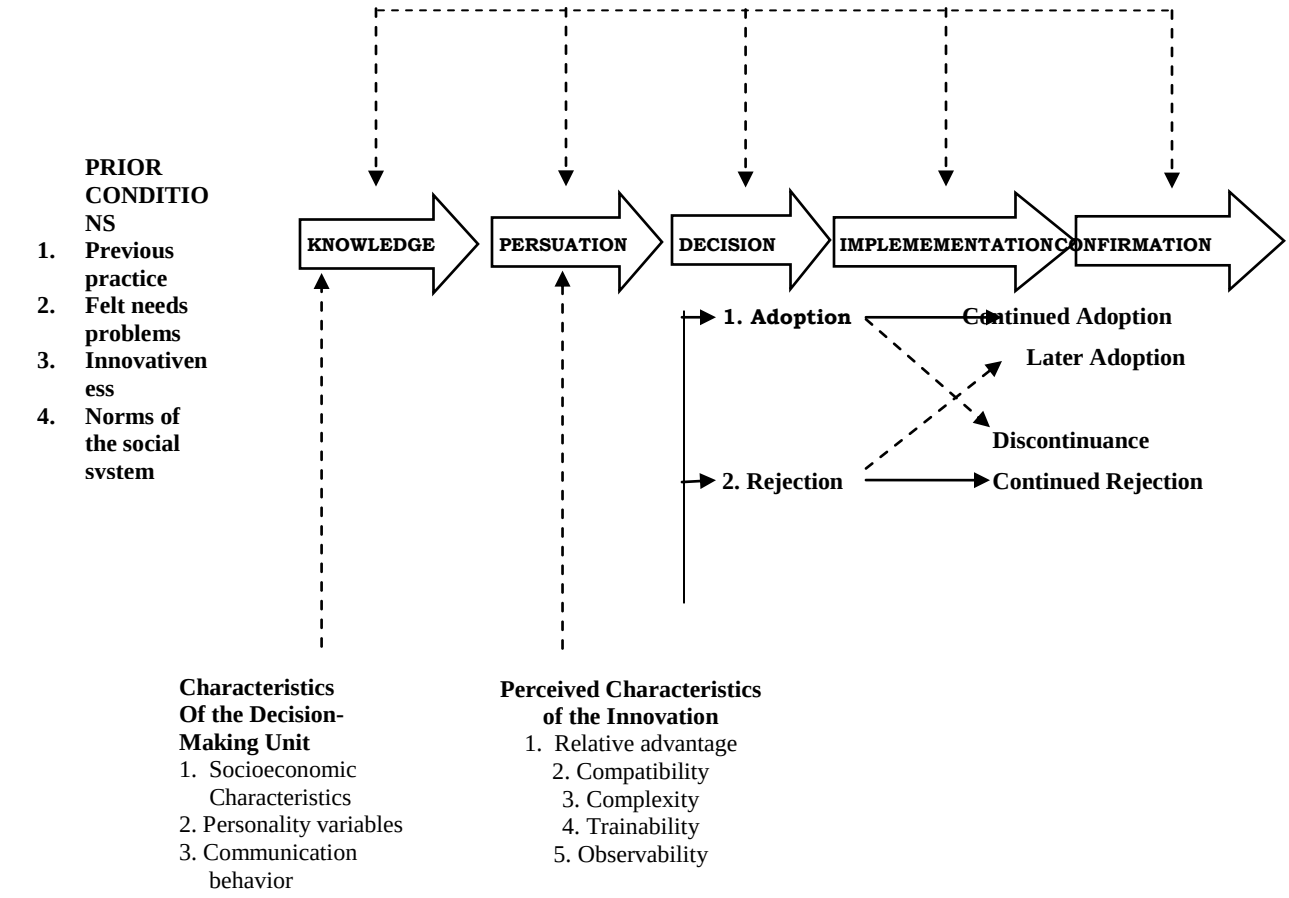
The results might demonstrate how well CNE works to improve nurses' capacity to teach and get patients ready for elective abdominal hysterectomy. The study may help policy makers, nursing educators, and hospital administrators understand the value of instituting consistent CNE programs. It may also have an impact on the creation of uniform nursing curriculum and pre-operative training protocols in Uganda and other low-resource environments. Additionally, the findings of this study could result in more empowered nursing personnel, fewer surgical

complications, and better-prepared patients—all of which would support national and global objectives for safe, patient-centered surgical care.

The Theoretical Framework

The Diffusion of innovation (DIT) model (see Figure 1) developed by Rogers in 1962 is frequently used to analyze the process of communicating any innovation through an organization. Rogers defined diffusion as "the process in which an innovation is communicated thorough certain channels over time among the members of a social system" (Rogers, 2003, p. 5). The researcher used DIT as a lens because of its extensive use in several disciplines to study adoption of new ideas and in understanding how innovations spread within a society. The decision to use this theory is that this is an interventional study and this theory will help to inform the nurses' knowledge and practice of pre-operative teaching. DIT model has four components of the diffusion process, five adopter categories and five stages of innovation-decision process (See Figure 1).

Figure 1: Innovation-Decision Process Model



*Note: (*Rogers, 2003 as cited in Sahin, 2006).

Components of the Diffusion of Innovation Theory

The components of the DIT are the processes used to evaluate the success of an innovation transmitted over time through certain communication channels among the members of a social system (Puddester et al., 2023). There are four components of diffusion process and these include: innovation, communication channels, social system and time. These are not in the model however they are relevant because they help us to understand whether the planned change can be adopted and they are explained below

Innovation.

An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption (Rogers, 2003). According to Peterson and Bredow (2019) and Silva et al. (2022), innovations are new procedures and policies that can be tried, tested, and tried again in order to enhance practice.

Communication Channels.

Communication is defined as "a process in which participants create and share information with one another in order to reach a mutual understanding"(Rogers 2003, p.5). Depending on the type of information, the communication channels show how messages and/or information are conveyed between the individuals (Peterson & Bredow, 2019; Silva et al., 2022). During the whole innovation-decision process, communication channels are critical to dissemination of information. Since the innovation is a new product, method, or concept, it needs to be explained to potential users so they may evaluate its qualities and determine whether to give it a try before adopting it. The different adopter categories are informed, involved, and convinced to support and embrace the change by means of the communication channels.

Social System.

According to Rogers (2003), p. 23, a social system is "a set of interrelated relationships between individuals and groups engaged in joint problem solving to accomplish a common goal." Since innovations spread within social systems, they are impacted by social norms, communication integration, tolerance for deviation, and systemic social structure. The people and systems that offer technical assistance to members of the target audience who are prepared to

embrace the changes come from the social system; these individuals fall into all adopter categories.

Time.

Rogers (2003) notes that the majority of behavioral researches ignore the time aspect. He argues that one of the advantages of diffusion research is demonstrated by incorporating the time component. It describes the time between learning something new and forming an opinion before implementing the innovation. Adopter categories and innovation-diffusion process stages all have a time component. Any advantages that new procedures and changes bring about will be overshadowed by the shock of the change if it takes too long. Employees will have more time to cognitively comprehend the changes if the modification is implemented earlier. Time consciousness is necessary throughout the innovation-decision stage, thus choices should be made quickly to enable the adopter categories to embrace the new change as soon as feasible.

Stages of the Innovation-Decision Process

The innovation-decision process is the procedure through which an individual acquires knowledge and develops a decision to adopt the innovation (Rogers, 2003). The process involves the following five stages being represented by the model in Figure 1: (1) knowledge, (2) persuasion, (3) decision, (4) implementation and (5) confirmation (Dearing &Cox, 2018; Puddester et al., 2023; Silva et al., 2022) and they are explained below.

The Knowledge Stage.

During the knowledge stage, a person is initially introduced to the innovation and learns how it operates with the goal of becoming aware of it. People try to ascertain "what the innovation is, how and why it works" at this point (Rogers, 2003, p. 21). Before attempting to

use the innovation independently, people must have enough knowledge to improve the possibility that they will embrace it (Peterson & Bredow, 2019; Silva et al., 2022).

The following characteristics of the decision making unit influence acquisition of knowledge of an innovation; Communication variables, personality variables and socio-economic characteristics (Puddester et al., 2023: Rogers, 2003). Communication variables are factors that affect communication. They include; language, length of communication and channel/ medium. For any new idea to be adopted and sustained, communication and knowledge exchange are essential. To persuade other adopter types to embrace the new change, innovators of any change should be knowledgeable about the planned change and have strong communication abilities. The traits of a person that affect their capacity to pick up new information and adapt to changes are known as personality factors. Acquiring knowledge and skills concerning an innovation can be facilitated by emotional stability and conscientiousness. The adoption of change is influenced by socioeconomic factors, including as experience, education, customs, and beliefs, according to Rogers et al. (2003). Knowledge is influenced by prior conditions.

One's past experiences and exposures are referred to as prior conditions. According to Rogers (2003), people try to understand what innovation is and why it is necessary at the knowledge stage. This is impacted by the person's past practices, the innovation that will be introduced, their personality characteristics, and the idea that innovation is necessary. These may encourage the person to study more on the innovation and ultimately embrace it. Rogers added that, before attempting an innovation, a person should be sufficiently proficient in its use. This will improve the likelihood that the innovation will be adopted. It has been observed that a

person's attitude affects whether an innovation is accepted or rejected, and organizational social norms should be able to easily influence change.

The Persuasion Stage.

The persuasion stage is emotion-focused which occurs when a person is uncertain and may be persuaded to use the innovation by others around them or by positive subjective evaluations of the tool from peers (Peterson & Bredow, 2019; Rogers, 2003; Silva et al., 2022). The group that has adjusted to the change will be referred to as the "champions" and they will typically be the ones to persuade others. According to Rogers (2003) (p. 232), persuasion is "an uncertainty reduction process." He also proposed attributes of innovations that contribute to reducing doubt regarding the innovation.

The attributes of the innovation can determine the rate at which an innovation can diffuse and they include (Figure 1): relative advantage, compatibility, complexity, trialability, and observabilty (Oyelana et al., 2021; Rogers, 2003; Tanye, 2016; Tanye et al., 2023 and these are described below.

Relative Advantage.

Relative advantage is the “degree to which an innovation is perceived as being better than the idea it supersedes” (Rogers, 2003, p.229). The relative advantage can be measured in terms of convenience, economic terms and social prestige.

Compatibility.

Compatibility is defined as the degree to which an innovation is perceived to be consistent with the existing values, past experiences, and needs of the potential adopters is called compatibility (Rogers 2003, p.15). The innovation must be compatible with the user’s need. The

perceived compatibility of an innovation with a previous idea can influence adopters to use the innovation which can lead to adoption.

Complexity.

Complexity is "the degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers 2003, p. 15). The complexity of an innovation can very much depend on the characteristics of the adopter.

Trialability.

Trialability is described as the degree to which an innovation may be experimented with on a limited basis is known as trialability (Rogers 2003, p. 15).The rate of use also has a significant impact on the diffusion of innovation. Any innovation must be trialable in order to remove any doubt. If an innovation is tested and tailored to the needs of the adopters, it will be quickly embraced.

Observability.

Observability is defined as the degree to which the results of an innovation are visible to others is called observability (Rogers 2003, p.15). The benefits of the innovation being obvious to others would also ensure diffusion.

The Decision Stage.

At the decision stage of the innovation-decision process, the individual or organization decides whether to accept or reject the innovation. The more chances they had to try it out in the past, the more likely they are to choose to adopt it (Rogers, 2003). A person's or an organization's decision to accept or reject an innovation is based on their perceptions of it, which

are shaped by their knowledge of it and can be influenced by a variety of internal or external factors (Peterson & Bredow, 2019; Silva et al., 2022).

According to Rogers (2003), the DIT makes the assumption that one important internal factor influencing the innovation-decision process is successful communication behavior. An organization's culture can improve employees' acceptance of current information about performance management and improvement, for instance, if it fosters free and open communication about new ideas as well as values and supports learning and training (Puddester et al., 2023). The DIT model proposes that a significant external antecedent condition influencing innovation adoption decisions is the norms of the social systems surrounding the decision stage (Rogers, 2003).

Adopter Categories in the Diffusion of Innovation Theory

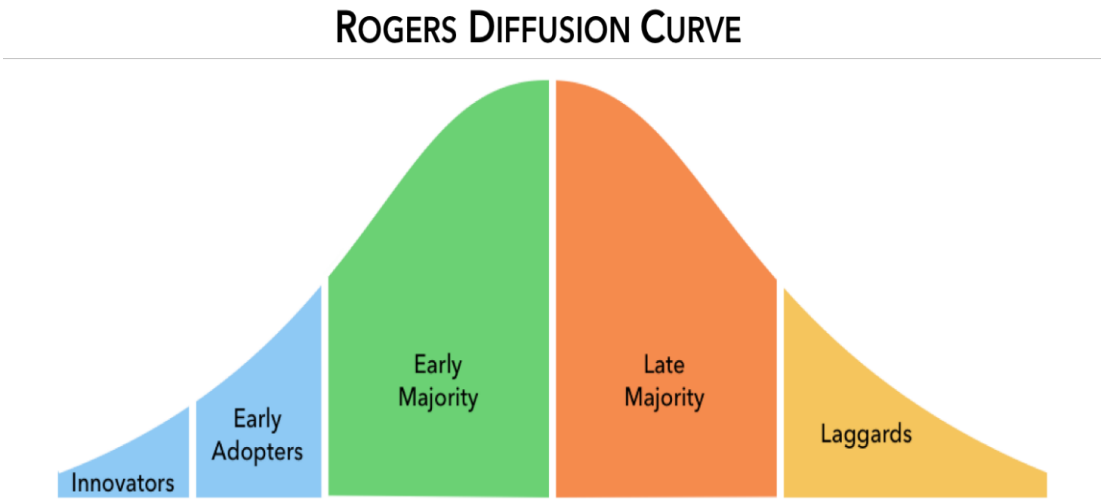
When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation. There are five established adopter categories (Puddester et al., 2023; Silva et al., 2022). These categories are not seen in Figure 1 but are important to include because they explain personality variables that affect the adoption of innovations. They include: innovators, early adopters, early majority, late majority and laggards (see Figure 2). Puddester et al., (2023) and Silva et al., (2022) noted that each adopter type is distinguished by unique features as explained below.

Innovators.

According to Silva et al. (2022), innovators are creators and inventors who generate innovations. The innovators are creators and inventors who are the developers of the

innovations. They are venturesome and interested in new ideas. These people are very willing to take risks, and are often the first to develop new ideas.

Figure 2: Adopter Categories in the Diffusion of Innovation Theory



Note: (Rogers, 2003, as Cited in Silva et al., 2022).

Early Adopters.

The early adopters are the leaders, who not only test the innovations at an early stage but also call for other people to join them (Puddester et al., 2023; Silva et al., 2022). The key characteristic that sets early adopters apart from other adopter types is leadership. They welcome chances for change and take pleasure in leadership jobs. How-to guide and implementation information sheets are among the tactics used to appeal to this demographic. Information will not persuade them to change.

The Early Majority.

The early majority deliberately adopt an innovation before half of the members of the social system but do not lead their peers and they are neither the first nor the last to adopt it (Puddester et al., 2023; Silva et al., 2022). It is noted that before people are willing to accept an

innovation, they usually need to see proof that it works. Success stories and proof of the innovation's efficacy are two tactics to appeal to this demographic.

The Late Majority.

The late majority are skeptical, born followers of the other adopters of the system, resistant to change, take a relatively long time to overcome worries and challenges and come late to the innovation (Puddester et al., 2023; Silva et al., 2022). It is also reported that they are comfortable using traditional methods and are resistant to change in order to embrace new ideas. Information on the number of other individuals who have successfully tested and embraced the innovation is one tactic to appeal to this demographic.

The Laggards.

The laggards constitute a portion of the social system, who distrust the innovation and the change agent, slowly adopting the innovation (Puddester et al., 2023; Silva et al., 2022). It is observed that they are the hardest group to convince to accept change and that they are most resistant to it. Statistics, fear appeals, and pressure from members of other adoptive groups are some of the tactics used to appeal to this population.

The Implementation Stage.

At the implementation stage, an innovation is put into practice (Peterson & Bredow, 2019; Rogers, 2003; Silva et al., 2022). At this point, people use the invention and analyze the results. It is imperative that users receive feedback at this point, along with help and encouragement from the initiators. An innovation's chances of being used consistently increase with the number of tries made to employ it.

The Confirmation Stage.

Although the innovation-decision has already been made, the person seeks confirmation of their choice at this point. This choice may be overturned, in accordance with Rogers (2003), if the person is "exposed to conflicting messages about the innovation" (p. 189). The person, however, usually avoids unpleasant messages and looks for affirming ones that support their choice. Thus, at the confirmation stage, attitudes become increasingly important. Later adoption or discontinuance of the innovation occurs during this stage, contingent upon the individual's attitude and level of support for its adoption.

Operationalization of the Diffusion Innovation Theory (DIT) to this Study

In this study, the operationalization of the diffusion of innovation theory included the following; components of the diffusion of innovation theory, adopter categories in the diffusion of innovation theory, innovation-decision process and the attributes of the diffusion of innovation theory. This section explains how this theory was applied in this study in order to inform nurses' knowledge and practice.

Components of the Diffusion of Innovation Theory

The following components were used in this study; Innovation, communication channel, social system and time. They are explained below.

Innovation.

The innovation in this study was the structured pre-operative teaching intervention, the Continuous Nursing Education (CNE). Once a decision to incorporate a teaching intervention was made into the nursing practice, applying the phases of the theory improved nurses' knowledge and practice on pre-operative teaching.

Communication Channel.

In this study the nurses had face-to-face conversations as a channel for communicating in order to learn the knowledge and skills for pre-operative teaching. They were taught how to use and apply a teaching checklist that was a guide for teaching the patients pre-operatively. The evidence based articles and guidelines from the Association of Perioperative Registered Nurses (AORN) were the sources of information to guide the practice of pre-operative teaching.

Social Systems.

The social systems in this study refer to the different nurse leaders and nurses who work on gynecological and surgical wards and who were responsible for ensuring that this innovative pre-operative education checklist was properly implemented. In order to enhance the pre-operative education that nurses provided, the innovator presented the nurse managers with the pre-operative teaching intervention, CNE. All nurses working on surgical and gynecological wards participated in ongoing professional teaching sessions organized by the nurse managers, who also provided them with information regarding the efficacy of employing the pre-operative teaching intervention.

Time.

The time aspect is very important however it was not required in this study. This study had a limited time frame.

Stages of the Innovation-Decision Process

The innovation-decision process that was used in this study involved the following stages: the knowledge stage, the persuasion stage, the decision stage and the implementation stage as explained below. The confirmation stage will not be used because of limited time for this study.

The Knowledge Stage.

At the beginning of the study, nurses were introduced to the concept and content of structured pre-operative teaching through: Baseline assessments to determine existing knowledge levels, training sessions explaining the purpose, benefits, and procedures of pre-operative teaching and distribution of a standardized teaching guidelines. The researcher spent two weeks teaching the nurses about pre-operative teaching and then allowed the nurses to offer pre-operative teaching and documented in each patient's file for those that were going to theatre. They were taught what the new structured pre-operative teaching intervention is, how it would be used and why the pre-operative teaching intervention was being introduced since these were the most critical things that would help build the nurses' knowledge base on pre-operative teaching.

The early adopters were identified at this stage and these acted as "champions". These were nurses who already had seen the need to change their practice and were able to easily adopt the structured pre-operative teaching intervention. The champions were paired with the late majority and laggards such that they would continue teaching and giving them information about pre-operative teaching. This helped develop the interest of these groups to adopt the structured pre-operative teaching.

The decision making characteristics which influence knowledge acquisition that were used in this study include; communication variables and socio-economic characteristics. The personality variables were not considered in this study because these are attitude features.

The innovators and the early adopters were encouraged to use good communication skills with clear and understandable English language within a short period of time in order to teach

and convince the other adopter categories to learn and practice structured pre-operative teaching. The following socio-economic characteristics of level of education and level of experience were used. All nurses that had been trained at certificate, diploma and bachelor's level were involved in the study and those that had practiced nursing for at least two years or more were involved because they had been taught pre-operative care during their years of training and at some point managed pre-operative patients. These were in line with the prior conditions.

The nurses' previous experience on pre-operative teaching was considered among the prior conditions. Nurses that had practiced pre-operative nursing were selected to participate because this influenced their need to try out the structured pre-operative teaching. The nurses were given information about the relevance of pre-operative teaching in order for them to develop a positive attitude towards the structured pre-operative teaching hence promoting nurses' knowledge and practice.

The Persuasion Stage.

In the persuasion stage, the innovator educated the nurses on how the CNE would help them give adequate pre-operative teaching within a short period of time and improve their pre-operative teaching practice. The attributes of innovations were considered in order to decrease the uncertainty of using the pre-operative teaching intervention. The attributes of the DIT included: relative advantage, compatibility, complexity, trialability and observability and are explained below.

Relative Advantage.

The pre-operative teaching intervention developed was convenient and easy to use hence it helped the nurses give adequate information to the patients within a short time. The CNE was

used as a guide for the nurses on what to teach the patients before surgery so that nothing was missed. This CNE was believed to be a better approach for improving nurses' knowledge and practices compared to teaching the patients without a clear guideline.

Compatibility.

The pre-operative teaching intervention that was introduced was consistent with the existing values and past experiences of the nurses. This was believed not to interfere with the nurses' work and was hoped to be compatible with the existing norms and practices of pre-operative teaching guidelines as set by the Association of Perioperative Registered Nurses (AORN).

Complexity.

The teaching intervention was designed to ensure that all nurses adopt its use in rendering adequate pre-operative teaching. This CNE was organized under headings with clear and brief wording that was used by the nurses to teach the patients i.e., type of surgery, anesthesia, medications, allergies, exercises, nutrition, hygiene, pain management, management of the surgical wound, preventive care for pulmonary complications, etc.

Trialability.

The early adopters tried out using this pre-operative teaching intervention to measure its effectiveness. This was measured by determining the number of patients given pre-operative teaching and the good effects of pre-operative teaching reported by the patients. This was to ensure that the early majority, late majority and the laggards would get the information on what the pre-operative teaching intervention can do. This was to allow them to commit to using the pre-operative teaching intervention to render teaching to patients undergoing surgery.

Observability.

Observability was handled through giving evidence based information about the pre-operative teaching intervention to the early majority, late majority and the laggards. This information enabled these categories of nurses get more information about the effectiveness of the pre-operative teaching intervention. This was done by the early adopters "champion nurses" and the innovator who were available to render information to the other nurses.

The Decision Stage.

In the decision stage, the researcher, "innovator" continued to give information about the usefulness of CNE. While there was no choice to adopt or not to adopt the pre-operative teaching intervention, the early adopters "the champions" helped others believe that this was an important innovation thus enabling the early majority, late majority and laggards to wholeheartedly participate in the change. This is because the early adopters are usually respected by their peers and have a reputation for successful use of new ideas. The perception of the nurses that the innovation was better than the previous practice enabled them to adopt the use of the pre-operative teaching intervention. The nurses were given evidence based information from various sources including well researched articles about effectiveness of the CNE and this enabled them to make a decision to try using the pre-operative teaching intervention.

Adopter Categories in the Diffusion of Innovation Theory

The following adopter categories in the diffusion of innovation theory were used in this study that helped to promote the decision to adopt the use of the checklist in order for the nurses to improve on pre-operative teaching: innovator, early adopters, early majority, the late majority and the laggards. They are described below.

Innovator.

The researcher is the person that brought the pre-operative teaching intervention, Continuous Nursing Education to the gynecological ward. Therefore, the researcher was the innovator and was willing to take risks. The researcher introduced the teaching intervention to the nurses that she worked with the nurses on the gynecology ward.

Early Adopters.

As the innovator, the researcher carried out in-service training for all the nurses. The nurse leaders that recognized the need to change pre-operative teaching practice were identified at the beginning of the training and so they were ready to adopt the use of a pre-operative teaching intervention. These were given extra teaching sessions on the pre-operative teaching intervention in order for them to be able to answer questions when the researcher would not be available. They acted as "champions".

Early Majority.

The early majority were hoped to represent a large proportion of the nurses and persuading the nurses generally led to better awareness and acceptability of the innovation. These nurses were working on the gynecology ward. These nurses were convinced by the evidence-based information on the effectiveness of the pre-operative teaching intervention from well researched literature and the negative effects that have been caused by inadequate pre-operative teaching. They were given information on how the use of pre-operative teaching intervention had improved nurses' practice and several success stories on CNE effectiveness by the early adopters and the innovator. The innovator made the pre-operative teaching intervention simple and understandable for this group of people to accept it.

The late majority.

These were the nurses who were skeptical and resistant to change. These nurses took a relatively long time to overcome their worries and challenges about the new innovation of the pre-operative teaching intervention. This group of nurses was given success stories by the early adopters and early majority during the group sessions. This enabled them get on board to implement the pre-operative teaching intervention.

The Laggards.

These were nurses who distrusted the innovation and the change. These nurses were given statistics on how many nurses have adopted the CNE-based intervention and other adopter categories were used to put pressure on this category of nurses such that they would adopt the pre-operative teaching intervention.

The Implementation Stage.

At the implementation stage, the nurses put the pre-operative teaching intervention into practice by offering pre-operative teaching to women undergoing elective abdominal hysterectomy. The researcherobserved the nurses giving pre-operative teaching and gave feedback about their performance as well as assisstance, support and guidance on where they did not do well. The researcher encouraged them to repeatedly use the pre-operative teaching intervention in order to obtain positive outcomes and become familiar with pre-operative teaching.

Definition of Key Concepts in this Study

This study was about the effects of introducing a pre-operative teaching intervention of CNE for patients undergoing elective abdominal hysterectomy on nurses' knowledge and practice in a district hospital in Eastern Uganda. These definitions explain what these key terms mean in the study.

Knowledge of Pre-Operative Teaching

In this study, knowledge of pre-operative teaching is defined as the process by which nurses express their understanding and awareness regarding the preoperative teaching through actions, movements, sounds and application to patients undergoing elective abdominal hysterectomy. The study defines nurses' knowledge about pre-operative teaching as how much is known to the nurse regarding informing the patient about what is to be done before, during and after the surgery.

Practice of Pre-Operative Teaching

In this study, practice of pre-operative teaching is defined as the process in which nurses provide the pre-operative teaching repeatedly to surgical clients in order to assist them attain information regarding their surgical procedure. The study explains practice as the means by which nurses provide the standard pre-operative information to patients before surgery in order to reduce patient anxiety, post-operative pain control and overall satisfaction.

Pre-Operative Teaching

In this study, the preoperative teaching is the process by which nurses provide the pre-operative information to patients before surgery in order to improve patients' knowledge about

all the aspects concerning the surgery and to reduce patients' anxiety, post-operative pain control and overall satisfaction for enhancing post-operative recovery.

Pre-Operative Teaching intervention

Pre-operative teaching intervention, as used in this study, refers to a systematic training program intended to enhance nurses' knowledge and practice of patient preparation for elective abdominal hysterectomy. Continuous Nursing Education (CNE) is the specific intervention.

The goal of this intervention is to give nurses the most up-to-date, research-based knowledge and useful skills they need to provide patients with efficient pre-operative teaching. It involves instructing nurses on how to: Describe the surgical procedure and the patient's expectations; Address the patient's fears and anxieties; Give pre-operative preparation instructions (e.g., fasting, hygiene, medication use); Educate the patient on post-operative care and recovery expectations; and Record and assess the patient's comprehension.

Nurses

In this study, nurses are licensed health professionals who are skilled in promoting and maintaining health of patients undergoing surgery and carrying out pre-operative teaching on the surgical and gynecological wards. Nurses are health professionals who practice independently and inter-dependently with the surgical team for better outcome of the patient.

Elective Abdominal Hysterectomy

In this study, an elective abdominal hysterectomy is a type of surgery scheduled in advance and it involves the removal of the uterus through an incision in the abdominal wall. Understanding what elective abdominal hysterectomy is and what women go through will

facilitate the packaging of an educational intervention in a way that fits the needs of the women undergoing the surgery.

Summary

The content in chapter one describes the magnitude of inadequate pre-operative teaching among patients undergoing elective abdominal hysterectomy. It also discusses the background. The chapter further highlights the problem statement, purpose of the study, research question, specific objectives and significance of the study. Additionally, the chapter describes the theoretical framework underpinning this study, and how it will be operationalized. Chapter two will review the literature related to pre-operative teaching and chapter three will focus on the research method that will be used for the study.

Chapter Two: Literature Review

This chapter presents reviewed literature related to the effect of an educational intervention on nurses' knowledge and practice among patients undergoing elective abdominal hysterectomy. It will discuss the positive effects of pre-operative teaching on patients' outcomes for patients preparing for surgery globally and in Uganda. It will review the roles of nurses in pre-operative teaching, the benefits of pre-operative teaching to the patients and what are the challenges of nurses' inadequate knowledge and practice of pre-operative teaching. The chapter discussed measures that have been useful to improve nurses' engagement in pre-operative teaching.

Globally, and in Uganda, Pre-Operative Teaching by Nurses Contributes to Positive Outcomes in Surgeries Such as Elective Abdominal Hysterectomy

This section is going to define pre-operative teaching, explore the history of pre-operative teaching and describe the role of nurses in pre-operative teaching. It will also discuss the benefits of pre-operative teaching and the statistics on abdominal hysterectomy.

Description of Pre-Operative Teaching

Preoperative teaching is an interactive procedure that aids in a patient's recovery by giving them knowledge, emotional and psychosocial support, and health education (Abboud et al., 2021). According to Bazezew et al. (2023), preoperative teaching is a means of assisting patients in altering their behavior as well as bringing about the information, attitudes, and skill modifications necessary to preserve or enhance their health.

A crucial aspect of nursing care is preoperative patient education, which aids patients in understanding information about their procedure and what comes next, taking into account their

needs, degree of knowledge, and overall health (Al amine & Abdallah, 2020; Tadesse et al., 2023). According to Tadesse et al. (2023), preoperative teaching can improve recovery and reduce post-operative problems and length of stay.

Time of Pre-Operative Patient Teaching

Pre-operative teaching involves providing patients with health information, skill training, and psychosocial support to address their needs, anxieties, and concerns. It takes place prior to surgery in order to prepare surgical clients for the increasing physical and psychological demands during and after the procedure (Zhou et al., 2023). Many aspects of patient management, such as length of hospital stay, anxiety prior to surgery, patient compliance, pain management and analgesic use, overall satisfaction, physical coping, mobility independence, and discharge planning, have been helped by patient teaching (Albalushi & Forgrave, 2023).

As soon as the patient is booked for surgery, pre-operative teaching begins. For an elective operation, the patient should be admitted the day before to allow for pre-operative instructions. As the patient enters the operation room, pre-operative teaching continues throughout the admission process (Bazezew et al., 2023; Tadesse et al., 2023). Pre-operative teaching is most suited for the pre-admission and admission days, when diagnostic testing is done, rather than the day of surgery (Al amine & Abdallah, 2020; Mariza, 2019). Giving patient teaching the day before surgery helps the surgical patient and their family get a better picture of what to anticipate from the process (Albalushi & Forgrave, 2023; Mahmoud et al., 2020). They also further said that prior to surgery, the nurse ought to be able to respond to inquiries and teach the patient. Due to fear and tension, patients may misinterpret pre-operative instructions provided

on the day of surgery. Additionally, there will be limited time, so the information provided may not be sufficient (Gerlitz, 2017).

History of Pre-Operative Teaching

Pre-operative teaching is believed to have been one of the first pre-operative activities introduced by Florence Nightingale in the 19th century (Halmin, 2020).As all nurses were taught to prepare for and assist at operations as well as care for patients before and after operations, pre-operative instruction historically originated from caring for surgical patients (Halmin, 2020). Nonetheless, pre-operative teaching has developed in the US today from a disjointed approach to a sophisticated care system (Camison et al., 2022). They added that in order to acquire the information and abilities necessary to care for and instruct patients prior to, during, and after surgery, nurses must complete specific training in pre-operative care.

Pre-operative patient teaching, according to the World Health Organization (WHO), has evolved since the 19th century and is an essential component of nursing that is primarily focused on assisting patients in understanding information about their procedure and post-operative self-care procedures based on patient need, degree of knowledge, and condition (as cited in Mahmoud et al., 2020). Pre-operative education has been observed to be changing globally, and nurses are acknowledged as having a significant role in delivering health education in surgical wards and out-patient departments to enhance favorable health outcomes (Pueyo-Garrigues et al., 2022).

Despite the universally acknowledged importance of preoperative teaching, its implementation especially in developing countries is low. This is associated with unawareness, inadequate knowledge among nurses on the concept of pre-operative teaching, nurses' shortage

in the hospitals, lack of time, and work overload (Bazezew et al., 2023; Gerlitz, 2017). In sub-Saharan Africa, it is noted that pre-operative teaching is still a challenge in many areas however there are improvements in countries where guidelines have been developed to promote pre-operative teaching (Mahmoud et al., 2021).

Pre-operative teaching has a limited history in Uganda, according to Othin et al. (2020), and the practice is still difficult due to numerous obstacles, such as a lack of pre-operative teaching protocols, insufficient nurse staffing, and inadequate knowledge. In Uganda, pre-operative teaching is invisible and insufficient due to nurses' lack of adequate training and experience (Nankya et al., 2023) and the absence of a structured guide.

Nurses' Roles in Pre-Operative Teaching

Providing comprehensive and all-encompassing pre-operative teaching to patients having surgery is the job of nurses worldwide in order to minimize patient risk and enhance post-operative outcomes (Bazezew et al., 2023). Worldwide, nurses are essential to pre-operative teaching (Harahap et al., 2021). Prior to surgery, the nurse's job is to support the patient's healing by educating them and offering psychosocial and emotional support (Abboud et al., 2019; Fecher-Jones et al., 2021).

In order to facilitate adequate lung expansion during the post-operative phase, the nurse must instruct the patient how to cough, turn in bed, and take deep breaths, all of which will increase blood oxygenation (Alkhafaji & Dawood, 2022; Karayurt, 2021). Additionally, the patient receives education on body movement and mobility to enhance respiratory function, prevent venous stasis, and improve circulation, as well as cognitive coping strategies to reduce pre-operative anxiety and fear (Ali et al., 2020; Alkhafaji & Dawood, 2022; Mahmoud et al.,

2020). Furthermore, the patient should be informed about the drugs that will be taken prior to, during, and following surgery as well as the frequency of vital sign monitoring, elimination, hygiene, and dietary restrictions.

In an Ethiopian study, Bazezew et al. (2023) observed that the nurse implements nursing interventions, gets the patient ready for surgery, and evaluates the patient's physical, psychological, and social states. Furthermore, when the patient is taken to the operating room and care is transferred there, pre-operative teaching comes to an end. As nurses instruct patients prior to surgery, it is their responsibility to make sure that all information gathered from the patient including interventions is accurately recorded (Tadesse et al., 2023).

The surgical patient should be taught by the nurse about potential complications after surgery and how to contact the nurses immediately. Dehiscence, which occurs when a surgical incision splits apart, and any fluid seeping from the surgical site are examples of problems (Baghel, & Solomon, 2023). They add that the patient should be taught by the nurse to report prolonged vomiting after surgery. Furthermore, it was disclosed that the nurse advises the surgical patient to promptly consider and convey any potential significant bleeding below the site of incision (Burgess et al., 2019).Lastly, nurses should educate patients that extreme pain may cause significant alterations in vital signs, which require immediate medical attention (Othin et al., 2020). The authors further noted that, following surgery, patients should avoid touching or placing any objects near the incision site.

Benefits of Pre-Operative Teaching to Patients

Pre-Operative Teaching Reduces Patient's Anxiety.

World Health Organization (WHO) states that globally, pre-operative teaching is noted to set patients' expectations about surgical and anesthetic procedures, as well as provide information regarding a care plan in the post-operative period (as cited in Zhuo et al., 2023). Pre-operative teaching and psychological preparation can reduce anxiety, tension, depression (Ali et al., 2020; Alkhafaji & Dawood, 2022;Allsop et al., 2019; Bazezew et al., 2023; Gezer & Arslan, 2019). According to data from research conducted in Colorado and Egypt, about 59.6% of surgical patients have preoperative anxiety related to the fear of surviving anesthesia; 53.9% have anxiety related to death; 51.7% have anxiety related to pain following surgery; and 43.3% have anxiety related to their families (Harms, 2020; Tadesse et al., 2023). According to these studies, pre-operative teaching for patients reduces anxiety, ensures that they are fully informed about the potential repercussions of the procedure, and prepares them psychologically to deal with the outcome.

Studies conducted in India by Hartani and Handayani (2021); Jain and Pansare (2021), noted that patients who did not get pre-operative teaching experienced anxiety, which exacerbated respiration, blood pressure, and bleeding thus increasing pain and mortality. In an Egyptian study, Mahmoud et al. (2020) observed that patients who got insufficient pre-operative teaching experienced emotional disturbance both before and after surgery.

Decreases Pain Intensity.

Pre-operative teaching sessions have been shown to reduce surgical patients' post-operative pain, according to a study conducted in Qatar, as reported by Albalushi and Forgrave

(2023). This is consistent with multiple Sub-Saharan African studies that found out that patients who received pre-operative teaching consumed fewer or no opioids and experienced less severe and intense post-operative pain than those who did not (Ali et al., 2021; Harris et al., 2020; Tadesse et al., 2023). Furthermore, according to Aaron (2021), patients should be advised to move around after recovering from anesthesia rather than spending a lot of time lying down or sitting still. Walking for a few minutes each hour throughout the day not only prevents the body from becoming rigid but also lowers the danger of blood clots forming after the treatment and lessens pain. He said that patients will return to their regular lives and jobs more quickly and would experience fewer post-operative problems, such as deep vein thrombosis and persistent pain, the earlier they move. According to a another study conducted in Uganda by Othin et al. (2020), 86% of the patients who got pre-operative education reported having less pain of 0–4 on a scale of 0–10, with 10 being the most severe pain and used less analgesics.

Reduces Post-Operative Complications.

Pre-operative teaching, according to The Joint Commission (2016) and Shehutsoho and Wafaagameel (2018), enhances patients' psychosocial support and coping mechanisms before surgery, which promotes positive post-operative outcomes and a high quality of life. According to WHO reports, devoting time to patients' pre-operative teaching helps close information gaps and lowers the risk of post-operative complications like wound infections and respiratory issues, which can result in a longer recovery period and subsequent hospital stays, chronic pain, and deep vein thrombosis (as cited in Aaron, 2021; Alkhafaji & Dawood, 2022).

Increases Patient's Satisfaction.

According to reviewed literature, pre-operative teaching improves patient satisfaction and reduces treatment costs by giving the surgical patient and family a better idea of what to expect after the procedure or surgery (Baghel & Solomon, 2023; Al amine & Abdallah, 2020; Mahmoud et al., 2020; Tadesse et al., 2023; Wong et al., 2022). As a result, it promotes early discharge and enhances patients' wellbeing.

Improves Nurse-Patient Relationship.

Pre-operative teaching allows for the identification of numerous problems that could negatively impact the patient's health during the interaction process (Brodersen et al., 2023; Wong et al., 2022). Early patient care planning might be based on pre-operative teaching (Tadesse et al., 2023). They also observed that pre-operative teaching enhanced the nurse-patient bond, which benefited patient care and the pre-operative instruction that nurses provided to their patients. Furthermore, the patients gained self-assurance and faith in their nurses.

Statistics on Abdominal Hysterectomy

One of the critical surgeries where pre-operative teaching can play a significant role is in the elective abdominal hysterectomy. Globally, as per WHO data base in 2019, an estimated 1,540,000 women underwent hysterectomy accounting for 24% of all surgeries making hysterectomy the most common non-pregnancy related major surgery performed in women (Chale et al., 2021). In the United States about half a million women undergo abdominal hysterectomy yearly and it is the second most performed procedure (Gressel et al., 2020).

In Sub-Saharan Africa, it is estimated that over 635,000 women had abdominal hysterectomy between 2018 and 2019 (Rudnicki et al., 2021). In a study done in Cameroon

between 2019 and 2020, out of a total of 7126 gynecological and obstetrical surgical cases 1007 were hysterectomies, giving a frequency of 14.21% (Nana et al., 2021). In Uganda, a total of 1,855 abdominal hysterectomies were performed across regional referral hospitals and 1,214 abdominal hysterectomies were performed across various district hospitals in the period of 2018-2019 (MOH, 2020).

In summary, when patients are taught pre-operatively about the nature of the procedure to be performed, the type of anesthesia to be used, the use of medications before and after surgery, what to expect after surgery, complications that may arise, exercises to be performed after surgery, food and nutrition before and after the procedure, they may assume some responsibility on managing their own pain and anxiety. Competent education providers and effective timing of education are contributing factors to better patient teaching. Delayed teaching can lead to increased anxiety and depression (Jain & Pansare, 2021).

There are Challenges With Knowledge and Practice of Nurses in Pre-Operative Teaching Which can Affect Outcomes

This section elaborates what knowledge nurses have on pre-operative teaching, whether the nurses perform it and why nurses are not involved in offering adequate pre-operative teaching practice. It also discusses the outcomes related to nurses' knowledge and practice.

Nurses' Knowledge on Pre-Operative Teaching

Knowledge is a Requirement in Pre-Operative Teaching.

Studies by Ali et al., (2022) and Hassan et al., (2023) cited that nurses play a vital role in pre-operative teaching and work as leaders as well as teachers in charge of assessing and teaching the clients before experiencing the surgical procedure. They further added that pre-

operative teaching received by the patients depends on the knowledge of the nurses about what to teach.

In order to effectively carry out critical tasks during pre-operative teaching, nurses must possess the necessary knowledge and skills to assess, diagnose, plan, intervene, and assess the results of their actions which are key areas during pre-operative teaching (Ali et al, 2023; Bazezew et al., 2023; Elsayed et al., 2021). Literature has shown that nurses should have the knowledge and ability to offer emotional support to the patients (Hassan et al., 2023). Nurses who are knowledgeable about pre-operative teaching should be able to allay patients' worries and help them feel better by answering any fears, anxieties, or inquiries that may come up (Bazezew et al., 2023; Mahmoud et al., 2021; Zhuo et al., 2023).Additionally, with their understanding of pre-operative teaching, nurses ought to be able to build a rapport of trust with patients, encourage ongoing assistance, and work together during the pre- and post-operative phases of the procedure.

Nurses' Knowledge is Inadequate.

As the foundation of any surgical patient care plan, pre-operative teaching knowledge is essential for nurses to possess in order to deliver focused and effective teaching. Nonetheless, research has shown that nurses' understanding of pre-operative teaching is still insufficient worldwide. According to studies by Hassan et al. (2023), Mohammed Helmy et al. (2023), Al amine Ali and Abdallah (2020), and Pueyo-Garrigues et al. (2022), the majority of nurses lacked sufficient knowledge regarding pre-operative teaching. According to their report, the knowledge levels of nurses about pre-operative teaching were 57.8%, 41%, 63.1%, and 28%, respectively.

A study in Iraq by Hameed and Mohammed, (2018) discovered that 24% of nurses had moderately adequate knowledge, 14% nurses had adequate knowledge and 62% nurses had inadequate knowledge of pre-operative teaching.More studies done in Ethiopia exposed that only 34.6% and 28% of nurses had good knowledge of pre-operative teaching and this was associated to their level of experience (Bazezew et al., 2023; Tadesse et al., 2023). Similar findings from qualitative studies were noted in Sudan and Egypt where it was revealed that most nurses lacked adequate knowledge on pre-operative teaching (Al amine Ali & Abdallah, 2020; Mahmoud et al., 2021). Nurses should be knowledgeable about patients' requirements to give the best nursing interventions to maintain patient safety, enhance patients' health and ultimately improve patients' life quality throughout the pre-operative stage (Jihad &Reda, 2018; Mohammed Helmy et al., 2023).

Nurses' did not Know What to Teach.

Pre-operative teaching is a professional obligation of nurses, according to qualitative research conducted in Ethiopia and Iraq. However, the teaching was not adequately done because the nurses did not know what to teach (Bazezew et al., 2023; Hassan et al., 2023). In their Tanzanian study, Carugno and Fatehi (2021) found that 48.5% of the nurses had basic knowledge on what to educate, while 51.5% did not know what to teach the patients before surgery.

The situation in Uganda is no different from many other countries. Namagembe (2018), Nankya et al., (2023) and Ngonzi et al., (2021) found that nurses lacked knowledge on pre-operative teaching. It was noted that 94%, 82% and 72% respectively of the nurses lacked knowledge.

Why Nurses' Practice on Pre-Operative Teaching is Inadequate

Current Pre-Operative Teaching Practice.

It is currently seen that patients frequently enter operating rooms without being fully informed about the type of surgery that will be done, the anesthetic techniques that will be employed, or the appropriate post-operative care they should follow (Elgin, 2018; Mahmoud et al., 2020; Rohi et al.,2019). Globally, studies have shown that pre-operative teaching practice is still lacking among nurses (Hassan et al., 2023; Majid, 2020). Only 27.8% of the respondents indicated that they had good pre-operative teaching practice in Iraq, according to AbdElgilil et al. (2020). Elsayed et al. (2021) discovered in another Egyptian study that just 22.5% of nurses had effective pre-operative teaching practices.

Pre-Operative Teaching is Associated With the Age and Experience of the Nurse.

According to qualitative research by Aaron (2021) as well as Kreem and Hamza (2019), only 32.5% and 28.3% of nurses, respectively, had pre-operative teaching experience. They also showed a correlation between the nurse's age and pre-operative teaching practices. Comparing senior nurses (30 years and older) to their 20- to 29-year-old counterparts, the former had superior pre-operative teaching practices.

Research has also demonstrated that nurses with more than five years of experience have a greater background in pre-operative teaching practice, which contributes to their superior practice in comparison to other nurses (Aaron, 2021; Bazezew et al., 2023; Ibrahim & Muhammad, 2021; Majid, 2020). They went on to say that this may be explained by the nurses' lack of confidence stemming from their inexperience, which is perceived to prevent them from instructing the patients and so deny them the chance to ask questions. As nurses get more pre-

operative teaching experience, they become more knowledgeable about the topic and can better instruct patients before surgery (Yilmaz et al., 2019).

Level of Education.

According to a Canadian research by Richard et al. (2020), a nurse's level of educational preparation affects how they engage in pre-operative patient teaching. Furthermore, a research conducted in Eastern Amhara, Ethiopia, by Tadesse et al. (2023), found that a nurse's educational background influences the kind and volume of information she will provide to patients. Additionally, research conducted in Northwest Ethiopia, Uganda, and Nigeria, respectively, has shown that nurses with bachelor's and master's degree training participate more in pre-operative teaching than their counterparts (Bazezew et al., 2023; Nankya et al., 2023; Shehutsoho, & Wafaagameel).

Nurses have Avoidance Behavior Towards Pre-Operative Teaching.

In research conducted in South Africa and Ethiopia, Malley et al. (2020) and Tadesse et al. (2023) found that nurses avoided practicing pre-operative teaching; only 28.0% and 33%, respectively, of nurses adequately practiced pre-operative teaching. According to reports from Hassan et al. (2023) and Ali et al. (2020), there was inadequate pre-operative teaching by the nurses, and some had never done so because they were unwilling. According to research findings, certain nurses need an educational intervention to comply with pre-operative teaching (Mahmoud et al., 2020).

Pre-operative teaching is the responsibility of the surgeon and anesthetist, according to some nurses, who avoided providing it in studies conducted in Malaysia and India (Ibrahim & Muhammad, 2021; Majid, 2020). They said that although pre-operative teaching is a duty that

nurses should do, some of them exhibit avoidance behavior and frequently tend to neglect their responsibilities.

Lack of Motivation.

According to a 2019 Indian research by Kreem and Hamza, nurses' motivation was crucial for pre-operative teaching. In comparison to unmotivated nurses, motivated nurses performed 3.49 times better in pre-operative teaching. In their qualitative study, Bazezew et al. (2023) found that the majority of participants identified a primary cause of insufficient pre-operative teaching practices as the hospital managers' lack of desire and attention. Motivated nurses may offer patients high-quality preoperative teaching (Elsayed et al., 2021; Hassan et al., 2023).

Lack of Time and Overwhelming Responsibilities.

In research conducted in Malawi, India, and East Amhara, Ethiopia, the nurse-patient ratio had a direct impact on pre-operative teaching practices (Gundo, 2019; Ibrahim & Muhammad, 2021; Tadesse et al., 2023). They also stated that pre-operative teachingwas performed well when the nurse to patient ratio was low, but that on other shifts with a high nurse-to-patient ratio, pre-operative teaching fell short because of the conflicting needs of patient care.

Various research findings (Kolebech et al., 2021; Malley et al., 2020; Majid, 2020 and Tadesse et al., 2023) indicate that nurses' pre-operative teaching is insufficient because of their excessive workloads, job overload, and staffing levels. They said that nurses can feel overwhelmed by their workloads and unable to provide the important instructional areas the attention they require.

In studies conducted in Malawi, China, and Nigeria, nurses' practice of pre-operative patient teachingwas shown to be clearly hindered by a lack of time (Oyetunde & Akinmeye, 2019; Majid, 2020; Yilmaz et al., 2019). It is thought that building a trustworthy relationship between the patient and the nurse requires adequate time (Oyetunde & Akinmeye, 2019). They also mentioned that because pre-operative teaching necessitates quality time, nurses who had adequate time to deliver preoperative patient teaching practices were twice as many as those who did not. The same circumstances exist in Uganda, where nurses are understaffed, have heavyworkloads, and have little time to provide pre-operative teaching (Ngonzi et al., 2021).

Unconducive Environment.

Ali et al., (2020) as well as Ibrahim and Muhammad, (2021) noted unfavorable facility settings and environments that hindered the effectiveness of pre-operative education for private discussions, hence influencing the amount and quality of instruction. Furthermore, nursing stations are unsafe settings for pre-operative instruction. Similar findings from studies done in Iraq and Kenya have shown that adequate spacing anda calm environment promote adequate teaching practice among the nurses (Hassan et al., 2023; Kolebech et al., 2021).

Language Barrier.

A study conducted in Nigeria found that there was a language barrier between the nurses and some patients due to the fact that Nigeria has many spoken languages. The study discovered that there was a linguistic barrier between certain patients and the nurses. The nurses do not speak every patient's language, and these patients do not speak English. This makes it challenging for the nurse to provide each patient with accurate information (Shehutsoho & Wafaagameel, 2018). The results are similar with research conducted in Malawi and Iraq

(Ibrahim & Muhamad, 2021; Majid, 2020). Pre-operative teaching practices may be hindered when nurses lack the necessary language and cultural skills and translators are unavailable, which may have an impact on the amount and quality of information provided to patients (Bazezew et al., 2023).

Cultural Factors Can Influence Nurses' Practice of Pre-Operative Teaching.

The practice of pre-operative teaching has been shown to be influenced by a number of factors previously investigated, including the complexity of patients' conditions, workplace culture, and the experiences of nurses. Researchers also noted that the practice of patient education may be impacted by a lack of knowledge about educational strategies and tactics as well as a failure to identify patients' educational needs (AbdElgilil et al., 2020; Feninets et al., 2022; Yilmaz et al., 2019). Social and cultural aspects impact patient teaching, according to research by Yeh et al. (2018) on factors impacting nurses' performance of pre-operative teaching instruction from a cultural viewpoint. As a result, when teaching patients, nurses need to be aware of cultural concerns related to their religion, way of life, language, and social standing. Nurses must also honor the cultural traditions of the family (Elsayed et al., 2021).

Lack of Training and Teaching Guidelines.

Studies have shown that there are significant gaps in nurses' pre-operative teaching practices, including inadequate training and guidelines (Elsayed et al., 2021; Kreem & Hamza, 2019; Tadesse et al., 2023). According to studies by Bazezew et al. (2023) and Zhuo et al. (2021), nurses who had preoperative patient teaching training were 3.360 and 2.049 times more likely, respectively, than their peers to have strong preoperative patient teaching practices. They added that in order to keep theoretical and practical skills current in every aspect of nursing

education, training is required. These studies suggested that in order for nurses to enhance their pre-operative teaching practices, they need to get training. In a study conducted in Egypt, Mohammed Helmy et al. (2023) also mentioned that nurses need to be educated and trained in pre-operative teaching in order to raise the standard for healthcare pre-operative teaching and acquire new knowledge and skills.

Nursing staff are reluctant to provide pre-operative instruction due to a lack of guidelines (Al amine Ali & Abdallah, 2020; Bazezew et al., 2023; Gundo, 2019; Ibrahim & Muhammad, 2021; Nankya et al., 2023). Furthermore, it was discovered that pre-operative teaching is practiced by nurses twice or more frequently when they use the guidelines than when they don't have. According to Mohammed Helmy et al. (2023), pre-operative teaching standard guidelines are considered a means of providing nurses with the theoretical and technical information and competence necessary to acquire new abilities and continually improve nursing teaching practice.

In summary, nurses need to acquire knowledge on pre-operative teaching because it is their knowledge and experience that influences the way to offer the teaching. Nurses fail to provide adequate teaching because they lack adequate knowledge and skills to teach the pre-operative patients.

Globally, Various Strategies Have Been Developed to Improve Nurses' Engagement in Pre-Operative Teaching

This section explains efforts that have been made to improve on nurses' participation in pre-operative teaching among patients undergoing surgery. It elaborates the strategies that have been put in place to improve pre-operative teaching.

In-service Training/CNE

Globally, various countries have created in-service training programs also known as continuous nursing education (CNE) for nurses in order to improve nurses' ability to provide appropriate and successful pre-operative teaching (Abboud et al., 2021; Elsayed et al., 2021). These courses are intended to provide nurses with the knowledge they need to teach patients both before and after surgery. Pre-operative teaching has been included into the curriculum for nurses undergoing pre-operative care training in clinical settings, according to a research conducted in Malawi (Gundo, 2019). However, the curriculum's content consists of brief lectures on pre-operative care rather than any focus on hands-on pre-operative teaching demonstrations. This restricts nurses' ability to gain the necessary skills to completely assist pre-operative teaching for surgical patients. In a research conducted in Iraq, Jihad and Reda (2018) created a training program that included the fundamental knowledge that nurses ought to impart to patients prior to surgery. It was observed that this enhanced the nurses' proficiency and understanding in patient pre-operative teaching.

AACN, 2016 noted that nurses' training is significantly associated with good pre-operative patient education practices (as cited in Tadesse et al., 2023). This implies that organizations should be prepared to provide service and in-service training programs for the nurses on preoperative patient education, based on the most recent evidence-based global and national guidelines.

Mentoring

Through a collaborative process known as mentoring, people with varying levels of experience and ability work together to encourage and develop others who are less skilled at a

given activity (Hookmani et al., 2021). Increasing a nurse's expertise and practice in a particular area is the aim of mentoring (Rudin & Lucidin, 2018). Research conducted in Egypt and Kenya resulted in the creation of a mentoring program for all recently hired employees as well as for those with little experience in pre-operative teaching (Mahmoud et al., 2021; Kolebech et al., 2021).

Pre-operative Teaching Using Printed Materials, and Multimedia Training

The Association of Perioperative Registered Nurses (AORN) created safety and responsibility guidelines for patient teaching in 2018. They created three different patient teaching techniques: multimedia-based instruction, printed materials/brochures, and verbal education. The vocal training paradigm, in which a nurse instructs a patient before to surgery using written, spoken, and image language, was recognized as an effective approach. However, it was mentioned in this training paradigm that the nurse needed a physical location to teach the patient and the patient's family. In order to inform, counsel, and guide patients and their families on patient care, printed patient education materials were utilized. For in-patient instruction and enhanced verbal teaching, printed materials are essential. Multimedia based training was noted to be offered in the web environment using information technologies and with this method, patients, their families, and health care professionals were said to easily access information without time and space constraints. In studies done in Northwest and East Ethiopia (as cited in Bazezew et al., 2023; Tadesse et al., 2023). They further noted that multimedia training involved teaching the patients using PowerPoint presentations, pre-recorded audio-messages or use of videos. They also said that these methods can be used together in order to enable the patients to understand clearly.

According to a research conducted in Greece by Feninets et al. (2022), pre-operative teaching interventions such as the use of films, pamphlets, and brochures have been shown to enhance nurses' knowledge and practice. This result is in line with research from Sudan, the Middle Euphrates, and Turkey that discovered nurses taught pre-operative patients with pamphlets, brochures, and videos. These studies also observed a decrease in pain intensity and a decreased need for opioid analgesics during the post-operative phase because the patients were adequately informed about what to do prior to, during, and following the procedure (Al amine Ali & Abdallah, 2020; Alkhafaji & Dawood, 2022; Yilmaz et al., 2019).

Motivation by the Nurse Leaders

A nurse leader should be able to inspire colleagues by establishing the tone for a secure work environment with a good morale and job retention culture, according to a study conducted in Middle Euphrates, Turkey (Abboud et al., 2021). They said that motivated nurses were better than their peers in performing pre-operative teaching. A nurse leader's responsibility is to supervise and uphold the provision of high-quality pre-operative information (Vimala et al., 2021). According to an Indian research, nurse leaders' growing expertise in pre-operative teaching and feedback-giving encourages nurses to provide pre-operative teaching (Ibrahim & Muhammad, 2021).

Checklist/Guidelines

A pre-operative teaching checklist consists of a set of actions and behaviors intended to support the patient's mental and physical readiness for surgery (Tadesse et al., 2023). Pre-operative teaching checklists were created to improve nurses' knowledge and practice since it was recognized that nurses play a crucial role in pre-operative teaching (Alkhafaji & Dawood,

2022; Tadesse et al, 2023: Zhuo et al., 2023). This is in line with a research conducted in the Middle Euphrates by Abboud et al., (2021), who also mention that pre-operative teaching checklists help nurses satisfy patients' demands and provide high-quality information. The checklist can also be utilized to increase the nurses' knowledge, competence, and confidence in pre-operative instruction, according to a South African research by (Vimala et al., 2021). In order to deliver high-quality patient education, the American Association of Colleges of Nursing (AACN) suggested using a pre-operative teaching checklist in 2018. However, most nations have not adopted this recommendation.

In order to enhance nurses' proficiency in pre-operative teaching, it is imperative that they undergo regular continuous nursing education, particularly for those employed in surgical wards (Tadesse et al., 2023). In order to enhance nurses' practice, WHO advises using pre-operative education guidelines (as cited in Bazezew et al., 2023). Pre-operative teaching guidelines, according to certain research, can assist nurses provide appropriate knowledge in the smallest amount of time, which will reduce workload (Harms, & Conolly, 2020; Oyetunde & Akinmeye, 2019).

According to a study conducted in Uganda by Nankya et al. (2023), in order to enhance nurses' pre-operative education practices, guidelines should be made available on the wards. In their research conducted in Colorado and Kenya, Harms and Connolly (2020) and Kolebech et al. (2021) confirmed that improved pre-operative teaching practices were directly related to a well-crafted pre-operative teaching list. According to a research by Tadesse et al. (2023), nurses who received pre-operative teaching instructions were three times more effective teachers than those who did not.

In conclusion, some interventions have been tried to improve nurses' knowledge and practice but their participation in pre-operative teaching has not been adequate among patients undergoing surgery. In Uganda, little is known about the use of a pre-operative teaching CNE based intervention therefore the study sought to assess the effect of a pre-operative teaching intervention through CNE on the nurses' knowledge and practice among women undergoing elective abdominal hysterectomy.

Summary

In conclusion, chapter two reviewed literature on what pre-operative teaching means and the history of pre-operative teaching. In this chapter, literature was presented on the pre-operative teaching process; when it occurs, where and what it entails. The highlighted literature revealed reasons as to why nurses should take part in pre-operative teaching. Lastly, the literature reviewed explained the efforts that have been made to help improve on nurses' participation in pre-operative teaching. Chapter three will describe the methodology to be used in this study.

Chapter Three: Methodology

The following chapter describes the methodology used in the study. This includes the method and design, study setting, the study population, sampling and sample size calculation. Chapter 3 also describes the procedure of data collection and data collection tools used in this study, data analysis plan and how ethical issues were handled.

Research Design

The study adopted a quantitative quasi-experimental research design, pre and posttest interventional study. Quasi experimental study design was used because the study aimed at evaluating the effectiveness of an educational intervention on nurses' knowledge and practice. The research design was a prediction study which aimed at predicting outcomes (Polit & Beck, 2019). This study aimed at determining the effect of introducing a pre-operative teaching intervention on nurses' knowledge and practice of pre-operative teaching among patients undergoing elective abdominal hysterectomy at a district hospital in Eastern Uganda.

Study Population

The study population involved qualified nurses in a district hospital working on the gynecology ward in a general hospital in Eastern Uganda. These are nurses that were assumed to be involved in the pre-operative teaching of patients therefore they were considered because their knowledge and practice directly influence patient outcomes making them the most relevant group to assess.

Study Setting

A district hospital in Eastern Uganda was used as the study's research site, specifically the gynecology unit, which treats patients having elective abdominal hysterectomy. This site was

purposively selected because it has sufficient patient registration rate for elective abdominal hysterectomy procedures that necessitate pre-operative patient teaching by the nurses. The hospital also receives a large number of volunteer nurses to support the already existing staff.

Sample

The study involved 30 respondents who were nurses working on the gynecology ward at a district level hospital in Eastern Uganda. This is because these nurses were involved in the care of women undergoing elective abdominal hysterectomy.

Sampling Method

A census study approach was used, involving all nurses in the study. Because the target population was small and manageable, this approach was used in order to minimize sampling bias and enable comprehensive data gathering. Maximum population representation was guaranteed by using a census, which also improved the validity of the study's conclusions (Polit & Beck, 2019).

Sample Size Determination

A census study approach was used to calculate the sample size. The thirty nurses who worked in the District Hospital's gynecological unit made up the target population. It was both practicable and methodologically reasonable to include all eligible nurses due to the small and well-defined group. This strategy reduced sample bias, guaranteed full population coverage, and improved the accuracy and dependability of the study's conclusions (Polit & Beck, 2019).

Inclusion and Exclusion Criteria

Inclusion criteria: Nurses who had been employed in the gynecological ward for a month or more and who were willing to participate voluntarily by giving written informed consent were eligible to participate (Appendix A). These nurses were thought to be competent to offer pertinent insights into pre-operative teaching for women having elective abdominal hysterectomy.

Exclusion criteria: Nurses with less than a month's experience on the gynecological ward were unlikely to have had enough exposure to pre-operative teaching practice. No participants met this exclusion criterion during the time of data collection.

Data Collection

After permissions were granted from UCU REC and the hospital, the researcher began the data collection process. The researcher organized gynecology ward staff meetings within the staff room as an in-charge of the ward. The researcher gathered the potential participants into two groups per day for two days, in the morning hours and in the afternoon hours to present my research study to them and solicit their participation. While in the meetings, the researcher was able to orient staff about the study, inform them about the rationale for conducting it and thereafter invited them to participate in the study. Because the researcher was the in-charge of the department, she introduced the study and allowed the research assistants who were nurses from another hospital that had been trained to engage in signing of the informed consent forms (Appendix A).

The participants who signed the consent forms (Appendix A) were given the questionnaire with a pre-generated code, for anonymity, (Appendix B) to assess for their

knowledge. The completed questionnaires were kept in lockable cupboard. The process of pre-intervention data collection was done in two days and post-intervention data collection was completed two weeks after the CNE intervention.

After an educational intervention, the research assistant made announcements at the shift change to the participants within the gynecology ward staff room to administer the post-test. The research assistant collected the post-test data twice a day for two days. This was done in the morning and afternoon hours from the gynecology ward staff room. The research assistant looked for the participants who did not make it to the meeting to ensure that all participants who signed consent forms completed the posttest questionnaires. Codes assigned to the respondents for pretest were the same codes that were used for the posttest after the educational intervention. After data collection for post intervention, all completed questionnaires were given to the researcher who kept them in a lockable cupboard in the researcher's office and only accessed by the researcher until data entry.

Prior to the implementation of the actual CNE intervention, research assistants conducted direct observation of the nurses' practices, for comparative purposes. Later, nurses were observed as they provided pre-operative teaching to patients scheduled for abdominal hysterectomy using the 13-item checklist (Appendix C). Each nurse was observed individually, and care was taken not to interfere with normal workflow. Research assistants(observers) ensured objectivity and consistency by using the same standardized tool across all sessions. Post-intervention observations were conducted approximately 2 weeks later to allow nurses time to integrate new knowledge into their practice. The same codes used on the questionnaires were used while filling the checklists. The checklists were kept in a sealed envelope until data

analysis. Nurses were assured that the data collected would be used strictly for research purposes and would not affect their employment.

Intervention

Though only those nurses in the study completed the questionnaires, all nurses working on the gynecology ward were invited to a Continuous Nurses Education (CNE) session according to the prevailing protocols of the hospital on Continuing Professional Development (CPD) to learn pre-operative teaching. One main session was conducted in the board room at 9:00am with a second smaller one the following day at 4:00pmin the duty room for those few nurses who missed the first one due to not being on duty, but had registered interest in the topic.

The educational intervention session took about two hours and was conducted by the research investigator. A lesson plan (Appendix D), and Power-point presentation (Appendix E) for teaching are attached. Nurses were asked what they knew concerning the pre-operative teaching and what was learned from the session. The researcher also used visual aids (flip charts) with diagrams to supplement the power point teaching and participants were actively involved in asking questions, participating in some practical application activities and receiving responses.

This study was based on Roger's Diffusion of Innovation theory (2003) and the researcher utilized the adopter categories she described as she taught and mentored the study's participants. The researcher was the innovator who developed the pre-operative teaching intervention, CNE. The researcher introduced the topic to the participants and identified those that were excited and most enthusiastic about pre-operative teaching (the early adopters). They were identified at the beginning of the training so they were ready to adopt pre-operative teaching. They acted as "champions" and helped to promote the teaching. The researcher worked

with them for two extra hours and engaged them to work with others. Together with the early adopters, we were able to identify the early majority, late majority and the laggards. The early majority were a large proportion of the nurses who could easily be persuaded to accept the pre-operative teaching. These nurses were convinced by the experiences that the researcher has had when she helped patients undergoing surgery by offering adequate pre-operative teaching. For those nurses who were still hesitant and resistant to change (late majority and laggards), the early adopters and early majority helped to convince them to adopt the use of a pre-operative teaching.

The intervention plan(Appendix F) included working with participants individually to provide assistance and support after the CNE as they implemented pre-operative teaching on the ward. Working with participants individually took two weeks (weeks two and three). The researcher worked the day shift for two days, the evening shift for two days and on the fifth day, the researcher was present for both shifts to ensure that all the nurses learned to use the pre-operative teaching intervention.

After two weeks of working with participants individually, the nurses had to work independently for two weeks (weeks four and five). During the fifth week, a brief follow up meeting for 30 minutes was organized on a Wednesday afternoon in the gynecology ward with the nurses. The nurses shared their experiences and challenges including questions, which were addressed by the researcher. During the two weeks of individual participation, the researcher who was the innovator and the early adopters helped those with any questions while performing pre-operative teaching.

Data Collection Tool

The researcher employed a questionnaire (Appendix B)and an observable checklist (Appendix C)in form of a pre-test and post-test for data collection. The study questionnaire (Appendix B) was developed to assess for knowledge by the researcher guided by the research question and objectives and informed by literature regarding pre-operative teaching (Bazezew, et al., 2023; Hassan et al., 2023; Jihad & Reda, 2018). Each individual was given a questionnaire to answer because it was cost-effective, reduced the risk of interviewer bias influencing the participants and also reduced inadequate responses by nurses fearing to be criticized in some sensitive questions (Leon et al., 2022). The researcher did not translate the questionnaire into another language as the nurses were literate people who can understand English.

The multiple choice questions assessed the knowledge of nurses (Polit &Beck, 2019) on pre-operative teaching among patients undergoing elective abdominal hysterectomy. These questions were effective to analyze with quantitative statistical measures and were most efficient in obtaining data to answer research questions (Nemati et al., 2020; Saadeh et al., 2021; Viera et al., 2020).

Each of the 13 essential items on the checklist (Appendix C) represented a crucial aspect of pre-operative teaching prior to surgery. Based on the review of literature, surgical nursing guidelines, and discussions with clinical specialists, these items were chosen (Ahmed & Abdulraham, 2018). Every item was evaluated in light of the nurse's real actions during patient teaching. The checklist was created to guarantee standardized observation across participants, offer a measurable indicator of nursing practice, and facilitate comparisons between the CNE before and after the intervention to assess its efficacy (Alfarsi et al., 2020).

Item Analysis

This area covered analysis of the items in each of the three sections of the questionnaire. The sections were the demographic characteristics of the participants, the section on the nurses' knowledge about pre-operative teaching. It also contains a section about the nurses' practice towards pre-operative teaching.

Demographic Characteristics of Participants

The questionnaire was divided into two sections. The first questions (1-6) was about demographic data of the participants and consists of 6 items that include gender, age in years, years of experience, educational qualifications, prior training about pre-operative teaching, and when the training was conducted. This concise set of questions aimed to establish a comprehensive understanding of the demographic profile of the nursing participants. This information played a crucial role in contextualizing the study's findings and describing the socio-demographic factors and the nurses' proficiency in pre-operative teaching.

Nurses' Knowledge About Pre-Operative Teaching

The knowledge section contained 20 multiple choice questions (questions 7-27). This covered the nurses' knowledge towards pre-operative teaching.

Each question carried one point and the total points achieved were calculated against the total number of questions and expressed as a percentage to get a final knowledge score. For example if a participant answered 10 questions correctly, it was calculated as 10/20*100% = 50%. The points for each knowledge question were used to create a knowledge score for each participant by adding up the number of correct answers.

Individuals who scored 80% and above were classified as "highly knowledgeable," signifying a strong and comprehensive understanding of pre-operative teaching. Participants achieving a percentage score between 60% and 79% fell into the "moderately knowledgeable" category, indicating a solid grasp of the material. Those scoring between 40% and 59% were categorized as having "basic knowledge," denoting a foundational understanding with room for improvement. The "limited knowledge" category included participants with scores between 20% and 39%, indicating a minimal understanding, while those scoring below 20% were categorized as having "very limited knowledge (Hassan et al., 2023; Özcan et al., 2023).

Nurses' Practice Towards Pre-Operative Teaching

A standardized checklist was developed based on evidence-based guidelines and best practices for pre-operative teaching in abdominal hysterectomy to assess nurses' practice. It included key nursing actions that should be performed before surgery, such as: patient teaching about the procedure, fasting, post-operative exercises, medications, etc.

To assess any modifications in nursing practice, the checklist was used both before and after the teaching CNE intervention. During real-time observations of nurses providing care for patients scheduled for elective abdominal hysterectomy, the researcher employed the checklist. The checklist consisted of 13 aspects about the nurses' practices of pre-operative teaching. Participants' performance was rated using the frequency that ranged from 0 ("Not done") to 2("Done"). The "Done" option was awarded 2 points, "Partially done" 1 and "Not done" was 0.

The items covered a spectrum of practices such as, teaching about the type of surgery she is to undergo, talking about anxieties and fears, fasting, pain management and exercises to perform after recovery from anesthesia. The mean score for each individual was obtained by

summing up their responses and dividing by the total number of statements. This mean score served as the basis for categorizing participants into distinct levels of practices.

Participants who scored 1.5- 2.0 were considered to have an excellent practice, 1.0- 1.4, good practice, 0.5- 0.9 fair practice and <0.4 poor practice (Bazezew et al., 2023; Hassan et al., 2023). Several researchers recommended assessing the nurses' practice on pre-operative teaching in order to develop strategies to enhance their clinical preparedness and practice using this scale (Bazezew et al., 2023; Nankya et al., 2023; Yilmaz et al., 2019).

Pilot Plan

The researcher conducted a pilot study by involving a small sample of five nurses. These participants shared similar characteristics with the targeted sample and worked in another district hospital within the same region. The purpose of this pilot study was therefore to identify any potential issues, ambiguities, or discrepancies in the questionnaire and checklist, to determine how much time was required to complete it, and to ensure that it effectively captured the intended information. After filling of the questionnaires and the checklist, the researcher asked these nurses if there were any confusing words, sections and items to them. They reported that the questions and all the sections were not confusing and were clear. The results of the pilot study were entered into SPSS version 24 to formulate the codebook and test the performance of the questions. The codebook contained information about the variables in the data, their labels, and their properties. This helped to ensure that the data was properly coded and could be analyzed accurately.

Validity

The questionnaire and checklist were developed based on existing literature, clinical guidelines, and best practices in pre-operative nursing care for abdominal hysterectomy. Two faculty from Uganda Christian University helped in the development of the questions and items in the checklist. Then two nursing experts individually (two senior nursing officers at the hospital) validated the tools.

The faculty also reviewed the questionnaire and checklist for approval of further additional adjustments before the researcher used it with participants (first the pilot study and then the actual research study).

Reliability

Reliability is the degree to which the research results are consistent and stable over time and across different samples, methods, and repeatable outcomes (Polit & Beck, 2019). The reliability of the questionnaire obtained in the pilot study was determined and its Cronbach's alpha value was 0.824 which indicated adequate internal consistency for this questionnaire. . . This was done in order to estimate the extent to which different parts of the questionnaire reliably measured knowledge and practices of nurses.

The researcher observed the practice checklist; during the pilot phase, two observers utilized the checklist independently on a sample of five nurses. The checklist's inter-rater reliability was determined. Cohen's kappa statistic, which was used to assess the degree of agreement amongst observers, revealed a value of 0.78, indicating considerable agreement (Polit & Beck, 2019). Items that were redundant or unclear were changed or eliminated in response to

expert input and the outcomes of the pilot testing. The instruments utilized in the final data collection process were only approved and dependable versions.

Data Analysis

Data analysis was done using IBM SPSS Statistics (Version 24). Descriptive statistics was used to analyze demographic data. Descriptive and inferential statistics was used for knowledge and practice analysis.

Demographic Data

Descriptive statistics was used to explain sample characteristics of the population. Frequencies and percentages for age, years of working at the gynecology ward, educational level and whether the participants had undergone training on pre-operative teaching were computed. Frequencies and percentages were obtained for demographic data to describe the distribution in the study population and they were reported in the form of tables.

Nurses' Knowledge Analysis

For knowledge scores, each individual participant's answers were entered into the software according to an established codebook. Each individual's overall score was calculated by percent and also by assigning a category. I looked at the overall group scores by calculating the mean percentage and also by looking at the distribution in categories and their mean. This process of analyzing knowledge scores was done both on the pre-test and post-test data in order to determine areas that the participants were knowledgeable and areas with poor knowledge.

Each item in the questionnaire was analyzed for its performance which helped in identifying areas of strengths and weakness. This was done by looking at the percentage score of each question and questions which had been passed highly with 80% and above were considered

areas of strength. Questions which were passed with percentages below 50% were considered areas of weakness. This helped me to see if the intervention had an effect on the strengths and weaknesses. This also helped me to understand what areas the nurses had excellent knowledge and areas with poor knowledge. The researcher presented findings above as well as these in a table format and compared the data before and after to identify the effect of the intervention to learn more specifically how the knowledge was affected after the intervention.

Finally, a comparison statistic using a paired-t test was used to look at the effect of the intervention on knowledge (Polit &Beck, 2019).Statistical significance was set at a p-value of <0.05. If the p-value was 0.05 or less, it would be judged that the intervention caused significant change in the nurses' knowledge and if it was greater than 0.05 then it would not have caused any significant change (Polit & Beck, 2019). These were presented in a table for easy comparison of the pre and post data results.

Nurses' Practice Analysis

For practice scores, the researcher entered each individual participant's answers into the software and each was calculated by mean and by category for the pre-test data. The overall group scores were analyzed by looking at the overall mean for the group and the distribution in categories and the mean for that. The researcher also did the same for the post-test responses. The data was then compared before and after in table format since this was a pre-test and post-test interventional study.

Each item in the intervention was analyzed for its performance and this helped in identifying areas of strengths and weakness. This was done by looking at the percentage score of each practice item and each item which had been practiced highly with 80% and above score

were considered areas of strength. Items which were practiced with percentages below 50% score were considered areas of weakness. This helped the researcher to see if the intervention had an effect on the strengths and weaknesses. Finally, a comparison statistic using a Wilcoxon signed-rank test was used to look at the effect of the intervention on nurses' practices (Polit&Beck, 2019, p.387).If there was a P-value of 0.05 or less then that would mean that there was a difference in performance before and after the intervention(Bahlibi et al., 2022).A p-value less than 0.05 is typically considered to be statistically significant.

Ethical Considerations

This section contains the ethical approval, description of the process and meaning of obtaining informed consent, descriptions of how the researcher fully ensured privacy and confidentiality, and the benefits and risks involved in this study. It also covered the use of incentives and the social or cultural issues that might be sensitive in this study.

Ethical Approval

Administrative approval to develop the proposal (Appendix A) was obtained from the hospital where the study was conducted. Ethical review was sought from the UCU Research Ethics Committee (REC). Once approved, the Head of Department, Nursing, wrote an introductory letter to the appropriate person at the data collection site. The principal investigator then went back to the hospital to seek permission to start the study.

Informed Consent

Informed consent (Appendix A) was obtained from each individual before being enrolled as a participant. Participation was completely voluntary, and they were informed about their right to participate or decline. The informed consent contained the title of the study, the researcher's

contact information and included my supervisor's contacts. Given contact information of the researcher and the supervisors, participants were free to raise any concerns or issues. The consent contained the introduction and purpose of the study including information on the inclusion criteria and description of the study. It also further contained the potential benefits, risks, and how confidentiality was maintained during data analysis. The form ended with an authorization statement and signature lines and dates where the participant signed.

Privacy

Because the principal investigator was the in-charge of the department, she introduced the study and let the research assistant collect the signed consent forms then return them to me to keep and he collected data thereafter. The researcher ensured that the research assistant was trained and informed to keep questionnaires safe. This is because if the researcher collected data herself nurses would have been worried to submit the questionnaire with their knowledge clearly identified.

Participants were assured their names will not be used on the questionnaires but codes will be used for the purposes of anonymity. Each participant was given a code as a unique identifier to use on the pretest. Codes assigned to participants for pretest were the same codes used for the posttest after the educational intervention. The research assistant kept a paper with participants' names and their codes in an envelope and locked up in cupboard on the ward only accessible by the research assistant. When completing their posttest, the research assistant used that paper to remind them of their code from the pre-test.

Confidentiality

During and after data collection and analysis, confidentiality was ensured. Completed questionnaires were kept safe under lock and key in the researchers' office in a lockable cupboard. Access was restricted to the researcher and where the need arose the supervisor and statistician who would also not be able to correlate the code and the name.

All information in SPSS containing data was password protected and access restricted to the researcher and statistician during the analysis phase or supervisor if the need arises. After data entry, the questionnaires were kept under lock and key and this continued until the study has been published. The participants were informed of how data was reported in aggregate form as opposed to an individual basis. In addition, the filled in questionnaires and consent forms will be destroyed after submission for publication of the study within the first year after completion of the program of study.

Benefits

The participants benefited by attaining knowledge about pre-operative teaching and this improved their practice. The participants adopted the use of the checklist in their daily rendering of teaching to patients undergoing other surgical procedures following the study.

Risks

There were no risks related to this study.

Incentives

The participants were not ~~be~~ paid but were given a token of appreciation of 10000shs (ten thousand shillings) for their participation after post-test questionnaire was completed. The participants also received a notebook and a pen for their personal use.

Socio-Cultural issues

The researcher works on this ward as a ward-in charge however she was not directly involved in the data collection, the research assistant conducted this process. The researcher identified the power dynamic and addressed the issues that were associated with it. Power dynamic refers to the potential imbalance in influence, authority or control which could impact the participants' ability to freely express themselves or make informed decisions (Aspinall et al., 2021). The researcher introduced the study and let the research assistant collect consent forms and questionnaires in order to avoid participants' discomfort when expressing their knowledge and practices on pre-operative teaching.

The researcher is aware of the differences in academic levels between the participants and me, most of whom are at certificate, diploma and undergraduate levels. The researcher offered the educational intervention in a welcoming and non-threatening way and it was offered in English language that nurses understand very well. This allowed all the nurses to comprehend it clearly and she also avoided using academic language that they might not be familiar with when teaching.

Conflict of Interest

There was no conflict of interest to this study. This study was self-sponsored, being done as a requirement for the award of master's degree in nursing science of Uganda Christian University.

Summary

This chapter covers key sections such as study design, population, study setting, sampling, selection criteria, and data collection steps. Furthermore, the chapter contains

information about the questionnaire, intervention, validity and reliability measures, data analysis, and ethical considerations. Chapter 4 will contain the presentation of research findings.

Chapter Four: Presentation of Research Findings

This chapter presents findings about the effect of a pre-operative teaching intervention on nurses' knowledge and practice towards pre-operative teaching among women undergoing elective abdominal hysterectomy. This chapter will also discuss the findings of the demographic data, effect of the pre-operative teaching intervention on nurses' knowledge and practice.

Demographic Results

The data collected on demographic variables in this study include the following: age, gender, highest level of professional training in nursing, employment status, years of experience in healthcare, and the timing of the last training on pre-operative teaching.

In Table 1, the demographic findings of the study respondents are as follows. A majority of the respondents (43%) with 67% of them being female nurses. Additionally, a majority (40%)were diploma holders. The majority (67%) of the study respondents were full-time employees of the hospital with 47% of them having 1-5 years of experience. In terms of experience, 40% of them had their last training on pre-operative teaching within the past 6-10 years.

Table 1

Results on Demographic Information (N=30)

Category	Frequency	Percent (%)
Age of respondent		
25-30	13	43
31-35	6	20
36-39	4	13
40-45	5	17
50-55	2	7
56-60	1	3
Gender of respondent		
Male	10	33
Female	20	67
Highest level of professional training in Nursing		
Certificate	10	33
Diploma	12	40
Bachelors	8	27
Respondent's employment status		
Full time	20	67
Contract	4	13
Volunteer	6	20
Years of experience in healthcare		
1 – 5	16	53
6-10	5	17
11-15	2	7
16-20	3	10
21 – 25	4	13
Previous training on pre-operative teaching		
1–5	14	47
6–10	12	40
11 –15	2	7
16–20	1	3
21 –25	1	3

Knowledge

This section includes the descriptive findings, inferential findings and the analysis of the performance by each question. It further explains the nurses' knowledge before and after the intervention to elaborate the effect of the intervention.

Descriptive Findings on Knowledge

The descriptive findings section describes the participants' overall pre and post test scores. In addition, the comparison of participants' knowledge by raw scores and categories is given.

Comparison by Raw Scores

This section included the pre and post-test raw scores for the group. In addition, the comparison of participants' knowledge by categories and inferential finding arising from the t-test analysis.

Prior to the intervention, the overall mean knowledge score of the study respondents regarding pre-operative teaching for patients undergoing elective abdominal hysterectomy was 43% (see Appendix H). Following the intervention, the mean knowledge score increased substantially to approximately 97% (see Appendix I), reflecting an improvement of 54 percentage points. This notable increase suggests that the pre-operative teaching intervention was effective in enhancing the nurses' knowledge.

Table 2

Comparison of nurses' Knowledge Before and After by Categories

Level of Knowledge (in %)	Pre-Intervention		Post-Intervention		% Change
	Frequency	Percent	Frequency	Percent	
Highly knowledgeable (≥ 80)	0	0	27	90	90
Better Knowledge (70 - 79)	3	10	3	10	0
Fairly knowledgeable (50 - 69)	5	17	0	0	- 17
Poor knowledge (<50)	22	73	0	0	- 73

Table 2 illustrates a noticeable improvement in the knowledge by categories for nurses following the CNE-based intervention of the pre-operative teaching for patients undergoing elective abdominal hysterectomy. Prior to the intervention, none of the nurses was highly knowledgeable whereas 73% of the nurses had poor knowledge. However, following the intervention 90% of the nurses were highly knowledgeable and none of them had poor knowledge.These findings indicate that the intervention had a substantial positive impact on the nurses' knowledge levels.

Inferential Findings on Knowledge

This section presents analysis using the paired t-test analysis which was done to establish any statistically significant differences in the nurses' level of knowledge as a result of the intervention. Significance is established by identifying p-values less than 0.05.

In Table 3, before the intervention, the mean percent knowledge score of the nurses was 44% (less knowledgeable), with a standard deviation (SD) of 15.4. However, after the intervention, the mean percent knowledge score increased to 91% (highly knowledgeable), with

a reduced standard deviation of 6.7.This substantial increase is statistically significant, with a p-value of less than 0.05 as noted in Table 3.These results suggest that the intervention was effective in improving nurses' knowledge levels.

Table 3

Comparison of Mean Score Level of Knowledge Before and After the Intervention Using a Paired t-test

	Mean (%)	SD	P-value
Pre- Intervention	44	15.4	
Post- Intervention	91	6.7	<0.05

Nurses' Performance on Knowledge Questions

In this section each item in the questionnaire was analyzed to establish its performance in order to help in identifying areas of strengths and areas of weakness. The effect of the intervention on nurses' knowledge (Appendix K) is shown in the post-intervention column. A score of 80% is considered area of strength and a score below 50% is considered area of weakness.

From the comparison of performance against each knowledge statement shown in Appendix K, the knowledge statement that *the primary reason for a long pre-operative teaching session* scored the lowest percentage (3%) before intervention but afterwards it scored a higher percentage (90%). Before the intervention, the knowledge statement *that the nurse should educate the pre-operative patient about early ambulation to prevent*, scored the highest percentage (80%) and after the intervention the percentage increased to 100%. During the post-

test, all 21 items scored above 80% (Appendix K).Notably, indicating that the intervention effectively strengthened knowledge across all areas assessed (see Appendix K for item-level performance).

Practice

The practice section describes the descriptive findings, inferential findings and the analysis of the performance of each question. The section identifies the participants' practice before and after the intervention.

Descriptive Findings on Practice

This section contains findings about nurses' performance of pre-operative teaching practices for patients undergoing elective abdominal hysterectomy. Findings are presented in raw scores and by category.

Comparison by Raw Scores

This section presents the overall mean raw score on practices regarding the pre-operative for patients undergoing elective abdominal hysterectomy. At pre-intervention as presented in Appendix L, the overall mean practice score of the study respondents was 2.1. However, following the intervention as revealed in Appendix M, the overall mean score practice of the study respondents improved to approximately 3.4, indicating a marked improvement in nursing practices related to pre-operative patient teaching (see Appendices L and M for details).

Table 4

Comparison of Nurses' Practice by Categories Before and After the Intervention

Practice Category	Pre-Intervention		Post-Intervention		% change
	Frequency	Percent	Frequency	Percent	
Excellent practice (>1.5)	0	0	0	0	0
Good practice (1.0 – 1.4)	0	0	3	10	10
Fair practice (0.5 – 0.9)	18	60	27	90	30
Poor practice (< 0.4)	12	40	0	0	-40

Nurses' practices were categorized and compared before and after the intervention. Prior to the intervention, 40% (n = 12) of participants demonstrated poor practice, while 60% (n = 18) were in the fair practice category. No participants were classified as having good or excellent practices.

Following the Continuous Nursing Education intervention, the distribution shifted notably. A majority of nurses (90%, n = 27) demonstrated fair practice, and 10% (n = 3) were classified as having good practice. No participants were classified in the poor or excellent practice categories at post-intervention. This shift reflects a 40% decrease in poor practice and a 10% increase in good practice, indicating a positive effect of the intervention on nursing practice.

Inferential Findings

This section presents analysis from Wilcoxon signed-rank test analysis which is done to establish any statistically significant differences in nurse's level of practice as a result of the intervention. Significance is established by identifying a p-value less than 0.05.

Table 5

Comparison of Mean Score of Practices Before and After the Intervention Using the Wilcoxon signed rank test

	Mean Score	SD	P-value
Before Intervention	2.1	0.45	
After Intervention	2.5	0.26	0.001

The findings in Table 5 illustrate that before the intervention, the mean practice score of nurses was 2.1. After introducing the pre-operative teaching checklist, the mean practice score increased to 2.5. The Wilcoxon signed rank test result of 0.26 achieved the P-value of 0.001.This suggests that the intervention had a significant positive effect on the nurses' practices.

Analysis of Performance of Practice Questions

A comparison of pre- and post-intervention practice data (see Appendix O) revealed improvements in several key areas. For example, the practice of *explaining pre- and post-operative medications* increased from 30% (fair practice) before the intervention to 74% afterward. Similarly, the practice of *teaching turning exercises* improved from 53% to 70%, reflecting a shift from fair to good practice.

Prior to the intervention, 12 practice items scored below 50%, indicating areas of weakness and none reached the 80% threshold considered an area of strength. After the intervention, the number of practice items scoring below 50% decreased to five, although no items achieved scores within the excellent performance range (>80%). These results suggest that the intervention notably improved nursing practices.

Summary

The chapter presented the findings on demographics and the effect of pre-operative teaching intervention of Continuous Nursing Education on nurses' knowledge and practice towards pre-operative teaching among women undergoing elective abdominal hysterectomy. There was a significant improvement on nurses' knowledge and a significant improvement on practice towards pre-operative teaching after the pre-operative teaching intervention. The next chapter will discuss the study findings and offer interpretation of their meaning.

Chapter Five: Interpretation and Discussion of Findings

Chapter Five contains discussions and interpretations of the study findings regarding the effect of a pre-operative teaching intervention on nurses' knowledge and practice among women undergoing elective abdominal hysterectomy. This chapter will also discuss recommendations, limitations, areas for further study, application of the theoretical framework to the study and the conclusion section.

Demographic Data

This section presents a detailed discussion and interpretation relating to all the demographic variables of the study findings. This includes the age, gender, level of education, years of experience, employment status and previous training period of pre-operative teaching.

The study finding disclosed that 43% of the study respondents consisted of those that were aged between 20 – 25 years old. This finding implies that the study population consisted of a relatively young nurses which isn't surprising given the fact that Ugandan population is largely composed of youthful population. This result is consistent with the findings of (Atuhaire et al., 2022), which revealed that the average age of nurses at Mbarara Regional Referral Hospital was between 20 and 30 years old. They further noted that the implication of having a younger nursing workforce may include factors such as higher adaptability to new changes, openness to training, and longer potential service periods.

The study disclosed that 67% of the nurses were female which is also common in most district hospitals in Uganda. This result is consistent with the historical observation that women predominate in the nursing field. The above mentioned results are in line with Teresa-Morales et al.'s (2022) observation that women make up the majority of nurses. Udho and Kabunga (2022)

in a study to establish the factors associated with burnout among Hospital- Based Nurses in Northern Uganda disclosed that 56.5% of nurses were female. Furthermore, 56.8% of the nurses in Mbarara Regional Referral Hospital were female, according to a survey conducted by Atuhaire et al.,(2022) to determine the knowledge and practices of the nurses there.According to Ninsiima et al. (2023), 72% of nurses at Entebbe Regional Referral Hospital were female, in their study about factors influencing nurses' implementation of the nursing process. The evidence presented by Brysk (2023) supports the idea that women predominate the nursing profession, since they account for over 70% of healthcare professionals worldwide, including those in the nursing profession. He further added that this widespread gender pattern may be rooted in traditional gender roles, societal expectations, and the perception of nursing as a caring profession attributes often culturally associated with women.

The diploma represented the greatest educational attainment for 40% of the nurses, suggesting a higher comprehension of the pre-operative teaching training and, consequently, an improved ability to provide pre-operative teaching to women undergoing elective abdominal hysterectomy. The results presented above are in line with those of Okuonzi et al. (2023), who discovered that the majority of nurses held diplomas (57%) and Ninsiima et al. (2023), who discovered that 53.1% of nurses had a diploma as their highest level of academic education and were the best participants in pre-operative care. The findings emphasize the importance of diploma-level training in preparing nurses to competently fulfill their roles in pre-operative teaching and patient care.

According to the study, 67% of the nurses worked full-time for the hospital. Given that full-time nurses are expected to service the majority of government healthcare facilities, this

finding is not surprising. The aforementioned result is in line with research on factors influencing job satisfaction and intention to stay among healthcare professionals in Zambia and Uganda, which found that the majority of nurses (77%) were full-time employees of publicly owned facilities (Kim et al., 2021). The predominance of full-time employment among nurses in the study highlights the critical role of stable, long-term nursing staff in sustaining healthcare delivery in government hospitals.

According to the report, 53% of the nurses had between one and five years of nursing experience. This suggests that most nurses had a fair amount of time to put their nursing knowledge and abilities into practice after completing their school-based training, and as a result, they ought to be more capable of performing their duties. The data from Udho & Kabunga (2022), which revealed that 48% of the nurses had less than six (6) years of experience, is consistent with the aforementioned finding. Furthermore, in a study conducted by Amito and Okello (2022) at Lira Regional Referral Hospital to determine the knowledge and practice of nurses on surgical site infections, it was found that 48% of the nurses had between two and five years of work experience. Research indicates that compared to other nurses, nurses with over three years of experience had better pre-operative teaching practices (Aaron, 2021 & Bazezew et al., 2023). Furthermore, nurses become more knowledgeable and practical with increased pre-operative teaching experience (Yilmaz et al., 2019). It also highlights the importance of ongoing professional education to further strengthen their skills as they advance in their careers.

According to the study, 47% of the nurses got their previous pre-operative teaching training within the last one to five years, and 40% had their previous training within the last six to ten years. This result suggests that the nurses had been practicing preoperative teaching for a

comparatively longer amount of time without receiving refresher training to improve their pre-operative teaching abilities. The above mentioned results are in line with a qualitative situational study review from Kenya, Nigeria, South Africa, and Uganda, which revealed that nurses were more knowledgeable and practical when they completed refresher training in their areas of expertise, and that they took longer to do so overall (Couper et al., 2018).

Effects of a Pre-Operative Teaching Intervention on Nurses' Knowledge

The results of the study showed that once the pre-operative teaching intervention for patients having an elective abdominal hysterectomy was implemented, the nurses' level of expertise improved. Prior to the intervention, the nurses' overall mean knowledge score on pre-operative teaching for patients having an elective abdominal hysterectomy was 43% and following the intervention, the mean score increased to 97%. The above mentioned findings are consistent with the results of Kreem et al. (2019), in which a significant difference was revealed in the nurses' knowledge before and after the pre-operative teaching intervention. Furthermore, research by Padma et al. (2017) revealed that 67% of nurses scored poorly on a pre-test related to pre-operative teaching. However, following the intervention, 17% had a high knowledge score and 73% had a better knowledge score.

Before the intervention, the majority of the nurses did not know fundamental information such as the primary reason for a long pre-operative teaching session. The majority of the participants reported that the primary obstacle to pre-operative teaching was the absence of a standardized guide for pre-operative teaching and a lack of training on pre-operative teaching. This is consistent with findings from other studies that noted that Pre-operative teaching

guidelines, can assist nurses provide appropriate knowledge in the smallest amount of time, which will reduce workload (Harms, & Conolly, 2020; Oyetunde & Akinmeye, 2019).

Twenty seven percent of the nurses were aware of the most common sexual side effects of abdominal hysterectomy however after the intervention there was a significant improvement. The findings are consistent with findings from studies done in Ethiopia and Egypt respectively that noted that pre-operative teaching was not adequately done because the nurses did not know what to teach (Bazezew et al., 2023; Hassan et al., 2023).

Regarding knowledge categories, the study found that 73% of the nurses had poor knowledge and none of them were highly aware prior to the intervention. But after the intervention, 90% of the nurses had excellent knowledge, and none had inadequate knowledge. The results show that when the pre-operative teaching intervention for patients having an elective abdominal hysterectomy was implemented, nurses' knowledge across categories improved significantly. The findings above are consisted with Rajkumar's (2019) research from South Africa, which showed that all nurses who participated in the pre-intervention training improved their practices. The nurses agreed that the training was helpful and ought to be repeated and regularly scheduled. Additionally, Allsop et al., (2019)in their study conducted in Ethiopia revealed that the use of a guidance tool during pre-operative training improved patient-nurse communication, which in turn improved the quality of care.

Effects of a Pre-Operative Teaching intervention on Nurses' Practice

The results of the study showed that when the pre-operative instruction intervention for patients having an elective abdominal hysterectomy was implemented, the nurses' practice score improved. The nurses' total mean practice score before the intervention was 2.7, which is

representative of a fair practice score. But following the intervention, the nurses' total mean score improved by approximately 3.4, indicating that their practices were satisfactory. The observed increase of 1.3 points in the mean score reflects a positive response to the educational intervention and suggests that structured and targeted training can significantly enhance clinical practice. This is consistent with findings from similar studies (Al-Farsi et al., 2020; Ahmed & Abdelrahman, 2018), which reported measurable gains in nursing performance following continuing education interventions focused on pre-operative care.

The results of the study showed that nurses' practices significantly improved after the CNE intervention. Before the intervention, 40% of nurses practiced poorly, whereas the majority (60%) practiced fairly. Ninety percent of nurses practiced fairly after the intervention. The findings of earlier research, like those by Ali et al. (2021), Harris et al. (2020), and Tadesse et al. (2023), which emphasize the value of continuous professional development in improving clinical practice and patient education among nurses, are consistent with this improvement. The findings support the importance of targeted, structured training in enhancing patient-centered communication and adherence to pre-operative instructions.

After the intervention nurses’ practice improved and they understood what is taught during the process, why it is necessary before the patients are taken to theatre and how to use the checklist as a guiding tool while offering the pre-operative teaching. This finding is in accordance with a study done in Lira Regional Referral Hospital in Uganda which pointed out that pre-operative teaching practice is aided by in-service training of the nurses, motivation and adoption of guidelines for use when giving the pre-operative teaching (Oneka et al., 2023).

This study disclosed that there was a statistically positive improvement in the practice score of nurses following the intervention. The above revelation suggests that the intervention enhanced nurses' practices of offering pre-operative teaching. The above finding is consistent with Shehta et al., (2024) where a significant improvement in nurses' practice of care for women undergoing hysterectomy was disclosed. Furthermore, the evidence of Jan et al., (2020) revealed that there was a statistically significant impact of an educational intervention on nurses' practice.

Application of the Theoretical Framework

The Diffusion of Innovation theory (DIT)by Rogers provided the theoretical framework for this study. The concepts of the theory were used to inform the process and procedure for introducing the intervention to the study participants. The theory highlights different components of the diffusion process which helped the researcher to successfully introduce the pre-operative checklist. During the pre-intervention process, the researcher was able to identify the early adopters (the nurses who were very excited to use the pre-operative teaching intervention). These helped in convincing other nurses to freely accept to participate in the intervention program which consequently led to their enhanced knowledge and practice concerning the pre-operative teaching.

In the current study, the pre-operative teaching intervention of Continuous Nursing Education for patients undergoing elective abdominal surgery was found to bring about the desired change not only in improving the knowledge and practice of nurses but also improved the nurses' preparedness to offer pre-operative teaching to patients undergoing any kind of elective surgery.

Recommendations

The hospital administration should implement regular, systematic CNE programs that emphasize pre-operative teaching for nurses. This will guarantee that nursing professionals maintain their proficiency in pre-operative teaching and are regularly informed about the latest best practices.

As part of the hospital's regular surgical care practices, the hospital administration should create and implement pre-operative teaching protocols or checklists in order to incorporate pre-operative teaching into normal operating procedures. This will lessen variation in nursing performance and help standardize the way patient education is delivered.

In order for nurses to employ structured pre-operative teaching procedures consistently in routine care and better prepare patients for surgery, nurse educators and training institutions should provide them with structured pre-operative teaching protocols.

Limitations

To gather the knowledge data from the study participants, the researcher employed a self-administered questionnaire approach, which may have resulted in response bias. It's possible that study participants either overreacted to the survey questions or gave false answers, which would have impacted the quality of the data gathered.

An observational checklist was used to evaluate practice, which could have introduced observer bias, particularly if nurses changed their behavior knowing they were being watched (Hawthorne effect).

The study was conducted in only one district hospital with a relatively small number of nurses. This restricts the findings' applicability to other Ugandan hospitals or geographical areas.

Assessment of long-term knowledge retention and persistent practice change was limited. Shortly after the CNE intervention, the post-intervention outcomes were evaluated. This made it more difficult to evaluate how well knowledge was retained over time and how practice continued to change.

Areas for Further Study

A bigger sample size and additional district, regional, and referral hospitals are required for a replication of the study on the impact of implementing a pre-operative teaching intervention for patients undergoing elective abdominal hysterectomy on nurses' knowledge and practice. This would improve the generalizability of results and reveal context-specific barriers or enablers by enabling a comparative analysis across various healthcare settings.

A study examining nurses' attitudes toward the use of CNE as a pre-operative teaching intervention for patients having elective abdominal hysterectomy is necessary. Designing training programs that meet the expectations of nurses requires an understanding of their attitudes toward preoperative teaching.

More research is required to determine how nurses' practice is affected by implementing a pre-operative teaching intervention for patients having elective abdominal hysterectomy utilizing a mixed method approach. To support the practice developed in this study, the practice gap derived from the qualitative data must be created.

The perceptions, challenges, and institutional limitations of nurses that impact the provision of efficient pre-operative teaching, particularly with regard to physical instructions like breathing and turning exercises, should be examined in qualitative research.

Conclusion

Continuous professional development is necessary to maximize patient teaching since CNE greatly enhanced nurses' pre-op teaching knowledge and practice according to this study. Because nurses are crucial in teaching patients before surgery when they are having an abdominal hysterectomy, this study was extremely essential. To do their jobs effectively, the nurses must possess the necessary knowledge, abilities, and experience.

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Appendix A: Informed Consent Form

Title of research study:
Effects of a pre-operative teaching intervention on nurses' knowledge and practice for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda.

Principle Investigator, contact information and affiliation:
I am Esther Amongin, a student at Uganda Christian University, Mukono pursuing a Master's Degree of Science in Nursing. This study is for completion and award of master's degree in nursing. My telephone number is 0775036216. Email address: amonginesther2@gmail.com Department of Nursing, Faculty of Medicine, Uganda Christian University, PO box 4 Mukono, Uganda.

Introduction and Purpose of the Study:
Pre-operative teaching is essential for all patients undergoing elective abdominal hysterectomy. In 2019, the World Health Organization (WHO) stated that about 2 million women undergo elective abdominal hysterectomy every year. This study seeks to evaluate the effects of introducing nurses to a pre-operative teaching checklist for patients undergoing elective abdominal hysterectomy on nurses' knowledge and practice in a district hospital in Eastern Uganda.

Description of the research:
This is a quasi-experimental interventional study. The study involves implementation of an intervention to support nurses during pre-operative teaching.

Subject Participation in the study:
You are being asked to participate because you are a qualified nurse working in a gynecology ward. You are therefore invited to complete a questionnaire twice, before and after the intervention being introduced to your ward.

Potential Benefits:
You will gain knowledge on how to use the pre-operative teaching checklist and this will improve on your knowledge and skills on pre-operative teaching. However, there are no incentives for being in this study but as a participating nurse, you will be given a token of appreciation for engaging in this study after answering the second questionnaire.

Potential Risks and Discomforts:

There is no known risk or discomfort by participating in this study.

Confidentiality:
The information will be kept confidential and the results of the study reported will be summarized in such a way that no one will know your identity. Any information you will share will remain undisclosed at all times. In any publications or reports, no true names of a participating nurse will be disclosed or identified.

Rights of participants:
It is hoped that you will find it worthwhile being part of this study to the very end. However, participation in the study is voluntary and not mandatory. You can always choose to withdraw from the study before the posttest, a time when the researcher will be able identify your code without compromising the confidentiality of the rest of the participating nurses. Your decision to drop out of the study will neither affect your work nor the rights and privileges that come with your working with this hospital.

Contact information for ethical concerns or to withdraw consent:
This study has been approved by Research Ethics Committee at UCU. In case you have any study related questions or questions about your rights or would wish to withdraw from the study you can reach me. You could also contact my supervisor Professor Grace Nakate Tel; +256-772439526; email address: gracentale@gmail.com.

Authorization statement:
I have read this consent form and I agree to be a participant in this study. I have been given the opportunity to ask questions regarding the study, and I have received answers to my questions. I acknowledge that I am aware of what this study involves, that I am at least 18 years old, and that I have received a copy of this Informed Consent form.
Participant……Signature …….Date…….
Researcher…….

Appendix B: Questionnaire for Assessing for Knowledge

Instruction

This questionnaire is designed for assessing the knowledge and practices of nurses on pre-operative teaching among patients undergoing elective abdominal hysterectomy. Please read each question carefully and select the best answer that reflects your knowledge and practices. Your responses will be kept confidential and anonymous. Thank you for your time and participation.

Section A: Demographic information

1. What is your age? ……(years)

2. What is your gender?

A. Male

B. Female

3. What is your highest level of professional training in nursing? (Circle the correct one)

A.Certificate

B.Diploma

C.Bachelors

D.Masters

4. What is your employment status? (Circle the correct one)

A. Full time

B. Contract

C. Part-time

D. Volunteer

5. How many years of experience do you have in healthcare?.....(years)
6. When did you last have training on pre-operative teaching? State period in years
…….

Section B: Nurses' knowledge on pre-operative teaching
Circle the most correct answer

7. What is pre-operative teaching?

A. is a process of educating surgical patients before undergoing a surgical operation

B. is a process of informing the healthcare providers about the patient's surgical procedure

C. is a process of telling the caretakers about the surgical operation before the procedure

D. Is a process of identifying methods to prevent post-operative complications

8. What is the primary reason for a long pre-operative teaching session?

A. To reduce legal problems that may arise for the hospital

B. To increase the likelihood of a successful recovery from anesthesia

C. To increase the family support and promote their care role

D. To minimize the time that would be spent in answering post-operative questions

9. What is the ideal time for pre-operative teaching

A. A month before surgery so the patient can prepare

B. 1-2 days before surgery to reduce anxiety

C. The morning of the surgery to eliminate fear

D. A week before surgery to avoid worries

10. Which of the following is the primary purpose of maintaining Nil Per OS (NPO) 6-8 hours before surgery

A. To prevent over feeding before surgery

B. To prevent electrolyte imbalance

C. To prevent aspiration pneumonia

D. To prevent intestinal obstruction

11. Place the following items in the correct order the nurse would use to teach about post-operative dietary progression.

1. Milk intake

2. NPO

3. Clear liquid

4. Soft foods.

A. 1, 2, 3, 4

B. 2, 3, 1, 4

C. 2, 1,4, 3

D. 4, 3, 2, 1

12. Which of the following is an appropriate statement regarding increased in-take of oral feeds before surgery:

A. It is recommended for use in for major emergency surgery.

B. There is an increased risk of regurgitation and pulmonary aspiration of gastric contents.

C. It may improve postoperative muscular function.

D. Studies have shown a reduced length of stay for patients undergoing abdominal surgery

13. During the immediate post-operative period, what intervention should a nurse prioritize?

A. Administering pain medications

B. Providing a well-balanced meal

C. Assisting with range-of-motion exercises

D. Promoting the patient's sense of well-being

14. When should pain medications be administered in a post-operative patient?

A. When patient is unconsciousness

B. Before and after ambulation of the patient

C.When the patient is groaning and BP is elevated

D. after every two to four hours after surgery

15. The nurse should educate the pre-operative patient about early ambulation to prevent:

A. Surgical site infection

B. Blood clots in the legs

C. Urinary retention

D. Post-operative nausea and vomiting

16. What is the primary purpose of deep breathing exercises for a post-operative patient?

A. To prevent wound infection that may occur

B. To promote lung expansion and prevent respiratory complications

C. To relieve pain and discomfort caused by the incision

D. To increase blood circulation to the extremities

17. What type of problems can a patient with anxiety have because of their fear?

A. Anxiety and fear increases blood pressure and the heart rate

B. Anxious clients have a poor response to surgery but are less prone to complications.

C. Anxiety and fear have no effect of the use of analgesia in post-operative patients

D. Anxiety is a normal occurrence that causes no physiological changes

18. In pre-operative teaching of the patient, which of the following would be taught by the nurse?

A. Shave all the hair around the surgical site a night before surgery.

B. To wear their jewelry as it will be removed from theater.

C. Empty the bladder and bowel before surgery.

D. To keep feeding until one to two hours before surgery.

19. What priority pre-operative teaching should the nurse provide to assist in preventing respiratory complications after elective abdominal hysterectomy?

A. Pain medication should be taken before completing deep breathing and coughing exercises.

B. Deep breathing and coughing exercises should be completed every 8 hours.

C. Splint the incision site using a piece of soft cloth during deep breathing and coughing exercises.

D. Deep breathing and coughing exercises may be used as relaxation techniques.

20. Which of the following is a common post-operative complication related to delayed ambulation?

A. Diarrhea

B. Hyperglycemia

C. Hypertension

D. Constipation

21. Which surgical skin preparation solution is recommended as the most effective?

A. Povidone-Iodine solution

B. Chlorhexidine gluconate solution

C.Hydrogen peroxide solution

D. Alcohol-based antiseptic

22. Patients undergoing elective abdominal hysterectomy should receive intravenous prophylactic antibiotics in order to;

A. Prevent surgical site infection

B. Promote healing of the surgical site

C. Prevent long stay in hospital

D. Prevent occurrence of fever

23. Which of the following activities should be avoided when preparing the skin for surgery?

A. Shaving the skin around the surgical area a night before surgery

B. Washing the surgical area with jik solution a night before surgery

C. Removal of all the visible decontaminants before surgery

D. The skin can be washed at night and in the morning before surgery

24. Why are patients undergoing surgery instructed to remove nail polish and face make-up?

A. Face make-up and nail polish cannot harbor bacteria which could compromise the surgical site.

B. Interferes with monitoring of the blood circulations in the skin and nail beds

C. It enhances the pulse-oximeter's ability to measure Oxygen saturation hence giving false readings.

D. Nail polish may cause increased bleeding to an individual during surgery

25. Removal of which structures will cause a woman to experience menopause?

A. Cervix

B. Ovaries

C. Fallopian Tubes

D. Bladder

26. The most common sexual side effects of abdominal hysterectomy are?

A. Weight gain, Loss of sexual function and aging faster

B. Loss of the ability to have internal orgasm, loss of bladder and bowel control

C. Loss of sexual arousal, vaginal dryness and increased ability to have internal orgasm

D. Loss of libido, loss of the ability to have internal orgasm and loss of sexual function

27. Once the uterus is removed a woman can no longer_____?

A. Swim

B. Wear tampons

C. Become pregnant

D. Have sexual intercourse

Appendix C: Checklist for Assessing Practices of Pre-operative Teaching

Demographic data

Initials of patient's Name:……

Age:…….

Initials of Next of kin……Relationship…….

Date of admission…… Time of admission……..

Nurse's Code::…….

INSTRUCTIONS: Indicate that the task has been taught with a Tick on the done column, partially done if not well taught and If task was not taught, Tick on the Not Done column. Allow patient and caretaker sign after the teaching is done

No.	***Instruction/Item to be Taught***	***Tick where applicable***		
		Done	***Partially done***	***Not done***
1	The type of surgery she is going to undergo.			
2	Talk about anxieties and fears			
3	Types of anesthesia used in this type of surgery			
B	***Exercises***			
4	Deep breathing and coughing exercises that the patient will perform after surgery and Explain the importance of these exercises.			
5	The leg exercises and why they are performed after surgery.			
6	That she is expected to get out of bed with assistance within 12 hours after surgery.			
C	***Medications***			
7	About the pre-operative medications to be given before and after surgery			
8	***Pain management after surgery*** About the pain assessment scale of 0-10 before surgery.			
D	***Skin, Hair and nail Care***			
9	About skin care before surgery			
10	Not to shave hair around the surgical site using a razor blade.			
E	***Fasting***			

No.	***Instruction/Item to be Taught***	***Tick where applicable***		
		Done	***Partially done***	***Not done***
11	Stop oral feeds 6-8 hours before surgery.			
F	***What to Expect After Surgery***			
12	That there will be No oral feeds immediately after surgery until bowel sounds return.			
13	The patient to identify possible complications after surgery and report to the nurse such as bleeding from the incision site, gapping of the wound, intensity of pain			

Patient's Name ……

Patient's Signature ……

Next of kin's signature……

Date…….

Appendix D: Lesson Plan

Topic: Pre-Operative Teaching

Objectives: By the end of the session, participants will be able;

- To describe pre-operative teaching, who should perform it, when should itbe performed
- To describe the benefits and significance of pre-operative teaching.
- To outline the effects of inadequate pre-operative teaching to the patients.
- To discuss the steps involved in the pre-operative teaching process.
- To describe what to teach the patient.
- To discuss the summarized checklist that the nurses can use in pre-operative teaching

Methods:

1. Interactive Lecture
2. Brainstorming
3. Discussion

Teaching aids: Laptop, Projector and Flip charts containing diagrams of people performing exercises

Main content

Time	Content/ objective	Leaders activity	Participants' activity	Remarks
5 minutes	• Rapport	• Greeting, Introduction.	• Respond to greetings, listen and take note.	
5 minutes	• Explain meaning of pre-operative teaching	• Ask participants about what pre-operative teaching is • Provide clarification	• Give responses to the questions • Listen, observe and ask	

			questions	
5 minutes	• Explain when pre-operative teaching should be done	• Ask participants to explain when pre-operative teaching should be done • Provide clarification	• Reply to the question • Listen and ask questions	
3 minutes	• Discuss who should offer pre-operative teaching	• Ask participants who should offer pre-operative teaching • Shares with the participants who should offer pre-operative teaching	• Answer the question • Listen and ask questions	
7 minutes	• Discuss the benefits of offering pre-operative teaching to the patients	• Describe successful experience • Clarifies about the benefits of offering adequate pre-operative teaching to the patients.	• Reply to the questions asked • Listen and ask questions	
5 minutes	• Discuss the effects of inadequate pre-operative teaching to the patients	• Ask participants about the negative effects of inadequate pre-operative teaching to the patients • Share information about the effects of inadequate pre-operative teaching	• Answer the questions asked • Listen to the discussion	
5 minutes	• Outline the steps involved in pre-operative teaching	• Ask participants to outline the steps involved in offering pre-operative teaching • Ask a practice question • Provides clarification	• Reply to the question • Reply to the question • Listen and ask questions	
15 minutes	• Explain the general facts about what	• Ask questions about what the nurse should teach the	• Listen and brain storm on what	

	the nurse should teach the pre-operative patient	pre-operative patient • Displays the case study and asks one of the participants to read the scenario. • Asks participants to respond to the questions • Clarifies information and talks about what should be taught such as the type of surgery, talk about the anxiety and fear, treatment, etc using power-point presentation and summarizes all the aspects that should be taught and also clarifies the information in the case study.	should be taught to the patient before surgery. • Listen attentively • Respond to the questions in the scenario • Listen and ask questions	
10minutes		**BREAK**		
20 minutes	• Discuss the post-operative exercises	• Asks questions about post-operative exercises, who is eligible, frequency of performing and when to start performing the exercises • Pair the participants into groups of twos and ask them to role play and perform the exercises • Clarifies through performing the exercises and use of	• Listen and engage in discussion through answering questions • Perform the various exercises. • Observe and also give return demonstrations.	

		flip chart with diagrams where applicable and summarize on the meaning, legible categories, frequency and when to start the exercises		
10 minutes	• Outline things that a patient may experience after surgery	• Displays a case study and asks one participant to read aloud. • Asks participants questions about the case study • Talks about the things the patient may experience after surgery • Clarifies the information	• Listen attentively • Reply to the questions • Listen to the clarification	
20 Minutes	• Discuss the pre-operative teaching checklist	• Asks all the participants to follow the pre-operative teaching as she teaches. • Teaches about the pre-operative teaching checklist and how it will be used as a guide in offering the pre-operative teaching. • Creates extra sessions for those participants who are willing to adopt the use of the checklist	• Participants listen and follow the checklist. • Listen and ask questions for clarification • Listen to the extra session hours created	
5 minutes	• Summary	• Review session by asking and answering questions • Summarizes key points on pre-operative teaching	• Answer and ask questions • Listen	

5 minutes	• Conclusion	• Conclude the session and remind those who were engaged in the pre-test on when the post-test will be conducted.	• Listen	

Appendix E: Power Point Presentation

Pre-operative Teaching Among Patients Undergoing Elective Abdominal Hysterectomy

By
Esther Amongin
MNS-11

Learning Objectives

- To describe pre-operative teaching, who should perform it, when should it be performed
- To describe the benefits and significance of pre-operative teaching.
- To outline the effects of inadequate pre-operative teaching to the patients.

Learning Objectives Cont'd

- To discuss the steps involved in the pre-operative teaching process.
- To describe what to teach the patient before surgery.
- To discuss what to expect after surgery
- To discuss the summarized checklist that the nurses can use in pre-operative teaching

Pre-operative Teaching

- A process of giving information before surgery that aims to improve patients' knowledge, health behaviors, and outcomes.
- A process of telling the patient about their surgery, what to expect before, during and after surgery.
- It is an interactive process of providing information and explanations about the surgical process.

Practice

- The nurse is planning patient teaching for a patient who is scheduled for an abdominal hysterectomy. The nurse intends to address the topics of incision splinting and exercises during this teaching session. When is the best time for the nurse to provide pre-operative teaching?

When should pre-operative teaching be performed

- Pre-operative teaching should start at the time of admission as soon as decision has been made to perform the surgery.
- The ideal timing is a day before surgery because it gives the patient ample time to ask questions and get clarifications

When should pre-operative teaching be performed


A woman feeling anxious before surgery

Who should offer Pre-operative Teaching

- Nurses are responsible for offering pre-operative teaching to the patients since they spend most of the time with patients and are in close observation and monitoring of patients (Bazezew et al., 2023).

Benefits of Pre-operative Teaching to the Patients

- Clarifies information about surgical procedure and events afterwards
- Provides information about diagnosis and treatment.
- Encourages active participation in care
- Rids patients of sense of helplessness

Benefits Cont'd

- Motivates patients to recover health hence reduced morbidity and mortality.
- Reduces hospital stays hence lowers cost and improves patient satisfaction.
- Decreases *patients' pre-surgery* anxiety and depression.

Benefits Cont'd

- Helps in improving postoperative pain management and patient satisfaction (Darville-Beneby et al., 2023).
- Helps to reduce pain and use of narcotics that could lead to drug dependence.

Practice

- What are the negative effects of inadequate pre-operative teaching teaching?

Effects of Inadequate pre-operative teaching

- Increased anxiety and fear
- Hospital long-stay
- Persistent post-operative use of opioid analgesics which can lead to drug dependence
- Increased constraints to the family
- Increased post-operative complications
- High risks of mortality and morbidity.

Effects Cont'd

A woman having depression after abdominal hysterectomy

Steps involved in pre-operative teaching

- Before initiating pre-operative teaching, the nurse should assess the patient's cognitive and emotional readiness for such information. This may involve considering their mental state and ability to understand the information

Steps Cont'd

- Create a safe environment: Pre-operative teaching requires a quiet environment free from any distractions where the patient can freely be able to ask questions and be clarified.
- Provide accurate information to the patient to avoid confusing the patient hence the nurse should be knowledgeable about what to teach.

Pre-operative Teaching

A nurse offering pre-operative teaching to a woman who has been scheduled for surgery.

A quiet conducive environment.

Practice

- The nurse is preparing a patient for surgery. The patient states that she is very nervous and really does not understand what the surgical procedure is for or how it will be performed. What is the most appropriate nursing action for the nurse to take?

What to teach

- ***Teach the patient about the type of surgery she is going to undergo***

a. Description of surgery
b. Side/site of surgery
c. Estimated duration in theatre and recovery room

What to Teach

- ***Talk about anxieties and fears.***

a. Providing an opportunity for the patient to describe her reactions and feelings in this stressful situation.

b. Arrange for a religious leader to visit if the patient desires (Religious faith can be a strong source of strength).

A case study

A 62 year old woman has been admitted for an elective abdominal hysterectomy. She opens up to you that she is scared of the procedure and that she worried of when she will leave the hospital. She adds that she is afraid of the pain that she will have after the surgery.

a. Explain to this woman the types of anesthesia used in this type of surgery
b. Outline the various ways pain can be managed post-operatively.

What to Teach Cont'd

- **The types of anesthesia used in this type of surgery:**

a. General anesthesia
b. Regional anesthesia

Role Play

A nurse is providing preoperative teaching to a patient who will soon undergo abdominal hysterectomy. The nurses teaching plan includes exercises of the extremities.

a) What is the purpose of teaching a patient leg exercises prior to surgery?
b) Demonstrate how you would teach a patient how to carryout deep breathing exercises, coughing exercises, leg exercises and turning in bed

What to teach Cont'd

- ***Deep breathing and coughing exercises***
- Breathing and coughing exercise helps to expand collapsed lungs and to prevent post operative pneumonia and atelectasis.
- **STEPS**
- Ask the patient to sit on the edge of the bed or supine with knees flexed to relax the abdominal musculature
- Place the hands on abdomen
- Inhale through nose until abdomen balloons outward
- Exhale through pursed lip

What to teach Cont'd

- ***Coughing Exercise***
- **STEPS**
- Ask the patient to sit or lie in a supine position
- Splint the incision with pillow or the fingers tightly across the wound or a piece of clean cloth
- Ask the patient to take a deep breath, exhaling through mouth before coughing from deep in lungs
- Deep breathing exercise before coughing will stimulate cough reflux.

A post-operative patient coughing

What to teach Cont'd

- ***Turning Exercise and ambulation***

i. **Turning in bed:** Turning in bed and early ambulation helps the patient maintain blood circulation, stimulate respiratory functions, and decrease the stasis of gas in the intestines and resulting discomfort.

ii. Teach the patient to turn in bed from side to side using a pillow to splint.

What to Teach Cont'd

- **Leg exercises:** It is important for the patient to move their legs in bed and also perform the following exercises in order to maintain blood circulation in the legs.
- Pump the feet up and down at the ankles.
- Make circles with the feet in each direction with the legs straight.
- Bend one knee and straighten it. Keep alternating the legs.

Post-operative exercises

What to teach Cont'd

- ***Medications***

a. Teach the patient that most medications should be taken on the patient's usual schedule the day *before* the scheduled procedure.

b. Hypertensive patients on anti-hypertensive drugs such as **ARBs e.g Losartan and ACE inhibitors e.g lisinopril and beta blockers e.g Atenolol** should continue their treatment until 8-12 hours before surgery because some anesthetic drugs can cause hypotension such as Bupivacaine, propofol .

c. Patients on diuretics should withhold them the morning of the surgery

What to Teach Cont'd

Pre-operative medications to be given before and after surgery

- Antibiotics
- Hypoglycemics

Medications used during surgery

- Anesthetic drugs
- Muscle relaxants
- Intravenous fluids
- Oxygen therapy

Medications to use after surgery

- Antibiotics
- Intravenous fluids

What to Teach Cont'd

Pain management after surgery

- Teach the patient about the pain assessment scale of 0-10 before surgery.
- possible medications that could be administered depending on the severity of the pain e.g
- Analgesics
- Narcotics

What to Teach Cont'd

- ***Dental Hygiene***

i. Instruct patient to Brush the teeth prior to surgery and rinse (do not swallow) to help avoid the possibility of postoperative infection.

Instruct patient to:

i. Remove dentures before surgery if any.
ii. Patient should rinse the mouth after surgery with clean water

What to teach Cont'd

- ***Skin Care***
- Instruct patient not to scrub the skin as this can cause the bacteria that lies deep in the layers of the skin to arise to the surface which otherwise would lie dormant.
- Patient should wash the skin with warm clean water and soap 2-6 hours before surgery.

What to teach Cont'd

- ***Nail Care***

i. The nails should be kept clean and short and free of nail polish, including the toenails.

ii. Nail polish may interfere with the use of the pulse oximeter.
iii. The presence of nail polish may provide an inaccurate reading or none at all and interfere with treatment.

What to teach Cont'd

- ***Hair care***
- Instruct the patient to wash the hair and clean the scalp thoroughly with soap or shampoo and warm water to remove any bacteria that could easily be under the scalp.
- Tell the patient not to shave hair around the surgical site using a razor blade as this increases chances of bacterial invasion and damage to the skin.

What to Teach

- ***Fasting***

i. Instruct patient to stop oral feeds 6-8 hours before surgery.

ii. The purpose of withholding food before surgery is to prevent aspiration.

What to teach Cont'd

- ***Bladder preparation***

i. Tell the patient that a urinary catheter will be inserted. This is to provide bladder decompression, measurement of urine output, and management of postoperative urinary retention.

ii. What a catheter feels like. It is normal to feel urgency or the sensation that one needs to urinate but it is a disconcerting feeling.

Pre-operative teaching

A nurse teaching about sexuality issues

A case study

- A 46 year old woman has been scheduled for abdominal hysterectomy. The husband reports that the patient has been complaining that she will never be able to have sex after surgery and she will take long to give birth.
- As a nurse what comes in your mind?
- Which information would you provide to the patient and the husband?

What to teach

- Teach about the most common sexuality side effects of abdominal hysterectomy:

a. Loss of libido which is temporary
b. Loss of the ability to have internal orgasm. This is temporary.
c. Loss of sexual function is temporary
d. The ability to become pregnant which is permanent

What to teach

complications

a) Bleeding from the incision site
b) Oozing of fluid from the incision site
c) Gapping of the wound
d) Persistent dizziness
e) Intensity of pain
f) Inability to pass urine even in the presence of a catheter.

What to Expect after Surgery

Monitoring and Activity

- Tell the patient that she is expected to get out of bed with assistance within 12 hours after surgery.
- Sitting up and walking (as tolerated) is recommended.
- The patient's vital signs will be checked multiple times after surgery to make sure she is recovering safely.

What to Expect After Surgery Cont'd

Activity

- Tell the patient about the restricted activities after surgery
- Slowly increasing activity (as the pain allows) is important for recovery. If the patient is experiencing difficulty sitting up in a chair, getting out of bed independently, or walking, please notify the nurse.

What to Expect After Surgery Cont'd

- ***Food and Drink***

i. Immediately after surgery, patient will not be allowed to eat or drink anything by mouth (NPO).

ii. Liquids and solids will be introduced as bowel sounds appear.

What to Expect After Surgery Cont'd

Post operative equipment

Client may be instructed about the equipment that may be anticipated post-operatively.

What to Expect Cont'd

Tubes

The most common types of tubes used are;

- Indwelling catheters for bladder drainage
- Nasogastric tube for gastric decompression.
- Drains-drains are usually inserted during surgery to promote evacuation of fluid from operation site.

What to Expect After Surgery Cont'd

Lines and devices

- Intravenous infusion line and device: the purpose of the infusion line and device is to administer medication in peri-operative and post-operative period.

What to Expect After Surgery Cont'd

About Pain

- Frequent pain assessment and medications will be administered

Pre-operative teaching checklist

- **Demographic data**
- Name of patient:.....
- Age:..... Address:.....
- Next of kin.....Relationship.....
- Date of admission..... Time of admission.....
- Name of the nurse(s):.....

Checklist Cont'd

n.	Instruction/Guideline/What to teach	Tick where applicable		Comments/ Concerns if needed
	The type of surgery she is going to undergo.	Yes	No	
	Talk about anxieties and fears	Yes	No	
	Types of anesthesia used in this type of surgery	Yes	No	
	Exercises			
	Deep breathing and coughing exercises that the patient will perform after surgery and Explain the importance of these exercises.	yes	No	
	The leg exercises and why they are performed after surgery.	Yes	No	
	Turning exercises	Yes	No	
	That she is expected to get out of bed with assistance within 12 hours after surgery.	Yes	No	
	About sitting up and walking (as tolerated)	Yes	No	

Checklist Cont'd

	Medications			Comments / concerns if needed
	Most medications should be taken on the patient's usual schedule the day before the scheduled procedure.	Yes	No	
	Hypertensive patients on anti-hypertensive drugs to continue their treatment until 8-12 hours before surgery	Yes	No	
	About the pre-operative medications to be given before and after surgery	Yes	No	
	About the Medications used during surgery	Yes	No	

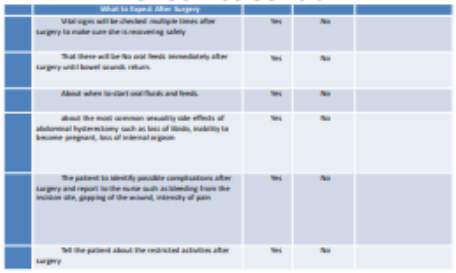
Checklist Cont'd

	Pain management after surgery About the pain assessment scale of 0-10 before surgery.	Yes	No	
	Dental Hygiene			
	Brush the teeth prior to surgery and rinse (do not swallow)	Yes	No	

Checklist Cont'd

	Skin, Hair and nail Care			
	About skin care before surgery	Yes	No	
	That the nails should be kept clean and short and free of nail polish, including the toenails.	Yes	No	
	Not to shave hair around the surgical site using a razor blade.	Yes	No	
	Fasting			
	Stop oral feeds 6-8 hours before surgery.	Yes	No	
	Bladder Preparation			
	That a urinary catheter will be inserted.	Yes	No	

Checklist Cont'd



	What to Expect After Surgery			
	Vital signs will be checked multiple times after surgery to make sure she is recovering safely	Yes	No	
	That there will be No oral feeds immediately after surgery until bowel sounds return.	Yes	No	
	About when to start oral fluids and feeds.	Yes	No	
	about the most common sexuality side effects of abdominal hysterectomy such as loss of libido, inability to become pregnant, loss of internal orgasm	Yes	No	
	The patient to identify possible complications after surgery and report to the nurse such as bleeding from the incision site, gapping of the wound, intensity of pain	Yes	No	
	Tell the patient about the restricted activities after surgery	Yes	No	

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Appendix F: Intervention Plan

Venue: Iganga Hospital, Gynecology Ward

Day	Activity	Duration	Persons Involved	Comment
Week one Day one	Organize meeting to teach the participants	30 minutes	All staff working on the gynecology ward	All staff who will be available will attend
Day one	• Teach using the power-point slides • Discuss the case studies and practice questions • Introduce and demonstrate how to use the pre-operative teaching checklist.	2 hours	All staff working on the gynecology ward	The slides are clear and understandable. Group discussion will be held
Day one	Identification of early adopters and holding a group meeting with them to ask for their assistance and further teach them about the checklist	For two extra hours	Those that will be excited to learn about the checklist	Select those that are willing to adopt the change. I will select three members.
Day two	Work with early adopters to convince and teach the early majority, late majority and laggards		Those reluctant to adopt the use of a checklist	I will let the early adopters convince the other categories
Day three	A session for teaching those nurses who will miss the first session	2 hours	Those staff who missed the session but are interested	Identify those that missed but are interested
Week two and week three	Mentor participants individually	Day shift; 6 hours Evening; 4 hours	All nurses having difficulty working with the checklist	I will work for two days, day shift then two days evening shift and on the fifth day, I will be present for both shifts for the two weeks to check in

				with the early adopters and to give feedback as I work together with them to increase the size of the early majority and move along the late majority and laggards.
Week four and five	Nurses give the pre-operative teaching independently		All nurses working on the gynecology ward	Completed the pre-operative teaching
Week five	Group meeting to share experiences and address any questions and challenges	30 minutes	All nurses working on the gynecology ward	The meeting will be organized on a Wednesday afternoon of week five

Appendix G: Hospital Administrative Clearance Letter

Uganda Christian University

P.O Box 4,

Mukono, Kampala

19th/3/2024

The Medical Superintendent

Iganga General Hospital

P.O Box 245, Iganga

Through

The Principal Nursing Officer

Iganga General Hospital

Permission granted 25/03/2024

MEDICAL SUPERINTENDENT IGANGA HOSPITAL

Forwarded 22/03/2024

Dear Sir,

RE: **REQUEST TO BE GRANTED CLEARANCE TO CARRY OUT RESEARCH**

I hereby submit my request to your office for the above mentioned aspect.

I am a Nursing Officer working in this hospital however I am pursuing a Master's Degree of Nursing Science at Uganda Christian University on an on-line programme. As a requirement to attain the qualification, one must carry out research. My topic is **"Effects of introducing a pre-operative teaching checklist for patients undergoing elective abdominal hysterectomy on Nurses' knowledge and practice in Iganga General Hospital in Uganda"**. I therefore request to be granted permission to carry out this study in this hospital.

I will be grateful if my request meets your consideration.

Yours

AMONGIN ESTHER

Appendix H:Pre-Intervention Nurses' Knowledge on Pre-Operative Teaching

S/N	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20	Q 21	Raw Score	% score
1	0	0	1	1	1	1	1	0	0	1	1	1	0	1	0	1	0	0	0	1	1	12	57
2	1	0	1	0	1	0	1	1	1	1	0	0	0	1	0	0	1	0	1	1	1	10	48
3	1	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	1	0	1	0	1	8	38
4	1	0	0	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	0	0	0	10	48
5	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	1	6	29
6	1	0	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	9	43
7	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0		0	4	19
8	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	1	6	29
9	0	0	1	1	0	1	0	1	1	1	0	1	1	0	0	1	0	1	0	1	1	10	48
10	0	0	0	1	0	1	0	1	1	1	0	1	1	0	0	1	0	1	0	0	1	5	24
11	0	1	0	1	0	1	0	1	1	1	0	1	1	0	0	1	0	1	0	0	1	11	52
12	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	1	0	0	0	5	24
13	1	0	1	1	0	1	1	0	1	1	0	0	1	0	0	0	0	1	0	1	1	7	33
14	1	0	1	1	0	1	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	8	38
15	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	1	7	33
16	0	0	1	1	0	0	0	1	1	0	0	1	0	0	1	1	0	1	0	0	0	8	38
17	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	4	19
18	1	0	0	0	1	1	0	0	1	1	0	1	0	0	1	0	0	0	0	1	1	9	43
19	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	0	0	1	1	0	0	6	29
20	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	1	1	0	0	6	29
21	1	0	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	9	43
22	1	0	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	8	38
23	1	0	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	9	43
24	1	0	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	9	43
25	1	0	1	1	1	1	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	16	76
26	0	0	1	1	1	1	1	0	0	1	1	1	0	1	0	1	0	0	1	0	1	12	57
27	1	0	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	0	1	0	1	14	67
28	1	0	1	1	1	1	0	0	1	1	1	1	0	1	0	1	1	1	1	1	1	16	76
29	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	71
30	1	0	1	1	0	1	0	1	1	0	0	1	1	0	0	0	1	1	0	0	1	11	52
Raw Score	16	1	16	19	16	19	12	8	24	21	14	15	8	10	6	17	11	16	10	8	21		
Mean Score %	54	3	53	63	53	63	40	27	80	70	47	50	27	33	20	57	37	53	33	27	70		43

Appendix I: Post-Intervention Nurses' Knowledge on Pre-Operative Teaching

S/N	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20	Q 21	Raw Score	% Score
1	1	1	1	1	1	0	1	0		1	1	0	1	1	1	1	1	1	0	1	1	16	76
2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	20	95
3	1	1	1	1	1	1	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	16	76
4	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	19	91
5	1	1	1	1	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1	17	81
6	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	20	95
7	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	16	76
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
9	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	91
10	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	91
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	20	95
12	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	91
13	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	86
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
15	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	20	95
16	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	20	95
17	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	91
18	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	19	91
19	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	18	86
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
21	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	19	91
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
23	1	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	18	85
24	1	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	18	85
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
26	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	90
27	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	86
28	1	.0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	91
29	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	19	91
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21	100
Raw Scores	29	27	29	24	23	26	26	25	23	30	28	25	26	30	29	28	30	30	28	28	30		
Mean %	97	90	97	80	77	87	87	83	77	100	93	83	87	100	97	93	100	100	93	93	100		97

Appendix J: Comparison of Nurse's knowledge in Pre- and Post-Intervention

	Pre-Intervention		Post-Intervention		
Questions	**Raw score**	**%score**	**Raw score**	**%score**	**%change**
1	12	57.1	16	76.2	19.0
2	10	47.6	20	95.2	47.6
3	8	38.1	16	76.2	38.1
4	10	47.6	19	90.5	42.9
5	6	28.6	17	81.0	52.4
6	9	42.9	20	95.2	52.4
7	4	19.0	16	76.2	57.1
8	6	28.6	21	100.0	71.4
9	10	47.6	19	90.5	42.9
10	5	23.8	19	90.5	66.7
11	11	52.4	20	95.2	42.9
12	5	23.8	19	90.5	66.7
13	7	33.3	18	85.7	52.4
14	8	38.1	21	100.0	61.9
15	7	33.3	20	95.2	61.9
16	8	38.1	20	95.2	57.1
17	4	19.0	19	90.5	71.4
18	9	42.9	19	90.5	47.6
19	6	28.6	18	85.7	57.1
20	6	28.6	21	100.0	71.4
21	9	42.9	19	90.5	47.6
22	8	38.1	21	100.0	61.9
23	9	42.9	18	85.7	42.9
24	9	42.9	18	85.7	42.9
25	16	76.2	21	100.0	23.8
26	12	57.1	19	90.5	33.3
27	14	66.7	18	85.7	19.0
28	16	76.2	19	90.5	14.3
29	15	71.4	19	90.5	19.0
30	11	52.4	21	100.0	47.6

Appendix K: Comparison of Item performance on knowledge during Pre- and After Post-Intervention

	Pre-Intervention		Post-Intervention		
Item	**Raw score**	**%score**	**Raw score**	**%score**	**%change**
7	16	53	29	97	44
8	1	3	27	90	87
9	16	53	29	97	44
10	19	63	24	80	17
11	16	53	23	77	24
12	19	63	26	87	24
13	12	40	26	87	37
14	8	27	25	83	56
15	24	80	23	100	20
16	21	70	30	100	30
17	14	47	28	93	54
18	15	50	25	83	33
19	8	27	26	87	60
20	10	33	30	100	67
21	6	20	29	97	77
22	17	57	28	93	44
23	11	37	30	100	67
24	16	53	30	100	47
25	10	33	28	93	60
26	8	27	28	93	66
27	21	70	30	100	30

Appendix L: Pre-Intervention Nurse' Practices of Pre-Operative Teaching

S/N	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Total Score	Mean Score
1	2	2	3	0	3	3	4	0	0	4	4	0	0	25	1.9
2	3	4	4	4	3	3	3	4	0	2		1	1	32	2.5
3	4	4	4	3	3	3	2	4	2	2	4	1	1	37	2.8
4	4	3	3	0	3	0	4	0	0	4	4	0	0	25	1.9
5	2	2	3	3	3	2	2	0	4	4	4	0	0	29	2.2
6	3	3	4	0	3	3	3	0	0	3	3	0	0	25	1.9
7	4	4	4	4	4	0	0	0	2	2	1	1	1	27	2.1
8	1	1	1	1	4	3	3	3	0	0	0	0	1	18	1.4
9	2	2	0	2	4	1	1	1	0	3	1	1	0	18	1.4
10	1	3	3	2	3	4	2	0	1	0	1	1	0	21	1.6
11	4	4	2	2	3	3	2	0	0	0	0	2	2	24	1.9
12	1	1	2	4	2	3	2	4	4	1	1	1	0	26	2
13	2	2	2	2	3	4	1	4	4	1	1	1	1	28	2.2
14	2	1	1	2	2	4	2	2	2	0	0	1	1	20	1.5
15	2	1	2	2	4	4	4	1	1	1	1	3	3	29	2.2
16	2	2	2	2	1	4	1	2	2	2	1	1	1	23	1.8
17	0	0	0	0	2	2	3	3	3	1	1	1	1	17	1.3
18	1	1	1	4	0	2	2	4	4	0	0	4	4	27	2.7
19	2	2	2	3	1	4	1	4	4	1	0	0	0	24	1.9
20	1	1	1	2	2	4	1	4	4	1	0	4	4	29	2.2
21	3	3	2	4	2	3	2	4	4	1	1	4	4	37	2.9
22	3	3	2	4	1	3	0	0	0	3	3	0	0	22	1.7
23	1	1	4	0	1	3	1	4	4	1	1	4	4	29	2.2
24	0	0	2	4	3	3	3	4	4	3	3	4	4	37	2.9
25	4	4	3	1	1	0	2	1	2	3	3	0	2	26	2
26	2	2	4	4	2	4	0	4	4	0	0	4	4	34	2.6
27	2	3	3	2	2	4	1	4	4	2	1	0	2	30	2.7
28	2	2	1	0	2	4	4	4	3	2	3	2	4	33	2.5
29	2	2	2	4	1	4	2	3	3	1	1	2	4	31	2.4
30	0	0	2	4	2	4	0	4	3	1	1	4	4	29	2.2
Mean Score	2.1	2.1	2.3	2.3	2.3	2.8	1.9	2.4	2.3	1.6	1.5	1.6	1.8	2.7	**2.1**

Appendix M: Post-Intervention Nurses' Practices of Pre-Operative Teaching

S/N	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Total Score	Mean Score
1	4	3	4	0	3	1	4	1	0	4	4	1	1	30	2.3
2	4	4	4	1	4	0	3	1	0	3	3	1	1	29	2.2
3	4	3	2	0	3	1	2	0	0	4	4	0	1	24	1.8
4	4	4	4	0	4	1	3	1	0	4	4	0	1	30	2.3
5	4	4	4	0	3	1	3	0	0	4	4	0	0	27	2.1
6	4	4	4	1	4	0	4	1	0	4	4	0	0	30	2.3
7	4	4	4	1	4	0	4	1	0	4	4	0	0	30	2.3
8	4	4	2	0	4	0	4	1	0	4	4	0	0	27	2.1
9	4	4	4	0	4	1	4	0	0	4	4	0	0	29	2.2
10	4	4	4	0	4	0	4	1	1	4	4	1	1	32	2.5
11	4	4	4	0	4	0	4	1	0	4	4	0	0	29	2.2
12	4	4	4	0	1	4	0	0	4	4	0	0	0	25	1.9
13	4	4	4	0	4	1	4	0	0	4	4	0	0	29	2.2
14	4	4	3	0	4	1	4	1	1	4	4	0	0	30	2.3
15	4	4	4	0	3	1	3	1	1	4	4	1	1	31	2.4
16	4	4	3	1	4	0	3	0	1	4	4	1	1	30	2.3
17	4	4	3	1	4	0	4	0	0	4	3	1	1	29	2.2
18	4	4	4	0	4	1	4	0	0	4	4	0	0	29	2.2
19	4	4	3	0	4	1	4	0	0	4	4	0	1	29	2.2
20	4	4	4	0	4	1	3	1	1	4	4	0	0	30	2.3
21	3	3	3	1	4	0	4	1	0	4	4	0	0	27	2.1
22	4	4	4	0	4	0	4	0	0	4	4	0	0	28	2.2
23	4	4	3	0	4	1	4	0	0	4	4	0	0	28	2.2
24	4	4	4	1	4	0	4	0	0	4	4	1	1	31	2.4
25	4	4	3	1	4	1	4	0	0	4	4	0	0	29	2.2
26	4	4	4	0	4	1	4	0	0	4	3	0	1	29	2.2
27	4	4	3	1	4	1	3	1	1	3	3	1	0	29	2.2
28	3	3	3	0	3	1	3	0	1	3	4	1	0	25	1.9
29	4	4	3	1	4	1	4	0	0	4	3	1	1	30	2.3
30	4	3	3	1	4	1	4	0	0	3	4	1	1	29	2.2
Mean Score	3.9	3.8	3.5	0.4	3.7	0.7	3.5	0.4	0.4	3.9	3.7	0.4	0.4	3.4	

Appendix N: Comparison of Nurse's performance on Practice during Pre- and After Post-Intervention

	Pre-Intervention		Post-Intervention		
Respondents	**Raw score**	**Mean Score**	**Raw score**	**Mean Score**	**Mean Change**
1	25	1.9	30	2.3	0.4
2	32	2.5	29	2.2	- 0.3
3	37	2.8	24	1.8	- 1
4	25	1.9	30	2.3	0.4
5	29	2.2	27	2.1	0.1
6	25	1.9	30	2.3	0.4
7	27	2.1	30	2.3	0.2
8	18	1.4	27	2.1	0.7
9	18	1.4	29	2.2	0.8
10	21	1.6	32	2.5	0.9
11	24	1.9	29	2.2	0.3
12	26	2	25	1.9	- 0.1
13	28	2.2	29	2.2	0
14	20	1.5	30	2.3	0.8
15	29	2.2	31	2.4	0.2
16	23	1.8	30	2.3	0.5
17	17	1.3	29	2.2	0.9
18	27	2.7	29	2.2	- 0.5
19	24	1.9	29	2.2	0.3
20	29	2.2	30	2.3	0.1
21	37	2.9	27	2.1	- 0.8
22	22	1.7	28	2.2	0.5
23	29	2.2	28	2.2	0
24	37	2.9	31	2.4	- 0.5
25	26	2	29	2.2	0.2
26	34	2.6	29	2.2	- 0.4
27	30	2.7	29	2.2	- 0.3
28	33	2.5	25	1.9	- 0.6
29	31	2.4	30	2.3	- 0.1
30	29	2.2	29	2.2	0
Average mean		2.1		2.2	0.1

Appendix O: Comparison of Item performance on practice during Pre- and Post-Intervention

	Pre-Intervention		Post-Intervention		
Item	**Mean Score**	**Percentage**	**Mean Score**	**Percentage**	**Mean Change**
1	2.1	42	3.9	78	1.8
2	2.1	42	3.8	76	1.9
3	2.3	46	3.5	70	1.2
4	2.3	46	0.4	8	- 1.9
5	2.3	46	3.7	74	1.4
6	2.8	56	0.7	14	- 2.1
7	1.9	38	3.5	70	2.4
8	2.4	48	0.4	8	- 2
9	2.3	46	0.4	8	- 1.9
10	1.6	32	3.9	78	2.3
11	1.5	30	3.7	74	2.2
12	1.6	32	0.4	8	- 1.2
13	1.8	36	0.4	8	- 1.6

Appendix P: Done (D), Partially Done (PD)and Not Done (ND)

		Pre-intervention						Post-intervention			
ND	**% Age**	**PD**	**% age**	**D**	**% age**	**ND**	**% age**	**PD**	**%ge**	**D**	**%age**
2	7	17	57	19	63	18	60	7	23	5	16
9	30	11	37	37	40	20	67	0	0	10	33
11	37	8	27	11	37	14	47	10	33	6	20
6	20	8	27	16	53	13	43	7	23	10	33
10	33	17	57	3	10	17	57	11	37	12	40
11	37	9	30	11	37	16	53	4	13	10	33
6	20	14	47	10	33	13	43	10	33	7	27
14	47	6	20	10	33	15	50	5	16	10	33
7	23	13	43	10	33	14	47	6	20	10	33
15	50	7	23	8	27	18	60	8	26	4	13
16	53	9	30	5	17	21	70	9	30	0	0
8	27	19	33	3	10	16	53	6	20	8	26
5	16	7	23	18	60	19	63	8	26	3	10

UGANDA CHRISTIAN UNIVERSITY

School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: **Dr.Karen Drake**

Student's Name: **Amongin Esther** Reg No: **RM21M11/003**

Date of Submission of Work to Supervisor: **14/10/2024**

Date of Meeting that Discussed the Work: **7/05/2024 – 13/10/2024**

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Date	Comment area	Supervisor's feedback	Action done	Page Number
Jan 2022-May 2024		**Meet weekly on Zoom with cohort**	**Regular feedback given in writing and verba in class**	
22/01/2022- 6/04/2024	Chapter 1	-Select the research study -Create literature review matrix and submit it for approval to faculty -Outline key concepts in Idea papers 1and 2 with clear concepts -Make chapter one outline -Describe major sections in chapter One i.e. ✓ Introduction ✓ Background ✓ Study purpose	-Selected research study -Edited literature review matrix and submitted to the supervisor -Edited concepts in Idea paper 1 and 2 transferred necessary contents to chapter 1 -Described major sections in chapter 1 using correct grammar, clear hand writing and followed APA 7 standards	1-39

		✓ Study objectives ✓ Research questions ✓ Significance of the study ✓ Theoretical frame work ✓ Define variables and key terms ✓ Use APA, grammar, correct spelling, and clear hand writing		
22/02/2022-2/04/2024	Chapter 2	-Edit concepts in Idea paper 3 with clear outlines -Create literature review outline -Make introductory paragraphs -Use appropriate headings -Summarize critical gaps -Use APA, Grammar, correct spellings and clear hand writing	-Edited concepts in Idea paper 3 and transferred sections of Idea paper 3 relevant to chapter 2 to chapter2 -Summarised critical gaps -Edited different sections in chapter 2 based on APA standard and also used correct grammar and clear hand writing	40-61
	Chapter3	Methodology -Outline key concepts in methodology in Idea paper 4 -Describe ✓ Methodology and design ✓ Population ✓ Sample ✓ Sample size calculation ✓ Inclusion and exclusion criteria ✓ How to minimize bias ✓ Setting description ✓ Data collection techniques ✓ Where data will be collected	-Edited concepts in Idea paper 4,after its approval, transferred material from idea paper 4 to chapter 3 -Describe all sections in chapter 3 using correct grammar, and followed APA 7 guidelines -Proof-read reference list and cross-checked citations	62-79

		✓ Privacy ✓ Confidentiality -Describe data collection tool -Data quality and control ✓ Content validity ✓ Reliability ✓ Pilot the tool on to small sample -Data analysis ✓ Describe how data will be analyz ✓ Data analysis plan -Ethical considerations ✓ Permissions ✓ Consent ✓ Data safety		
26/03/2024		Subject the completed research proposal to turnitin	Research proposal subjected to turnitin, Turnitin score 8%	
3/04/2024		Submit the proposal to UCU REC for approval	Research proposal submitted to UCU REC	
May -October 2024		**Met twice weekly on Zoom with cohor**	**Regular feedback given in writing and verba in class**	
23/07/2024-7/09/2024	Chapter 4	-Describe study results by handling each section at time ✓ First edit well each section: Demographic distribution, Knowledge section and Practice section	-Edited well each section as required by the supervisor by handling each section separat -Used correct grammar and also followed APA standards	80-88
8/09/2024-13/10/2024	Chapter 5	Describe sections in this chapter based study findings, correct grammar, APA formatting and clear handwriting.	-Each section described using correct grammar, clear hand writing and Edited headings based on APA standards.	89-99

	Reference List	Proof-read reference list and cross-chec citations	-Proof-read reference list and cross-checked citations	99-115
13/10/2024		Subject the completed research report Turnitin.	Research subjected to Turnitin, Turnitin score 8%	
14/10/2024		Submit completed research report to external examiner	Completed research submitted to external examiner	
26/05/2025	Viva	Attended first Viva and was asked to ma corrections and present again	Made corrections as per the feedback from	
9/7/2025		Proof read the corrections	Restated the topic and worked on the corrections including practice analysis as ask to assess for practice using the checklist, not questionnaire.	1, 70, 8

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

UGANDA CHRISTIAN UNIVERSITY

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SCHOOL OF RESEARCH & POSTGRADUATE STUDIES

DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: 24/AUGUST/2025

Name of Candidate: AMONGIN ESTHER **Reg. No: RM21M11/003**

Title of Dissertation: Effects of a Pre-operative Teaching Intervention for Patients Undergoing Elective abdominal hysterectomy on nurses' knowledge and practice in a district hospital in Uganda

SN	COMMENTS BY EXTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	The inclusion criteria: willingness to participate in the study is not a researcher's criteria. This is an ethical issue. A nurse who would have worked in the unit for a certain period, may be six months would be a good inclusion criteria. This is because such a nurse would have experienced pre-operative teaching	I adjusted the inclusion and exclusion criteria as per the guidance	**Page 65** **Inclusion Criteria** Nurses who worked in the gynecology ward for

	Exclusion criteria: It is not possible that a researcher goes out to conduct research and has no exclusion criteria! May be a person who is working on voluntary basis ban be one exclusion		one month and above were eligible because they were able to provide valuable insights with their knowledge and practice of pre-operative teaching among women undergoing elective abdominal hysterectomy. **Exclusion Criteria** The nurses who worked for less than a month but there was none at the time of this study.
2	There is confusion about the study setting. The researcher talks of district hospitals in Uganda at one point and district hospital at another	I corrected this and clearly stated the study setting	**Page 63** **Study setting** The research setting for this study was a district hospital in Eastern Uganda
3	The abstract was informative	The abstract was re-adjusted to suit the new findings	Page V
4	The writing style is poor; the use of "I" and "me" throughout the document is not acceptable.	I corrected this to suit the research writing style	Throughout the report where I had used "I", I replaced with the word "Researcher".
5	The problem is not stated clearly	I re-stated the problem clearly showing the problem. I included statistics to show the gravity of the problem	**Page 17**

SN	COMMENTS BY INTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	On Problem statement, what is the magnitude of the problem	Re-stated the problem statement clearly elaborating the magnitude of the problem	**Page 17** **Problem statement** The statistics on abdominal hysterectomy has been stated, the knowledge and practice gap has been highlighted. In Ethiopia, only 11% of nurses had fair knowledge while 79% demonstrated poor practice in pre-operative teaching, highlighting major gaps in up-to-date knowledge and practical training (Bazezew et al., 2023). There is limited literature on nurses' knowledge and

			practices in Uganda.
2	The specific objectives were not clearly stated	These were refined and correct objectives were stated	Page 18 • To measure the effect of a Continuous Nursing Education (CNE)-based pre-operative teaching intervention on nurses' knowledge regarding care for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda. • To determine the effect of a Continuous

			Nursing Education (CNE)-based pre-operative teaching intervention on nurses' practice in caring for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda.
3	It is better to refer yourself as the "Researcher" not "I"	This was corrected throughout the report	The word researcher was clearly used to refer to the person who conducted this study
4	In literature review; This is direct translation of local language to English	I corrected the grammar	Page 44 The authors further noted that, following surgery,

			patients should avoid touching or placing any objects near the incision site.
5	Did you collect data from more than one hospital?	I collected data from one district hospital in Eastern Uganda	**Page 62** Study setting
6	Who was the research assistant? Was she/he a qualified nurse from another unit or hospital	I rephrased and corrected this	**Page 64** **Data collection** Two qualified nurses from another hospital
7	Why were the names recorded after completing the questionnaire? This could breach confidentiality	I corrected this in the data collection	**Page 65** **Data collection** were given the questionnaire with a pre-generated code, for anonymity
8	Where were the sessions conducted from, and at what time?	I corrected this on the intervention	**Page 66** **Intervention** One main session was conducted in the board room at 9:00am with a second smaller one the following day at 4:00pm in the duty room for those

			few nurses who missed the first one due to not being on duty, but had registered interest in the topic.
9	This is too much detail of the tool	This was refined, made concise and very clear	**Page 69** **Nurses knowledge about pre-operative teaching**

SN	COMMENTS BY VIVA VOCE PANNEL	ACTION TAKEN	INDICATOR
1	The study was not the checklist but it was the pre-operative teaching intervention	Refine the topic to effects of a pre-operative teaching intervention on nurses' knowledge and practice for women undergoing elective abdominal hysterectomy. The study was clarified the pre-operative teaching intervention being the CNE AND NOT THE CHECKLIST	**Page 1** **The effects of a pre-operative teaching intervention on nurses knowledge and practice for patients undergoing elective abdominal hysterectomy in a district hospital in Eastern Uganda**
	The background was consistent with pre-operative teaching not the checklist, this needs to come out clearly	The background was refined to suit the pre-operative teaching	**Page 13-16**
1	Sampling: The consecutive sampling method vs purposive. This needs to be revised and clearly state the sampling method used	I corrected the sampling method used and clearly stated it as Census study approach.	**Page 63** **Sampling method** A census study approach was adopted to determine

			the sample size
2	The sample size technique used was for reducing the population size. If the sample size was 30, you would have used them all and which would make it a census study	I adjusted and removed the Yamane Taro's calculation and adopted census study approach	**Page 65** **Sample size determination** This study adopted a census study approach for determining the sample size. The rationale for using a census in this quantitative study was to ensure complete population coverage.
3	The student intervention was the CME and not the checklist. How does the two relate, the CME and the checklist. The intervention was not about the checklist but the teaching and this should come out clearly.	I corrected this. The intervention is the pre-operative teaching intervention which is CNE while the checklist was the tool used to assess the nurses' practice before and after the intervention.	**Page 13** **Part of the introduction** To address this issue, continuous nursing education (CNE) was identified as a practical approach to equip nurses with up-to-date, evidence-based knowledge and skills necessary for pre-operative care. **Page 16** **Background** Continuous Nursing

			Education (CNE) is an important strategy for bridging these knowledge gaps (Harms, 2020; Mahmoud et al., 2021).
4	Checking the practice should have been the checklists and the checklists should have also been picked and analyzed	Practice was analyzed using the observable checklist not a questionnaire	**Page 69-70** **Nurses practices on pre-operative teaching.** A standardized checklist was developed based on evidence-based guidelines and best practices for pre-operative teaching in abdominal hysterectomy to assess nurses' practice.
5	Checking analysis in line with the checklist results	I analyzed the results from the checklist	**Page 85** Comparison of Nurses' Practice by Categories Before and After the Intervention
6	The knowledge part is still not clear	Knowledge was assessed using a questionnaire	**Page 83** The grading in knowledge analysis of highly knowledgeable, better knowledge, fairly knowledgeable, poor knowledge as seen on knowledge

			analysis on page 83 was guided by literature from other researcher (Hassan et al., 2023; Özcan et al., 2023)as noted in page 70.

Esther Amongin **Karen Drake, RN PhD**

Candidate's Name Signature Supervisor's Name Signature