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Nurses' Competencies and Care Management of Laparoscopic Surgery Patients

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Abstract

AIM: This study aimed to determine and assess the competencies of nurses involved in the care management of patients undergoing laparoscopic surgery in private hospitals located in Daet, Camarines Norte. Specifically, the study aim to determine the level of nurses' competencies across various indicators related to laparoscopic surgery, evaluate the extent of peri-operative care management, explore the relationship between nurses' competencies and peri-operative care management, identify factors that may help maintain nurses' competencies, and propose a sustainable plan based on the study results.

METHODOLOGY: The study utilized a concurrent mixed method approach, combining qualitative and quantitative data collection and analysis. The research sample consisted of 36 registered nurses involved in the care management of laparoscopic surgery patients across various stages. Nurses from Level 1, 2, and 3 private hospitals in Daet, Camarines Norte were considered for inclusion. Data were collected using an adapted tool originally developed by Al-Tee and Al-Mukhtar, which was customized to suit the specific context of the study. Both qualitative and quantitative analyses were conducted to assess nurses' competencies and peri-operative care management in laparoscopic surgery.

RESULT: The results of the study also reveal that the computed or obtained value of the Pearson Correlation is greater than the critical value at a 5% level of significance and one degree of freedom in all variables of the level of competencies. This suggests that the level of competencies during the peri-operative period is of paramount importance for the care management of patients who underwent laparoscopic surgery. Therefore, it is crucial to pay attention to improving oneself in terms of competencies and care management approaches.

CONCLUSION: This study underscores the importance of assessing nurses' competencies and peri-operative care management in laparoscopic surgery. The findings highlight the significant correlation between nurses' competencies and the quality of care provided during all phases of the peri-operative period. Nurses exhibited a high level of competency in various aspects of care management, indicating their dedication and skill in providing exceptional care to patients undergoing laparoscopic surgery. Furthermore, the study emphasizes the need for ongoing professional development and support to maintain and improve nurses' expertise in the field. Factors such as competitive compensation and opportunities for growth were identified as influential in this regard. Overall, the study provides valuable insights into the quality of care provided to laparoscopic surgery patients in private hospitals in Daet, Camarines Norte. It suggests opportunities for further enhancement in this critical aspect of healthcare delivery and highlights the importance of continuous improvement in competencies and care management approaches for nurses in this specialized field.

Keywords: nurse competencies, laparoscopic surgery, professional development

INTRODUCTION

Laparoscopic surgery, a minimally invasive surgical technique, has revolutionized surgical procedures. Compared to traditional open surgery, laparoscopy offers numerous advantages for patients, including reduced pain, faster recovery times, and smaller incisions. As the popularity of laparoscopic surgery continues to rise, the demand for skilled healthcare professionals to manage patient care throughout the surgical journey also increases.

Nurses play a critical role in this evolving landscape. They are at the forefront of patient care, providing essential support before, during, and after surgery. Their competencies in various areas, from clinical skills and wound care to communication and patient education, directly impact patient outcomes. This study delves into the

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crucial link between nurses' competencies and the care management of laparoscopic surgery patients. By understanding this relationship, we can strive to improve patient experiences, optimize care delivery, and ultimately achieve the best possible outcomes for those undergoing laparoscopic procedures.

"Laparoscopic surgery has been historically characterized by the innovative contributions of pioneers in the field. A French surgeon achieved a major breakthrough with the first successful laparoscopic cholecystectomy, marking a significant milestone in the progression of minimally invasive surgery. This cutting-edge approach has progressed over the years to become the standard practice in minimally invasive surgery, offering patients less invasive and more effective surgical choices." The use of laparoscopy in general surgery operations has been a revolutionary innovation. The key benefits of laparoscopic surgery include improved intraoperative visibility, less scarring, less pain, a shorter hospital stay, and a quicker recovery (Blencowe et al., 2018). The advantages of laparoscopic surgery have led to an increase in their popularity. Laparoscopic surgery is a minimally invasive surgical technique used in the abdominal and pelvic areas.

It is a minimally-invasive surgical procedure that uses long slender instruments that require much smaller incisions than conventional surgery, thereby called minimally invasive surgery (MIS), Band-Aid surgery, or keyhole surgery. Laparoscopic surgery has numerous advantages for the patient compared to exploratory laparotomy.

Furthermore, undergoing laparoscopic surgery would mean having reduced pain due to smaller incisions, also with lessened bleeding or hemorrhaging, and a shorter time for recovery. The essential component here is the use of a laparoscope, a long fiber optic cable system that allows viewing of the affected area by snaking the cable from a more distant, but more easily accessible location. Laparoscopic surgery includes operations within the abdominal or pelvic cavities, whereas keyhole surgery performed on the thoracic or chest cavity is called thoracoscopic surgery. Specific surgical instruments used in a laparoscopic surgery include obstetrical forceps, scissors, probes, dissectors, hooks, and retractors. Laparoscopic and thoracoscopic surgery belong to the broader field of endoscopy. The first laparoscopic procedure was performed by German surgeon Georg Kelling in 1901 (Rudiman, 2021).

Laparoscopy leads to faster recovery times, fewer post-surgical wound infections, and shorter hospital stays. For these reasons, laparoscopy could be particularly advantageous to patients in low to middle-income countries (LMICs). Unfortunately, sterile processing departments in LMIC hospitals are faced with limited access to equipment and trained staff which poses an obstacle to safe surgical care. The reprocessing of laparoscopic devices requires specialized equipment and training. Therefore, when LMIC hospitals invest in laparoscopy, an update of the standard operating procedure in sterile processing is required. Currently, it is unclear whether LMIC hospitals, that already perform laparoscopy, have managed to introduce updated reprocessing methods that minimally invasive equipment requires (Robertson et al. 2021).

In Gupta et al. (2023), single incision laparoscopic surgery was performed with the goal of minimizing invasiveness, pain, and discomfort while improving cosmetic and allowing for an early return of the patient to normal activities. The main objective of the study was to compare post-operative pain; secondary objectives included comparing the length of the procedure, the amount of time spent in the hospital, any complications that may arise after the procedure, and the cosmetic result. It is crucial for nurses to have competencies in both technical skills and care management to ensure optimal patient outcomes in laparoscopic surgery. The complexity of laparoscopic procedures requires intricate skills in instrument manipulation, sterile technique, and maintaining a clear surgical field. If nurses have deficiencies in these areas, it can compromise patient safety and increase the risk of complications.

The operating rooms during laparoscopic procedures are fast-paced environments with constant communication and rapid decision-making. Nurses with strong critical thinking and communication skills are essential for anticipating needs, responding effectively to complications, and ensuring the smooth flow of the surgery. Nurses are essential members of the healthcare team and crucial members of the medical workforce. They are most vital to the provision of patient care. More years of experience in surgical ward staff nursing training provided by local officials aid in the development of professional nurses by providing health resources and utilizing the youthful energy of nurses, both of which contribute to the development of their knowledge (Ibrahim & Muhamad, 2021).

Their expertise is an important contributor to maintaining the quality of care and healthcare productivity and competency. As of right now, laparoscopic surgeries are the most advantageous and secure technique for removing bile deposits. The purpose of this study is to illustrate the nursing issues that arise when a patient with cholelithiasis undergoes laparoscopic surgery (Myszka et al., 2019).

They are expected to have good knowledge, skills and attitude in the care of all types of clients, including those undergoing laparoscopic surgery. They are expected to have undergone training in laparoscopy, enhanced



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their skills in the care of patients, before, during, and after laparoscopic surgery, and in the promotion of health to those who are ruled out to undergo the procedure due to complications. With laparoscopic surgery's distinct learning curve, practice requirements, and patient safety concerns, simulation-based training is a critical tactic for skill development in a competency-based curriculum (Charokar & Modi, 2021).

However, their knowledge of laparoscopic surgery becomes a matter to be assessed. Are the nurses in Daet, Camarines Norte knowledgeable about laparoscopic surgery? Is their level of knowledge high to successfully manage laparoscopic procedures, or is it low that they need intensive seminars, workshops, and pieces training? Or plain satisfactory - not so great, not so bad either - that they can manage their clients on an average scale. Some hospitals in Daet, Camarines Norte do not offer laparoscopic surgical procedures.

Objectives

This study assessed nurses' competencies and discipline care management of patients who underwent laparoscopic surgery in private hospitals in Daet, Camarines Norte. Specifically, this study answered to the following questions:

1. What is the level of the nurses' competencies on laparoscopic surgery along the following:
 - a. Infection Control
 - b. Pre-Laparoscopic Surgery
 - c. Laparoscopic Surgery
 - d. Post-Laparoscopic Surgery
 - e. Patient Education on Laparoscopic Surgery?
2. What is the extent of nurses' peri-operative care management along:
 - a. Pre-operative
 - b. Intra-operative
 - c. Post-operative
3. Is there a significant relationship between the nurses' level of competencies and their peri-operative care management in laparoscopic surgery?
4. What factors may help maintain the nurses' competencies in the care and management of patients undergoing laparoscopic surgery
5. What sustainable plan may be proposed based on the results of the study?

METHODS

Research Design

This study utilized a concurrent mixed methods research design. In this design, the quantitative and qualitative data are collected during the same stage, although priority may be given to one form of data over the other. Mixed methods research can yield a rigorous and reliable source of data by fusing the expansive generalizations of larger population quantitative approaches with the in-depth, contextual views of qualitative research (McBride et al., 2019). The purpose of concurrent triangulation designs is to use both qualitative and quantitative data to more accurately define relationships among variables of interest (Ryan, 2023). Additionally, because the general aim of this approach is to better understand or obtain more developed understanding of the phenomenon under study, the data can be collected from the same participants or similar target populations. Along with learning how to read and analyze published research, readers will gain an understanding of the various research methods and strategies used in education and related fields. They will also learn how to write proposals, create questionnaires, and carry out independent empirical research studies (Frisby, 2024)

Population and Sampling

The respondents of the study are nurses recruited through purposive sampling from the selected private hospitals in the municipality of Daet, Camarines Norte. Nurses who served as the respondents were selected based on the following inclusion criteria: must be currently employed, either permanent or temporary in status, have handled a patient who has undergone laparoscopic surgery, and are willing to participate in the study. They may belong to either Level 1, 2, or 3 private hospitals. This study excluded nurses who have handled a patient undergoing laparoscopic surgery but are now employed in a government hospital.



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Instrument

An adapted survey questionnaire was utilized as the main tool for data gathering. The survey questionnaire data-gathering tool is an adapted instrument developed by Al-Tee and Al-Mukhtar (2015). It is a semi-structured modified questionnaire that consists of four parts in order to address the main objectives of this study. Part I of the questionnaire is intended to attain the personal data of the respondents for profiling purposes.

Part II is projected to explore the level of the nurses' competencies on laparoscopic surgery along Infection Control, Pre-Laparoscopic Surgery, Laparoscopic Surgery, Post-Laparoscopic Surgery, and Patient Education on Laparoscopic Surgery.

Data Collection

With the pandemic easing out, and the Bicol region going down to IATF Level 1 status, the data gathering was done through face-to-face survey and interview. The researcher initially wrote the medical directors of the selected hospitals and requested permission to undergo the study among their nurses. After the approval, an informed consent was explained to the respondents and they were requested to affix their signature as their consent in participating in the research. The respondents were then asked to answer the survey, through the adapted standardized tool. Then 9 respondents were requested for an interview. They were requested for key information through interviews and they accepted and participated in the Key Informant Interview (KII). As key informants, the data gathered from them helped added more substance and truly validated the answers previously collected through survey. The study took place from January to March 2023.

Treatment of Data

All gathered data were organized and tabulated for analysis and interpretation. After the collection of the instruments, responses were tallied. A frequency count commenced. This was used to gather the findings in order to get the weighted mean. Correspondingly, weighted mean and Pearson R correlation were used to analyze the data on the extent of nurses' competencies during the different phases of laparoscopic surgery, and in the extent of peri, intra, and post-operative care management of patients undergoing laparoscopic surgery. Qualitative data analysis (QDA) was employed to analyze the qualitative data collected during the research process, and the findings were organized into thematic categories during the discussion phase.

Ethical Considerations

The conduct of this study strictly adhered to ethical guidelines. Before filling out the survey questionnaire, the participants received a form called, "Informed Consent" to read, fully understands, and signs for verification. The reasons participants were requested to participate in the study were likewise indicated in the informed consent together with the procedure.

The respondents received information on the risks and benefits concerns included in the study and provide measures to prevent emotional harm from transpiring. It noted that participants are free to withdraw at any point and are not subject to any repercussions for declining to participate or opting not to respond to or complete the survey. Statements regarding the assurance of privacy and confidentiality shall also be included in the informed consent form and clarify that the participants' integrity, privacy, and confidentiality are of the utmost importance and shall provide instructions on how to answer survey questionnaires.

As for justice, the notion followed to uphold the respondents' rights to equal treatment. Equal treatment denotes that participants are selected, following the requirements and criteria for the research's eligibility. A non-prejudicial approach was then be presented to participants who decided not to participate in the study, as noted in the informed consent. It was made clear that they can reach out to the researcher for questions and clarifications through the email address provided in the informed consent at any time during the data collection process, even as the data are analyzed continually. Further, questions were collected by the researcher. During the data collection process, the researcher ensured that no derogatory, racial, or other inappropriate language was use.

THEORETICAL FRAMEWORK

This study is anchored on the knowledge, attitudes, and practice (KAP) model, supported by the Health Belief Model developed by the U.S. Public Health Service. This theory is widely used in present studies as it presents an in-depth look into the knowledge, attitudes, and practices, of individuals concerning health.



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This study will utilize the Knowledge, Attitude, and Practice (KAP) model, developed by (Qiquan, Z., & Hua, W. (2021)), to assess nurses' competencies and care management of laparoscopic surgery patients. The KAP model posits that an individual's knowledge, attitude, and practices are interrelated and influence their behavior.

The KAP model was created as a tool to examine what participants in a given subject know, think, and practice. Eventually, it led to the development of the KAP survey in the 1950s which was mostly utilized in cross-sectional surveys. KAP surveys have gained popularity, particularly in the field of public health, where they help provide valuable information for resource allocation in, planning of, and implementation of public health programs. This is because KAP surveys are reasonably easy to design, conduct, analyze, and interpret (Andrade et al., 2020). Patients may be receiving insufficient vital information prior to surgery, but the essential information that should be provided to patients undergoing surgery is not fully addressed. Preoperative education is an essential nursing task that can be affected by the nurses' perception. A preoperative teaching questionnaire was used (Almutary & Almashi, 2024).

The most widely used model to explain how an individual's knowledge and attitudes influence their healthy behavior is the knowledge-attitude-practice (KAP) model, which was developed by Mayo in the 1960s (Huang et al., 2022).

According to World Health Organization (WHO 2019), KAP surveys are commonly done to gather data and information from a particular population, assess what they know, the behaviors they exhibit, and their practices concerning a specific topic or area of concern.

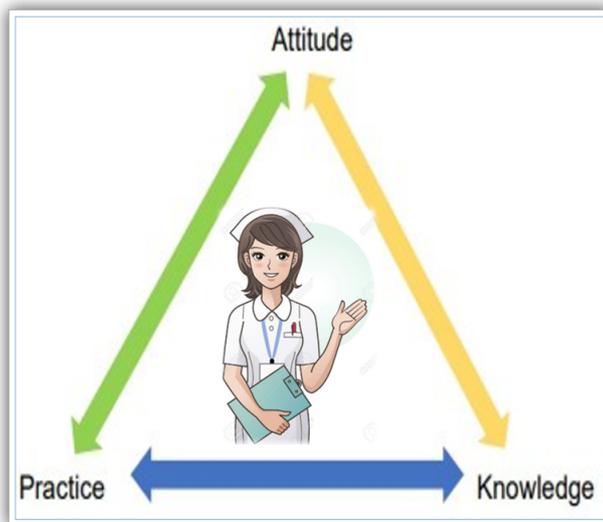


Figure 1. Theoretical Paradigm of the Study

As shown in Figure 1, the KAP model has three significant areas of identification, namely Knowledge- Nurses' level of understanding regarding laparoscopic procedures, potential complications, and best practices in care management., Attitude- Nurses' beliefs and perceptions about laparoscopic surgery, their role in the process, and the importance of providing high-quality care., and Practice- Nurses' actual behaviors in caring for patients undergoing laparoscopic surgery, including pre-operative education, intra-operative assistance, and post-operative care protocols., in which, through identifying these aspects within a chosen population, researchers establish a reference from which future evaluations can be based on (Qiquan & Hua, 2021). In this study, the knowledge of nurses on laparoscopic surgery and the practices they do before, during after the surgery would be thoroughly assessed. Through the use of a KAP survey, the necessary data regarding what the nurses knowledge, and practice regarding laparoscopic surgery would be focused on, and determined.

It is in this context that the researcher aims to implement appropriate health interventions to the challenges the nurses encounter when they care and manage their clients undergoing laparoscopic surgery. Through the KAP survey, quantitative data would shed light on the nurses' cognitive level, thus would be able to provide further



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insights into the possible behavior of the chosen population which may advance necessary interventions and desired positive behavioral changes.

The KAP survey would primarily be designed to evaluate and identify critical communication mechanisms and sources for program implementation and success (WHO, 2020). It is based on the idea that improving one's understanding can lead to a change in behavior (WHO, 2022). However, it is essential to note that KAP surveys present what is stated by the respondents, and thus, there may still be significant differences between what has been stated and what has been practiced (Medicins du Monde, 2019).

This framework of the study provides every concept that determines and recognizes the connection between the variables and the study's objectives through graphical presentation. This study used the intervention framework as an approach to present how its variables influence an overall system. The first paradigm illustrates the input which includes the specific variable on the socio-demographic profile of nurses, to encompass nurses' competencies in laparoscopic surgery across different stages:

Highlighting Nurses' Competency at each stage, nurses should possess a comprehensive understanding of infection control practices, including aseptic techniques, sterilization procedures, and proper handling of instruments and equipment. They must be vigilant in implementing infection prevention protocols before, during, and after laparoscopic surgery to minimize the risk of surgical site infections and other complications. The KAP model aids primarily in describing the behaviors of individuals that influence the health-related practices of the nurses. It is also important to focus on the nurses' psychosocial aspect by considering the challenges they experience in the care of the patients undergoing surgery.

With this investigation anchored in the KAP model, the researcher would be able to design a comprehensive plan for support mechanisms towards the implementation of necessary interventions that would supplement, improve, and alter the chosen population's behaviors towards knowledge and practices during laparoscopic surgery.

CONCEPTUAL FRAMEWORK

This framework of the study provides every concept that determines and recognizes the connection between the variables and the study's objectives through graphical presentation. This study used the intervention framework as an approach to present how its variables influence an overall system. The first paradigm illustrates the input which includes the specific variable on the socio-demographic profile of nurses, to encompass nurses' competencies in laparoscopic surgery across different stages:

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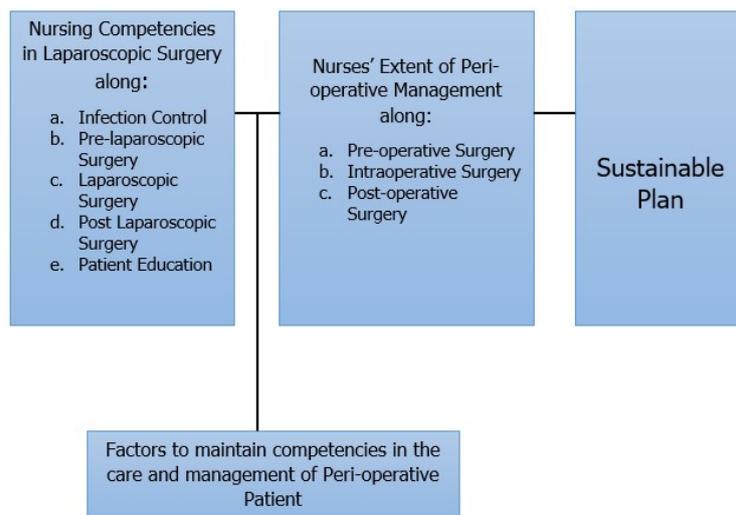


Figure 2. Conceptual Paradigm of the Study



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In pre-laparoscopic surgery, prior to the procedure, nurses play a crucial role in preparing patients both physically and mentally. This involves educating patients about the surgical process, addressing any concerns or questions they may have, and ensuring they adhere to pre-operative instructions such as fasting and medication management. Nurses should also conduct thorough assessments to identify any potential risks or contraindications for surgery and collaborate with the healthcare team to optimize the patient's condition for a successful outcome.

The laparoscopic surgery, during the surgery itself, nurses provide essential support to the surgical team by assisting with patient positioning, maintaining a sterile field, and anticipating the needs of the surgeon and other team members. They must be proficient in handling specialized laparoscopic equipment and troubleshooting any technical issues that may arise during the procedure. Additionally, nurses monitor the patient's vital signs and response to anesthesia, ensuring their safety and well-being throughout the operation.

During post laparoscopic surgery, after the surgery is completed, nurses transition into the post-operative phase, where their focus shifts to monitoring the patient's recovery and managing any post-operative complications. This includes assessing the patient's pain levels, monitoring their vital signs, and observing for signs of surgical site infection or other adverse reactions. Nurses are responsible for providing comprehensive post-operative care, including wound management, pain relief measures, and instructions for self-care at home. They also play a key role in facilitating the patient's discharge and providing education on post-operative recovery, medication management, and potential warning signs that require medical attention.

On the other hand patient education, throughout the entire perioperative process, patient education remains a cornerstone of nursing care. Nurses should employ effective communication techniques to ensure that patients and their families have a clear understanding of the surgical procedure, potential risks and benefits, and post-operative expectations. This includes providing information on wound care, medication management, dietary restrictions, and activity limitations. Patient education should be tailored to the individual needs and preferences of each patient, empowering them to actively participate in their own care and optimize their recovery outcomes.

Highlighting Nurses' Competency at each stage, the Pre-Laparoscopy emphasizes how nurses' competencies in infection control protocols influence the quality-of-care practices such as sterile technique, skin preparation and patient education like the pre-surgical hygiene instructions.

On the second paradigm, nurses' extent of peri-operative management encompasses pre-operative preparation, intraoperative support, and post-operative care to ensure comprehensive patient outcomes. During pre-operative surgery, nurses are responsible for several key competencies such as patient assessment. Nurses conduct thorough assessments of patients scheduled for surgery, including their medical history, current health status, and any risk factors that may affect the surgical outcome. This assessment helps identify potential complications and allows nurses to tailor care plans accordingly. Nurses educate patient and family, they play a crucial role in educating patients about the upcoming surgery, including what to expect before, during, and after the procedure. This education may cover topics such as pre-operative fasting, medication management, and pre-procedural preparations. Nurses collaborate with other members of the healthcare team to ensure that all necessary pre-operative preparations are completed in a timely manner. This may involve scheduling pre-operative tests, obtaining informed consent, and coordinating with other healthcare providers involved in the patient's care. Pre-operative surgery can be a stressful time for patients, and nurses provide emotional support and reassurance to help alleviate anxiety and promote a sense of calmness and readiness for the procedure.

On the intraoperative surgery during this phase, nurses demonstrate competencies in the following areas. Like surgical assistance, as nurses assist the surgical team by preparing the operating room, positioning the patient, and providing surgical instruments and supplies as needed. They also maintain a sterile field and adhere to aseptic techniques to prevent surgical site infections. Nurses continuously monitor the patient's vital signs, anesthesia administration, and overall condition throughout the surgery. They remain vigilant for any signs of complications or adverse reactions, intervening promptly to ensure patient safety. Effective communication is essential during intraoperative surgery, and nurses facilitate communication between members of the surgical team, providing updates on the patient's status and relaying important information as needed.

While on the post-operative surgery, nurses' competencies include post-anesthesia care. Nurses monitor patients recovering from anesthesia, assessing their airway, breathing, circulation, and level of consciousness. They provide interventions as needed to ensure a smooth transition from the operating room to the post-anesthesia care unit (PACU) or recovery area. Nurses assess and manage the patient's pain following surgery, implementing pain relief strategies such as medication administration, positioning, and non-pharmacological interventions. They are responsible for assessing and managing surgical incisions, monitoring for signs of infection or complications, and providing appropriate wound care interventions to promote healing and prevent complications. Nurses educate



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patients and their families about post-operative care instructions, including activity restrictions, medication management, wound care, and signs of potential complications. This education empowers patients to participate in their own recovery and promotes optimal outcomes.

Factors to maintain competencies in the care and management of peri-operative patient, highlights the importance of a multi-faceted approach to maintaining nurses' competencies in laparoscopic surgery care. By understanding the interplay between various factors, we can develop effective strategies to support nurses and ensure they deliver optimal care to patients undergoing these procedures. Nurse characteristics and experience level in laparoscopic surgery, educational background, participation in continuing education programs. Access to specialized training programs tailored to laparoscopic surgery, availability of simulation lab resources, and mentorship opportunities for nurses. Factors that help them maintain their competencies like access to resources, supportive work environment. Challenges they face in keeping their skills up-to-date such as time constraints, limited training opportunities. Methods for sustaining proficiency involve staying updated on the latest developments and best practices in laparoscopic surgery.

And lastly, the last paradigm the proposed recommendation, offers a unique lens to examine the issue of maintaining nurses' competencies in peri-operative laparoscopic surgery care. This framework encourages a deeper examination of the systemic factors that influence nurses' ability to maintain their competencies. It advocates for a more equitable healthcare system where nurses are empowered to excel in their roles and deliver the best possible care to patients undergoing laparoscopic surgery. These empower nurses and advocates for their right to maintain and advance their skills. Promotes a more equitable healthcare system where all nurses have the opportunity to provide optimal care.

In addition, based on the theory implied and one of the main variables in this study, the integration of the KAP model as shown in Figure 2 wherein it is used, Nurses involved in laparoscopic surgery must possess a specific set of competencies, including proficiency in infection control, pre-operative preparation, the actual surgery, and post-operative care. They must also be adept in managing peri-operative tasks, covering pre-operative, intraoperative, and post-operative care. This includes maintaining patient care and management throughout the entire peri-operative process. This also outlines factors required to uphold these competencies and provides suggestions for potential enhancements.

RESULTS and DISCUSSION

The highest number of respondents predominantly belongs to 31-35 years old bracket, which means that the respondents are in their prime and most productive and energetic years. Males are 33.86 percent while females comprise 66.14 percent of the total respondents. Females have a higher population in this research locale than male respondents.

As to the distribution of the respondents by highest educational attainment, most of the respondents are college degree holders, with 87% and 4% having finished their master's degrees.

As to years of experience, 1-5 years comprised 70 percent, which means there are more nurses who are starting with their career and more nurses are handling the Nurse I position. Nursing professionals have high difficulty finishing their graduate studies because of their work as medical frontliners, and they don't manifest an interest in completing a graduate degree. Nurse managers should pay attention to nurses' career advancement opportunities, recognize their achievements, and provide opportunities for continuing education and independent work.

The majority of the respondents from the three hospitals belong to rank-and-file positions, and only a few are in managerial positions. The distribution of nurses among the nursing designation is congruent with the fact that there are more nurses in rank-and-file positions (Nurse I and II). Since most of the nurses have become busy with their work as medical frontliners particularly in this pandemic, they hardly have time for professional upgrading and other activities that would help them gain higher status in their careers.

Level of Nurses' Competencies in Infection Control:

Implementing infection control programs in the forms of surveillance, isolation, outbreak management, environmental hygiene, employee health, education, and infections prevention policies and management can help prevent and lower the risk of hospital-acquired infections



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Table 1
Level of the Nurses' Competencies in Infection Control

Indicators	Mean	Interpretation
Uses proper handwashing techniques	3.94	Highly Competent
Maintains hand hygiene	3.93	Highly Competent
Uses gloves with proper technique	3.90	Highly Competent
Uses masks properly	3.89	Highly Competent
Wears gowns appropriately	3.89	Highly Competent
Prepares and cleans the site of surgery	3.89	Highly Competent
Ensures that instruments are sterile	3.89	Highly Competent
Ensures that instruments are ready and available	3.83	Highly Competent
Uses goggles if needed	3.78	Highly Competent
Composite Mean	3.87	Highly Competent
4.00 - 3.51: <i>Highly Competent;</i>		3.50 - 2.51: <i>Competent;</i>
2.50 - 1.51: <i>Moderately Competent;</i>		1.50 - 1.00: <i>Not Competent at</i>

The findings of the study on Table 1 revealed a notable result showing a composite mean of 3.87 with verbal interpretation of Highly Competent. The highest rated indicator is Uses proper handwashing techniques, with a weighted mean of 3.94, and a verbal interpretation of Highly Competent. This is followed by the second highest rated indicator, Maintains hand hygiene, with a weighted mean of 3.93, and a verbal interpretation of Highly Competent. The third-highest ranked indicator, "Uses gloves with proper technique," which has a verbal interpretation of "Highly Competent" and a weighted mean of 3.90, is also listed.

Level of the Nurses' Competencies during Pre-Laparoscopic Surgery.

The results on Table 2 shows a good result having a composite mean of 3.81, with verbal interpretation of Highly Competent which postulates that nurses are also well skillful in their responsibilities during the pre-laparoscopic surgery. The indicator rated with the highest weighted mean is, Checks and monitors vital signs, 3.92, with verbal interpretation of Highly Competent.

Table 2
Level of the Nurses' Competencies during Pre-Laparoscopic Surgery:

Indicators	Mean	Interpretation
Checks and monitors vital signs	3.92	Highly Competent
Ensures that patients are well informed about Laparoscopic Surgery	3.90	Highly Competent
Ensures that masks are well placed and properly worn	3.89	Highly Competent
Maintains hand hygiene	3.86	Highly Competent
Ensures that gloves are new, sterile, & properly donned	3.83	Highly Competent
Follows administrative process	3.81	Highly Competent
Checks body weight	3.81	Highly Competent
Maintains the site of surgery	3.75	Highly Competent
Checks the stability of the Laparoscope	3.72	Highly Competent
Undergoes proper IPPA	3.64	Highly Competent
Composite Mean	3.81	Highly Competent
4.00 - 3.51: <i>Highly Competent;</i>		3.50 - 2.51: <i>Competent;</i>
2.50 - 1.51: <i>Moderately Competent;</i>		1.50 - 1.00: <i>Not Competent at All</i>



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In Table 2, the mean scores for each competency indicator are provided along with their interpretations according to the legend above.

Indeed, proper and careful monitoring of the vital signs of patients on pre-laparoscopic surgery is highly essential. Monitoring has certain elements in common for all patients. Others are more specific to patients with comorbidities. The most basic signs to watch out for are: temperature, pulse rate, respirations rate and blood pressure. It is best then that the nurse respondents are highly competent on this. If not, bradycardia or other conditions may arise.

According to Steer et al. (2019), bradycardia and cardiac arrest are recognized complications of laparoscopic gynecological surgery. Monitoring the patient's vital signs would mean they would be able to properly detect if there is bradycardia and the physicians may then prescribe to give treatment such as anticholinergic agents. Proper monitoring may mean fast action, and fast action may mean saving the lives of many patients.

The indicator with the second highest mean is, Ensures that patients are well informed about Laparoscopic Surgery, 3.90, with verbal interpretation of Highly Competent. One of the most important responsibilities of nurses is to inform the patient of the procedure about to be done to her. This is then a good result where the nurses rated themselves as highly competent in informing the patient about laparoscopic surgery.

The nurse must be well versed on what and what are the indications and purpose of laparoscopic surgery. As Mak et al. (2022) advanced that the diagnostic laparoscopy is the process of performing a laparoscopic examination of the pelvis for purely diagnostic purposes, and as indicated in the name, implies that no therapeutic surgical intervention is performed. Hence, all these must also be known to the nurse so they can explain it well to the concerned patients and their significant others.

The indicator with the third highest mean is, Ensures that masks are well placed and properly worn, 3.89, with verbal interpretation of Highly Competent. Wearing masks is one of the best ways to protect nurses and other healthcare professionals from attaining viral respiratory infections, and on the other hand, preventing the spread of infection, from the healthcare workers to their patients.

On the other hand, as posited by Scarano et al. (2021), the use of facial masks and other comprehensive personal protection equipment raises the temperature of the skin on the face, increase airflow resistance, and causes physical discomfort. Hence, they underwent such study to assess the oxygenation status and discomfort of surgeons, both before and after their daily routine operations.

Level of the Nurses' Competencies during Laparoscopic Surgery.

The results on Table 3 display a notable result having a composite mean of 3.65, with verbal interpretation of Highly Competent which suggests that nurses are also well dexterous in their responsibilities during laparoscopic surgery.

Table 3
 Level of the Nurses' Competencies during Laparoscopic Surgery

Indicators	Mean	Interpretation
Keeps the site of surgery sterile	3.82	Highly Competent
Inserts catheter correctly	3.81	Highly Competent
Puts patients in the correct position	3.79	Highly Competent
Maintain patients' comfort the entire time during surgery	3.78	Highly Competent
Covers the patients correctly	3.74	Highly Competent
Insert cannula effectively	3.69	Highly Competent
Ensures that site of surgery has no unnecessary objects	3.58	Highly Competent
Monitors the laparoscope	3.56	Highly Competent
Removes gas appropriately	3.47	Competent
Sutures the site of surgery	3.44	Competent
Composite Mean	3.65	Highly Competent
<i>4.00 - 3.51: Highly Competent;</i>		<i>3.50 - 2.51: Competent;</i>
<i>2.50 - 1.51: Moderately Competent;</i>		<i>1.50 - 1.00: Not Competent at All</i>



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In Table 3, the mean scores for each competency indicator are provided along with their interpretations according to the legend above. The highest rated indicator, Keeps the site of surgery sterile, got a mean of 3.82, and a verbal interpretation of Highly Competent. This positive result means that the nurses are indeed most competent in maintaining the wound area clean, thereby eliminating any risk for infections. As has been discussed by Tennant & Rivers (2022), the goal of establishing a sterile field is to minimize the amount of germs that are present.

Both within and outside the operating rooms when performing surgical cases, the sterile field is utilized frequently. They further discussed that operating room when performing surgical cases; the sterile field is utilized frequently. Any procedure that involves the possibility if introducing microbes into a patient should be carried out in sterile environments all the time.

The second highest indicator, Insert catheter correctly, got a mean of 3.81, with a verbal interpretation of Highly Competent. Inserting a catheter is done by highly competent health workers, whether the doctors or the nurses. Here, the nurses marked themselves as highly competent in inserting one. This particular result is good. As postulated by Tennant & Rivers (2022), an arterial line, and the insertion of a foley catheter are a few instances where sterile technique must be practices. This is to maintain asepsis and avoid unnecessary infection the patient may acquire due to microbes.

The third highest indicator, Puts patients in the correct position, got a mean of 3.79, with verbal interpretation of Highly Competent. Putting the patient on a correct and proper position after surgery affects the total patient health outcomes. As postulated by Armstrong (2022), appropriate patient position can facilitate proper physiologic function during pathophysiologic processes and also facilitate access to certain anatomical locations during surgical procedures. As it is, there are multiple factors that could be considered when choosing the patient's position. These factors may include patient's age, weight, and the size as well as past medical history, including respiratory, or circulatory disorders.

Level of the Nurses' Competencies during Post-Laparoscopic Surgery.

The results on Table 4 shows a noteworthy result having a composite mean of 3.84, with verbal interpretation of Highly Competent which suggests that nurses are well adept in the care of patients during post-laparoscopic surgery.

Table 4
Level of the Nurses' Competencies during Post-Laparoscopic Surgery

INDICATORS	MEAN	INTERPRETATION
Assesses the patient's level of consciousness	3.92	Highly Competent
Measures and records respiration rate	3.86	Highly Competent
Monitors skin color	3.78	Highly Competent
Measures and records pulse rate	3.83	Highly Competent
Measures and records the temperature	3.86	Highly Competent
Takes the blood pressure	3.86	Highly Competent
Checks for nausea and vomiting	3.83	Highly Competent
Checks intake and output	3.86	Highly Competent
Assesses and continues to monitor the patient's level of consciousness	3.91	Highly Competent
Ensures patient's comfort	3.88	Highly Competent
Composite Mean	3.84	Highly Competent
<i>4.00 - 3.51: Highly Competent;</i>		<i>3.50 - 2.51: Competent;</i>
<i>2.50 - 1.51: Moderately Competent;</i>		<i>1.50 - 1.00: Not Competent at All</i>

In Table 4, the mean scores for each competency indicator are provided along with their interpretations according to the legend above.

The highest mean of 3.92 was marked on the indicator, Assesses the patient's level of consciousness, and its verbal interpretation is Highly Competent. And the second highest weighted mean of 3.91 was marked on the



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indicator, Assesses and continues to monitor the patient's level of consciousness, and its verbal interpretation of Highly Competent.

As can be deduced from the table, the two findings with the highest means are related to each other and both are deemed very important during post-laparoscopic surgery. It is known that the level of consciousness is a very good gauge to determine the patients' present health status. Properly assessing it, and continuously monitoring it would mean that the nurses are not amiss in their responsibilities of monitoring the vital status of the patient, especially that they have just undergone laparoscopic surgery.

The third mean of 3.88, was marked on the indicator, Ensures patient's comfort, with its verbal interpretation, Highly Competent. The most primordial role of the nurse is to ensure comfort to their patients. It is notable then that the nurses are indeed doing their role best in giving comfort and care to their patients. In recent studies, nurses giving comfort is now referred to as comfort nursing.

As expounded by Wu et al. (2022), comfort nursing intervention is a kind of nursing intervention with integrity and creativity. In addition to its uniqueness, the comfort nursing model also has strong effectiveness. Clinical holistic nursing has been significantly improved through the application of comfort nursing intervention theory, and its nursing mode has enhanced the connotation of clinical nursing. First, in order to determine the patient's care needs and screen for factors that may influence wound healing, a thorough evaluation of the patient is necessary. This evaluation should include a review of the patient's medical history, vital signs, nutritional status, presence of pain, and general physical health (Lemmel et al., 2023).

Level of the Nurses' Competencies during Patient Education on Laparoscopic Surgery.

The results on Table 5 exhibit a prominent result having a composite mean of 3.71, with verbal interpretation of Highly Competent. This reveals that the nurses' abilities are very high in teaching patients, especially those undergoing laparoscopic surgery.

Table 5
Level of the Nurses' Competencies during Patient Education on Laparoscopic Surgery

Indicators	Mean	Interpretation
Advices the patient for a follow-up check up	3.81	Highly Competent
Advices the patient how to properly change the dressing when at home	3.79	Highly Competent
Advices the patient to promote ambulation	3.78	Highly Competent
Reminds the patient to consult a doctor if pain increases rather than diminishes	3.77	Highly Competent
Advices the patient to promote rest and comfort	3.76	Highly Competent
Advices the patient to avoid lifting heavy objects	3.72	Highly Competent
Advices the patient to promote personal hygiene	3.69	Highly Competent
Advices the patient how to clean sutures within 7 days	3.69	Highly Competent
Advices the patient to take fruits and vegetables	3.64	Highly Competent
Advices the patient to avoid sexual intercourse for 15 days	3.53	Highly Competent
Composite Mean	3.71	Highly Competent
<i>4.00 - 3.51: Highly Competent;</i>		<i>3.50 - 2.51: Competent;</i>
<i>2.50 - 1.51: Moderately Competent;</i>		<i>1.50 - 1.00: Not Competent at All</i>

In Table 5, the mean scores for each competency indicator are provided along with their interpretations according to the legend above. The indicator with the highest weighted of 3.81 is, Advices the patient for a follow-up check-up, with a verbal interpretation of Highly Competent. This is followed by the second highest mean if 3.79, also Highly Competent, with the same mean of 3.79 is, Advices the patient how to properly change the dressing when at home, also Highly Competent. The third highest rated indicator is, Advices the patient to promote ambulation, with a mean of 3.78, and verbally interpreted as Highly Competent



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Extent of Pre-Operative Care Management.

Table 6 shows the result on the extent of pre-operative care management of nurses in selected hospitals in Daet, Camarines Norte. They marked the scores appropriate to their chosen answers and these were tabulated and computed to attain their mean.

It can also be seen that the nurses are Excellent in the pre-operative care management of patients, with a composite mean of 3.75. The highest rated indicator is Checks medical record and confirms patient’s identity, with a mean of 3.83, and a verbal interpretation of Excellent.

Table 6
Extent of Pre-Operative Care Management.

INDICATORS	MEAN	INTERPRETATION
Checks medical records and confirms patient’s identity	3.83	Excellent
Confirms if there are any allergies to medications	3.81	Excellent
Check planned surgical site, procedure, and surgical consent	3.75	Excellent
Checks anesthesia checklist	3.75	Excellent
Prepares for a blood transfusion if needed	3.72	Excellent
Verifies incision site previously marked by surgeon	3.64	Excellent
Composite Mean	3.75	Excellent

In Table 6, the mean scores for each competency indicator are provided along with their interpretations according to the legend above. Checking medical records and confirming the patient’s identity is the basic tenet for patient safety. It is therefore notable that the nurses in Daet, Camarines Norte are excellent in doing such. According to Sheedy (2020), patient identification, one component of patient safety, requires that patients, caregivers, clinicians, and providers work together to ensure accuracy and consistency, and awareness of the intent of the healthcare procedure. Patient identification errors can impact anyone and cause irreparable damage—wrong treatment to the right individual, wrong treatment to the wrong individual, delays in treatment, or serious harm or death—and errors are preventable.

The second highest rated indicator is, Confirms if there are any allergies to medications, with a mean of 3.81, and a verbal interpretation of Excellent. Checking if patients have allergies before any procedure to be undertaken is a must. This would prevent any complications during an on-going procedure like laparoscopic surgery. Having an allergic reaction during a surgery may bring serious effects to the patients. In the study of Savic et al. (2020), they explored on perioperative hypersensitivity reactions they postulated that these are unpredictable adverse events that can range in severity from minor to life-threatening.

They further added that the underlying mechanism may be allergic or non-allergic, although reactions are indistinguishable in clinical practice regardless of the underlying cause. Hence, all the more that the nurses must, indeed, always check if patients have allergies to prevent any minor incidents to life-threatening conditions during the laparoscopic surgery.

While there are two indicators which got the third highest mean of 3.75. these indicators are, Checks planned surgical site, procedure and surgical consent, and, Checks anesthesia checklist, both with verbal interpretation of Excellent. Checking the surgical site, procedure, surgical consent, and the anesthesia list are amongst the essential to-do list in the operating, whatever type of surgery would be done. Even when it would be laparoscopic surgery, all the more that these things must be checked and double checked and the nurses are indeed remarkable in doing these things every time.

Strini et al. (2021) explained that the process to obtain valid informed consent in healthcare reflects many aspects. Healthcare professionals that take care of the patient must provide him all the necessary information and verify his understanding, considering individual characteristics. Nurses are one of the main participants in this process.



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Extent of Intra-Operative Care Management.

Table 7 evinces that the nurses are also Excellent in the intra-operative care management of patients undergoing laparoscopic surgery, with it composite mean of 3.72. It can be gleaned from Table 7 that the two indicators got the highest mean of 3.86. These indicators are: Administers antibiotics if prescribed, and administers other prescribed medications, both with a verbal interpretation of Excellent. Administering antibiotics, and administering other prescribed medications, if any, are important vital procedures in a laparoscopic surgery and it is good to note that the nurses are found with excellent in this skill. Bardia et al. (2021), explored that the adherence to each component of perioperative antibiotic prophylaxis guidelines in regard to procedure-specific antibiotic choice, weight-adjusted dosing, and timing of first and subsequent administrations are important in a nationwide, multicenter cohort of patients undergoing surgery.

Table 7
Extent of Intra-Operative Care Management.

INDICATORS	MEAN	INTERPRETATION
Administers antibiotics if prescribed	3.86	Excellent
Administers other prescribed medications, if any	3.86	Excellent
Reconfirms surgical consent	3.72	Excellent
Checks room temperature and lights	3.67	Excellent
Facilitates operative team members' introduction	3.61	Excellent
Reviews surgical, nursing and anesthesia plans	3.58	Excellent
Composite Mean	3.72	Excellent

In Table 7, the mean scores for each competency indicator are provided along with their interpretations according to the legend above. The second highest indicator is, Reconfirms surgical consent, with a mean of 3.72, and a verbal interpretation of Excellent, while the third highest rated indicator is, Reviews surgical, nursing and anesthesia plans, with 3.58, Excellent as well. As has been mentioned by many scholars, informed consent is the process in which a health care provider educates a patient about the risks, benefits, and alternatives of a given procedure or intervention.

The patient must be competent to make a voluntary decision about whether to undergo the procedure or intervention. Sherman et al. (2021) indicated in their study that consequences of poor informed consent include low patient satisfaction, compromised treatment adherence, and litigation against medical practitioners. To ensure a well-informed, well-comprehended, and voluntary consent process. Hence, it is indeed notable that the nurses are highly competent in matters pertaining to the surgical consent.

Extent of Post-Operative Care Management.

Table 8 exhibits the results in the post-operative care management of patients undergoing laparoscopic surgery. It got a composite mean of 3.68, with verbal interpretation of Excellent.

Table 8
Extent of Post Operative Care Management

INDICATORS	MEAN	INTERPRETATION
Labeling of specimens, if any	3.75	Excellent
Counts the instruments, needles and sponges	3.73	Excellent
Check equipment	3.72	Excellent
Records procedure (Includes operation performed, anesthetic used, types of implants, if any, blood loss, and any complications that occurred).	3.61	Excellent
Discuss a post-operative recovery plan to patient and watcher	3.58	Excellent
Composite Mean	3.68	Excellent



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In Table 8, the mean scores for each competency indicator are provided along with their interpretations according to the legend above. The highest mean of 3.75, was marked in the indicator, Labeling of specimens, if any with a verbal interpretation of Excellent. While, the second highest mean of 3.73 was marked in the indicator, Counts the instruments, needles and sponges, and a verbal interpretation of Excellent. Followed by the third highest mean of 3.72, was marked in the indicator, Check equipment, also with a verbal interpretation of Excellent.

Labeling of specimens must be done appropriately and properly to avoid errors. This is supported by Sandhu et al. (2017) where they postulated that specimen labeling errors have long plagued the laboratory industry putting patients at risk of transfusion-related death, medication errors, misdiagnosis, and patient mismanagement. Many interventions have been implemented and deemed to be effective in reducing sample error rates. Moreover, Zervakis (2016) also posited that mislabeled surgical specimens jeopardize patient safety and quality care. These errors may be avoided by the nurses as they are excellent in labeling specimens after the laparoscopic surgery.

Significant Relationship between the Nurses’ Level of Competencies and their Peri-Operative Care Management in Laparoscopic Surgery.

Table 9 shows the correlations between the nurses’ level of competencies and their peri-operative care management in laparoscopic surgery. The single table summarizes each variable the study set to explore. As revealed in the table, the relationship between the level of competencies of the nurses along: Infection Control, Pre-Laparoscopic Surgery, Laparoscopic Surgery, Post-Laparoscopic Surgery, and Patient Education on Laparoscopic Surgery and the extent of peri-operative care management along: Pre-operative, Intra-operative, and Post-operative are all significant.

Table 9
Significant Relationship between the Nurses’ Level of Competencies and their Peri-Operative Care Management in Laparoscopic Surgery.

	Pre-operative		Intra-operative		Post-operative	
	Pearson r	Sig	Pearson r	Sig	Pearson r	Sig
Infection Control	.186	.277	.247	.147	.381	0.022"
Pre-Laparoscopic Surgery	.138	.422	.335	.046	.490	0.002*
Laparoscopic Surgery	.517	0.001*	.687	.000*	.751	.000*
Post-Laparoscopic Surgery	.748	.000*	.697	.000*	.737	.000*
Patient Education on Laparoscopic Surgery	.867	.000*	.941	.000*	.889	.000*

It is also revealed by the results of the test wherein the computed or obtained value of the Pearson Correlation is greater than the critical value at 5% level of significance and one degree of freedom in all variables of the level of competencies. This postulate that the level of competencies along the peri-operative are of paramount importance to the level of care management of patients who underwent laparoscopic surgery.

Therefore, it is crucial to give attention in improving oneself in the aspect competencies and care management approaches. As expounded by Shirazi et al. (2019), enhancing competencies in the care and management of nurses assisting in laparoscopic surgery must be part of pre-determined goals and make it a personal and professional accomplishment. In nursing education for example, its primary goals remain the same, nurses must be prepared to meet diverse patients’ needs; function as leaders; and advance science that benefits patients and the capacity of health professionals to deliver safe, quality patient care, not only to patients undergoing laparoscopic surgery but types of patients.

CONCLUSION AND RECOMMENDATIONS

The major problem of the study was to determine the level of nurses’ competencies on the laparoscopic surgery and the extent of the peri- operative management.

Problem Number 1

What is the level of the nurses’ competencies on laparoscopic surgery along infection control, pre-laparoscopic surgery, laparoscopic surgery, post-laparoscopic surgery and patient education?



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Findings:

From the data gathered the following can be inferred. The finding revealed that nurses' are highly competent on laparoscopic surgery along infection control with composite mean of 3.87, pre- laparoscopic surgery of 3.81, laparoscopic surgery of 3.65, post laparoscopic surgery of 3.84 and patient education of 3.71.

Conclusions:

The findings across all tables indicate very high or high levels of competency among nurses in various aspects of infection control, pre-laparoscopic surgery, during laparoscopic surgery, post-laparoscopic surgery, and patient education on laparoscopic surgery.

Recommendations:

1. Continues Training and Development: Despite the high competency levels observed, continuous training and development programs should be implemented to ensure nurses remain updated on the latest practices and advancements in their respective fields.
2. Implementing quality assurance measures can help ensure the maintenance of high competency levels over time.
3. Regular audits and assessments can identify areas for improvement and guide targeted interventions.
4. Promotion of Interdisciplinary Collaboration: Encouraging interdisciplinary collaboration among healthcare professionals can enhance overall patient care outcomes. Nurses should work closely with other members of the healthcare team to provide comprehensive and coordinated care to patients.
5. Support for Research and Innovation: Providing support for research and innovation within the nursing field can lead to the development of new techniques and practices that further improve patient care outcomes.
6. Investing in research initiatives and fostering a culture of innovation can drive continuous improvement in nursing practice.

Problem Number 2:

What is the extent of peri-operative care management along with pre-operative, intra-operative and post-operative?

Findings:

Based from the results the ratings on the extent of peri- operative care management the pre- operative 3.75, intra- operative is 3.72 and post- operative of 3.68 respectively.

Conclusions:

The findings across all tables indicate very high or high levels of competency among nurses in various aspects of pre-operative, intra-operative, and post-operative care management.

Recommendations:

1. Continuous Training and Education: Provide ongoing training and education programs to ensure nurses stay updated on the latest protocols and best practices in pre-operative, intra-operative, and post-operative care. This will help maintain and further improve the excellent levels of care demonstrated.
2. Standardization of Procedures: Ensure that standard operating procedures (SOPs) are consistently followed across all stages of patient care.
3. Regular audits and reviews can help identify any deviations from established protocols and address them promptly.
4. Enhanced Communication: Emphasize the importance of effective communication among healthcare team members Enduring all stages of patient care. Clear communication ensures smooth coordination and collaboration, leading to improved patient outcomes.
5. Utilization of Technology: Explore the use of technology solutions, such as electronic health records (EHR) and digital checklists, to streamline documentation processes and enhance efficiency in care delivery. This can help reduce the likelihood of errors and ensure comprehensive and accurate patient records.

Problem Number 3:

Is there a significant relationship between the nurses' level of competencies and their peri-operative care management in laparoscopic surgery?

Findings:



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It is also revealed by the results of the test wherein the computed or obtained value of the Pearson Correlation is greater than the critical value at 5% level of significance and one degree of freedom in all variables of the level of competencies.

Conclusions:

The relationship between the level of competencies of the nurses in infection control, pre-laparoscopic surgery, laparoscopic surgery, post-laparoscopic surgery, and patient education on laparoscopic surgery, and the extent of peri-operative care management in terms of pre-operative, intra-operative, and post-operative care is significant.

Recommendations:

1. Continuous Competency Enhancement: Continue to invest in training and development programs aimed at enhancing nurses' competencies in infection control, pre-laparoscopic surgery, laparoscopic surgery, post-laparoscopic surgery, and patient education on laparoscopic surgery.
2. Interdisciplinary Collaboration: Foster collaboration between nursing staff and other healthcare professionals involved in peri-operative care to ensure comprehensive and coordinated patient care delivery.
3. Regular Evaluation and Feedback: Implement mechanisms for regular evaluation of nurses' competencies and peri-operative care practices, providing constructive feedback to identify areas for improvement and reinforce positive performance.
4. Research and Innovation: Support research initiatives aimed at identifying best practices and innovative approaches to peri-operative care management, incorporating findings into clinical practice to further improve patient outcomes.

Problem Number 4:

What factors that may help maintain the nurses' competencies in the care and management of patients undergoing laparoscopic surgery.

Findings:

The investigation yielded three primary themes such as increased salary and benefits, growth opportunities for professional and personal development, commitment and dedication in the workplace.

Conclusions:

The themes identified in the summary emphasize the interconnectedness of higher salary and good benefits, opportunities for professional and personal development, and commitment and dedication in the workplace among nurses. The commitment and dedication demonstrated by nurses, despite challenges and sacrifices, are crucial elements in maintaining high-quality patient care. This dedication is further reinforced by the opportunities for professional and personal development provided by the organization, such as training programs and scholarships. Additionally, the recognition and rewards in the form of higher salary and advantageous benefits contribute to job satisfaction and overall well-being. The figure illustrates how these themes are intertwined, with higher salary and good benefits leading to improved job satisfaction, which in turn fosters opportunities for professional and personal development. This positive work environment, coupled with the commitment and dedication of the nurses, creates a culture of excellence in patient care.

Recommendations:

Based on the findings and conclusions, the following recommendations can be suggested:

1. Implement a structured professional development program: Develop and implement a comprehensive professional development program that offers opportunities for nurses to enhance their skills and knowledge through workshops, seminars, certification programs, and continuing education courses. This program should be tailored to meet the individual needs and career goals of nurses, fostering a culture of continuous learning and growth within the organization.
2. Enhance salary and benefits packages: Consider revising salary structures and benefits packages to ensure they are competitive and attractive to nurses. Conduct market research to benchmark against industry standards and adjust compensation and benefits accordingly. Investing in competitive salaries and benefits demonstrates the organization's commitment to recognizing and rewarding the dedication and hard work of its nursing staff.
3. Foster a supportive work environment: Cultivate a supportive work environment that values and appreciates the contributions of nurses. Recognize and celebrate their achievements and milestones, both individually and collectively, through various forms of recognition and rewards programs. Encourage open communication, collaboration, and teamwork among staff members to create a positive workplace culture that promotes job satisfaction and employee engagement.



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4. Provide opportunities for career advancement: Establish clear pathways for career advancement and growth within the organization, including opportunities for promotion, leadership development, and mentorship programs. Support nurses in pursuing further education and specialization in their field, and provide resources and guidance to help them achieve their career goals. By investing in the professional growth and development of nurses, the organization can retain top talent and strengthen its workforce.

5. Regularly evaluate and assess employee satisfaction: Conduct regular surveys and assessments to gauge employee satisfaction and identify areas for improvement. Solicit feedback from nurses regarding their experiences, concerns, and suggestions for enhancing workplace conditions and opportunities for advancement. Use this feedback to inform decision-making and implement initiatives aimed at improving overall employee satisfaction and retention.

By implementing these recommendations, the organization can create a supportive and rewarding work environment that fosters professional growth, commitment, and dedication among its nursing staff, ultimately leading to improved patient care outcomes and organizational success.

Problem Number 5:

What sustainable plan/program may be proposed based on the results of the study?

Findings:

This sustainable plan outlines strategies to enhance nurses' competencies and care management of laparoscopic surgery patients.

Conclusion:

By implementing this comprehensive plan, healthcare institutions can create a culture of continuous learning, improve collaboration, and empower nurses to deliver exceptional care. This program's sustainability is ensured through dedicated resources, leadership support, and continuous evaluation, fostering long-term improvements in laparoscopic surgery care.

Recommendation:

1. Competency Development & Assessment:

Develop a Competency Framework: Establish a framework outlining essential knowledge, skills, and attitudes required of nurses involved in laparoscopic surgery. Estimated time frame is six months.

Standardized Assessment Tools: Design standardized tools to evaluate nurses' proficiency in these areas (e.g., written exams, skills checklists, simulation scenarios). Estimated time frame is eight months.

Targeted Training Programs: Offer ongoing training programs based on identified needs (e.g., workshops on new laparoscopic procedures, simulation training to refine technical skills). Estimated time frame 12 months

2. Resource Management & Support:

Standardized Protocols & Resources: Create evidence-based, standardized protocols for pre-operative education, pain management, and post-operative care specific to laparoscopic surgery. Estimated time frame: 10 months.

Digital Resource Library: Develop a readily accessible online library with clinical practice guidelines, patient education materials, and video tutorials on laparoscopic procedures. Estimated time frame: 12 months

Skills Lab Access: Ensure regular access to well-equipped skills labs with laparoscopic equipment for ongoing skills practice. Within 12 months

3. Fostering Collaboration & Communication:

Interdisciplinary Team Training: Implement team training programs to enhance communication and collaboration between nurses, surgeons, anesthesiologists, and other involved professionals. Estimated 12 months

Regular Team Meetings: Schedule regular team meetings to discuss recent cases, challenges, and best practices for continuous improvement. First set up for each of the five post-operative patients.

Open Communication Channels: Promote open communication channels between nurses and surgeons to encourage questions, feedback, and shared decision-making. First set up for each of the five post-operative patients.

4. Performance Evaluation & Feedback:

Competency Re-evaluation: Periodically re-evaluate nurses' competencies using the developed assessment tools. Periodic evaluations every 6-12 months

Constructive Feedback Sessions: Provide nurses with feedback based on evaluations to guide further learning and development. Continual in all assessments.



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Recognition & Reward Systems: Implement recognition and reward systems to acknowledge nurses who demonstrate exceptional knowledge, skills, and commitment to quality care, yearly.

5. Sustainability Measures:

Budget Allocation: Dedicate budget resources to support ongoing education, resource development, and skills lab maintenance. Within 12 months.

Leadership Commitment: Gain strong leadership commitment to ensure program sustainability and resource allocation. Every six months.

Continuous Monitoring & Evaluation: Regularly monitor program effectiveness and adapt based on feedback and emerging needs in laparoscopic surgery. Within 12 months.

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