A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED INSTRUCTIONAL COURSE ON THE LEVEL OF KNOWLEDGE AND PRACTICE REGARDING CLINICAL GUIDELINES AMONG NURSES AND THE EFFECTIVENESS OF CLINICAL GUIDELINES ON PATIENT OUTCOME AMONG PATIENTS UNDERGOING CHOLECYSTECTOMY AT SELECTED HOSPITAL, COIMBATORE

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DOI: https://doi.org/10.5281/zenodo.18812134

ABSTRACT

Introduction: Nurses play a crucial role in ensuring adherence to clinical guidelines in surgical care. In laparoscopic cholecystectomy, the application of evidence-based clinical guidelines contributes to reducing complications, enhancing recovery, and improving patient outcomes. However, inadequate knowledge and practice among nurses can hinder the effectiveness of such guidelines. **Aim:** To evaluate the effectiveness of a Planned Instructional Course on the knowledge and practice of nurses regarding clinical guidelines, and to assess its impact on patient outcomes among individuals undergoing laparoscopic cholecystectomy at a selected hospital in Coimbatore. **Methods:** A quasi-experimental pre-test–post-test design was conducted at GEM Hospital, Coimbatore, with 60 participants (30 nurses and 30 patients) selected through convenient sampling. Nurses in the experimental group received a Planned Instructional Course, while the control group received routine care. Knowledge and practice of nurses were assessed using structured tools, and patient outcomes were measured through recovery, complication rate, and satisfaction. Data were analyzed using descriptive and inferential statistics. **Results and Conclusion:** The intervention significantly improved nurses' knowledge and practice in the experimental group compared to the control group, with all nurses achieving adequate knowledge and 80% demonstrating adequate practice, while none in the control group reached this level. Patient outcomes also showed better recovery, fewer complications, and higher satisfaction. These findings confirm that the Planned Instructional Course was effective in enhancing nurses' competence and improving patient outcomes following laparoscopic cholecystectomy.

KEYWORDS: Planned Instructional Course, Clinical Guidelines, Knowledge, Practice, Nurses, Patient Outcomes, Laparoscopic Cholecystectomy, Recovery, Satisfaction.

INTRODUCTION

Gallbladder disease, particularly gallstones (cholelithiasis) and cholecystitis, is a common global health concern, affecting 8–10% of adults, with higher prevalence in women and individuals over 40. Laparoscopic cholecystectomy has become the preferred treatment due to its safety, effectiveness, faster recovery, and minimal invasiveness. Successful outcomes depend not only on surgical expertise but also on comprehensive pre- and post-operative care, including imaging, pain management, complication monitoring, and patient education. Nursing care plays a critical role in ensuring patient satisfaction, safety, and quality of care, highlighting the importance of professional, skilled nurses in optimizing healthcare delivery and recovery.

Statement of the problem

A study to assess the effectiveness of planned instructional course on the level of knowledge and practice regarding clinical guidelines among nurses and the effectiveness of clinical guidelines on patient outcome among patients undergoing cholecystectomy at selected hospital, Coimbatore.

OBJECTIVES

- To assess the pretest level of knowledge and practice among nurses regarding clinical guidelines.
- To evaluate the effectiveness of the planned instructional course on the level of knowledge and practice among nurses regarding clinical guidelines.
- To evaluate the effectiveness of the planned instructional course on patients' outcomes among patients undergoing cholecystectomy.
- To evaluate the effectiveness of the planned instructional course on the level of satisfaction among patients undergoing cholecystectomy.
- To find out the association between the pre-test level of knowledge and practice among nurses regarding clinical guidelines with their selected demographic variables.
- To find out the association between the level of patients' outcome among patients undergoing cholecystectomy with their selected demographic variables.
- To find out the association between the level of patients' outcome among patients undergoing cholecystectomy with their selected clinical variables.

Operational Definition Assess

In this study, it refers to gathering data on the impact of planned instructional courses on the knowledge and practice of nurses on clinical guidelines and the effectiveness of clinical guidelines on patient outcomes among patients undergoing cholecystectomy.

Effectiveness

It is the difference between nurses' pre and post-test scores on their knowledge and practice of the clinical guideline and patient outcome before and after following the clinical guidelines.

Planned instructional course It is a structured educational program that uses a range of tools and methods to enhance learning, tailored to meet the unique needs and preferences of each sample. The teaching program is based on Henderson's 14 basic needs of nursing, which encompass: normal breathing, adequate nutrition and hydration, waste elimination, mobility and positioning, sleep and rest, appropriate clothing, body temperature maintenance, hygiene and

grooming, environmental safety, communication, spiritual practices, a sense of accomplishment through work, recreation, and the pursuit of learning and curiosity.

Knowledge and Practice

In this study, knowledge refers to what nurses know about the guidelines for gallbladder removal surgery. The goal was to see where their knowledge is lacking so that patient care can be improved. A semi-structured questionnaire will be used to assess the knowledge of patients before and after the planned instructional course.

In this study, practice refers to the care nurses provide to patients after a gallbladder removal and measures how well that care follows established clinical guidelines. A checklist, which was prepared based on Henderson's 14 basic needs of nursing, will be used to assess the practice of nurses for three consecutive days.

Clinical guidelines

Clinical guidelines are organized care plans that outline patient progress and expected outcomes, providing step-by-step directions for managing specific illnesses from admission to discharge, guiding nursing practice and improving outcomes. Here the guidelines are based on the Henderson's 14 basic needs of nursing.

Patients outcome

This study investigates the impact of nursing care on hospitalization duration, problem avoidance, and patient satisfaction with nursing care, using a checklist to gather data and assess these key aspects. Patient satisfaction is assessed using a three-point Likert scale.

Patients undergoing cholecystectomy

In this study, it refers to patients who are having a cholecystectomy, which is the removal of the gall bladder with a laparoscope and necessitates a three-day hospital stay.

Hypotheses

- H_1 - There is a significant difference between pre-test and post-test levels of knowledge among nurses regarding clinical guidelines among patients undergoing laparoscopic cholecystectomy.
- H_2 - There is a significant difference between the post-test level of practice among nurses regarding clinical guidelines among patients undergoing laparoscopic cholecystectomy.
- H_3 - There is a significant difference between the post-test level of patients' outcome among patients undergoing laparoscopic cholecystectomy.
- H_4 - Thereis a significant difference between the post-test level of satisfaction among patients undergoing laparoscopic cholecystectomy
- H_5 - There is a significant association between the pre-test level of knowledge among nurses regarding clinical guidelines among patients undergoing laparoscopic cholecystectomy with their selected variables.
- H_6 - There is a significant association between the post-test level of practice among nurses regarding clinical guidelines among patients undergoing laparoscopic cholecystectomy with their selected variables.
- H_7 - There is a significant association between the level of patients' outcome among patients undergoing cholecystectomy with their selected variables.
- H_8 - There is a significant association between the level of satisfaction among patients undergoing cholecystectomy with their selected variables.

Assumptions

- Nursing care and hospitalization are necessary for any surgical procedure.

- Standards and models are necessary for nursing care.

- The quality of care Is guaranteed by standards.

- A nurse's understanding of the clinical process is restricted.

- The clinical guidelines offer a clear and priciest and ardofcare.

Delimitation

The study was delimited to the nurses

- Who are working at GEM hospital

- Who are working at the surgical ward

The study was delimited to the patients

- Who got admitted in GEM hospital

- Who underwent elective laparoscopic cholecystectomy

- Who got admitted for only three days

Projected Outcome

It is anticipated that nurses will become more knowledgeable and proficient in the clinical guidelines for laparoscopic cholecystectomy, and that patients will be more satisfied with nursing care and the avoidance of problems.

Conceptual Framework

The conceptual frame work of the present study is based on Wiedenbach's Helping Art of Clinical Nursing Theory (1964).

REVIEWOFLITERATURE

This chapter deals with a review of literature related to the effectiveness of structured teaching programs on the level of knowledge and practice regarding clinical guidelines among nurses and the effectiveness of clinical guidelines among patients undergoing laparoscopic cholecystectomy. Literature review can serve a number of important functions in the research process, as well as the important functions for students seeking to develop an evidence-based practice.

Studies related to laparoscopic cholecystectomy

Agarwal et al. (2023) conducted a comparative study on the complications and outcomes of laparoscopic cholecystectomy (LC) versus open cholecystectomy (OC) among patients with gallbladder disease. The study, which included data from prospective and retrospective cohorts as well as randomized controlled trials, analyzed patient records, follow-up details, and reported complications. The primary outcomes assessed were complication rates, hernia occurrence, hospital stay duration, surgical time, and patient satisfaction. Results demonstrated that LC was associated with significantly lower mortality, reduced hospital stay, fewer major complications, and decreased wound infection rates compared to OC. Importantly, no significant complications or hernia occurrences were reported in either group during the follow- up period. The study concluded that while both LC and OC are safe and effective procedures for gallbladder disease, LC provides additional advantages, particularly in reducing mortality, complications, and hospital stay.

Studies related to level of knowledge and practice regarding clinical guidelines among nurses

Ashmari, et.al(2022), conducted a study,—Knowledge and attitudes of nurses towards clinical guidelines: A cross-sectional study. This cross-sectional study, conducted in hospitals across Saudi Arabia, employed questionnaires to assess nurses' understanding and perceptions of clinical guidelines. The research findings revealed that the participating nurses demonstrated a moderate level of knowledge regarding clinical guidelines and generally held positive attitudes towards their use in patient care. Based on these findings, the study concluded that the implementation of targeted education and training programs could effectively enhance nurses' knowledge base and improve their practical application of clinical guidelines within the healthcare setting.

Studies related to effectiveness of clinical guidelines among patients undergoing laparoscopic cholecystectomy

Rosarioetal.(2021) conducted a systematic review and meta-analysis titled Clinical Guidelines and Patient-Related Outcomes in Hospital-Based Settings to evaluate the impact of clinical guidelines on patient outcomes across hospital environments. Analyzing eight studies, the review assessed outcomes such as quality of life, hospital stay, and patient satisfaction. The results showed that clinical guidelines were associated with a significant reduction in the length of hospital stay (OR=0.585, p=0.042). However, their impact on quality of life (OR=1.472, p=0.496) and patient satisfaction (OR=2.226, p=0.096) remained inconclusive. The study concluded that clinical guidelines can improve efficiency in care delivery but emphasized the need for further research to determine their effect on patient-centered outcomes.

METHODOLOGY

Research Approach: Quantitative approach used to assess:

Research Design: Quasi-experimental design

- Nurses: One-group pre-test post-test design
- Patients: Post-test control group design

Setting: GEM Hospital, Coimbatore

Population: The target nurse population for the present study was nurses working at GEM Hospital and the accessible nurse population are the nurses working at the surgical wards of the same hospital.

The target patient population for the present study was patients with gall stone disease and the accessible patient population is the patients undergoing laparoscopic cholecystectomy at GEM Hospital.

Sampling and sample size: The sample size of this study was 30 nurses and 30 patients in that 15 for experimental group and another 15 for control group. Non-probability convenience sampling technique was adopted for this study. $n= 4pq/ L^2$ is used to calculate the sample size for both patient and nurses.

Inclusion Criteria

- **Patients:** Age 20–60, elective surgery, ≥ 3 days hospitalization
- **Nurses:** Surgical ward staff, available during data collection

Exclusion Criteria

- Critically ill patients, nurses attending other units

Variables

- **Independent:** Planned instructional course
- **Dependent:** Nurses' knowledge & practice, patient outcomes

Instruments & tool

Tool	Purpose	Scoring
Knowledge questionnaire	Assess nurses' knowledge	0–20points; Inadequate/Moderate/Adequate
Practice checklist	Observe nurses' care	Day-wise compliance scoring
Patient outcome checklist	Evaluate recovery & complications	0–24points; Negative/Moderately positive/Positive
Likert scale	Patient satisfaction	0–40points; Dissatisfied/Satisfied/Highly satisfied

CONTENT VALIDITY

Tools were reviewed by nursing and medical experts; suggestions were incorporated after discussion with the guide.

RELIABILITY

The reliability of the study tools was determined using the split-half method. The reliability coefficients for the knowledge questionnaire, patient satisfaction scale, and patient outcome checklist were 0.72, 0.74, and 0.76 respectively, and for the practice checklist, the inter-rater reliability was 0.86. Hence, the tools were found to be reliable and feasible for this study.

ETHICAL CONSIDERATIONS

Ethical clearance approval for the present study was obtained from Institutional Ethical Committee of PPG Group of Institutions Coimbatore. The ethical committee has given a written consent to proceed the study. Each participant was explained about the study and oral consent was obtained.

PILOT STUDY

- A pilot study was conducted at Ashwin Hospital, Coimbatore, over a period of one week to test the feasibility of the research tools, following institutional approval.
- The study sample comprised 10 nurses from surgical wards and 10 patients, equally divided into experimental and control groups. Nurses in the experimental group underwent a planned instructional course on clinical guidelines for laparoscopic cholecystectomy, while those in the control group did not receive any intervention.
- Their knowledge and practice levels were subsequently assessed. Similarly, patients were allocated into two groups: those in the experimental group were cared for by trained nurses, whereas the control group received routine care.
- Patient outcomes and satisfaction were then evaluated. Findings revealed statistically significant improvements, with t-values of 4.06 for nurses' knowledge, 5.67 for nurses' practice, 5.31 for patient outcomes, and 6.78 for patient satisfaction. The pilot study confirmed the feasibility and practicality of the research design, thereby supporting progression to the main study.

DATA COLLECTION PROCEDURE

- The main study was initiated after obtaining expert guidance and approval following the pilot study. The validated tool was used for data collection, and the study was conducted over a period of one month at GEM Hospital, Coimbatore, in both general and surgical wards.
- On the day of data collection, samples were selected based on inclusion criteria. Demographic and clinical data of

nurses and patients were collected through an interview and observation method.

- In the experimental group, nurses were provided with a one-hour planned instructional course on clinical guidelines for laparoscopic cholecystectomy. They implemented these guidelines in the care of patients from admission to discharge. Patients cared for by these nurses were observed for nursing practice, recovery outcomes, and satisfaction levels using structured checklists and rating scales.

- In the control group, nurses continued with routine care procedures, and patients were assessed using the same tools. Post-tests were conducted after the intervention to evaluate changes in nurses' knowledge, practice, and patient outcome.

TECHNIQUES OF DATA ANALYSIS AND INTERPRETATION

The frequency tables were prepared for all relevant data. Descriptive and inferential statistics (t-test, chi-square) were used for analysis. Descriptive statistics analyzed demographic variables, while inferential statistics assessed the effectiveness of the planned instructional course and clinical guidelines.

DATA ANALYSIS & INTERPRETATION

Section I: Frequency and percentage distribution of socio-demographic variables of nurses and patients

The above Table No. 4.1.1 shows the demographic distribution of nurses in the experimental and control groups. In the experimental group, most participants were aged 31–35 years (23.3%), while in the control group, the majority were above 35 years (23.3%). Females predominated in the experimental group (33.3%), whereas males were slightly higher in the control group (26.7%). Regarding experience, 13.3% of the experimental group and 20% of the control group had less than 5 years of experience. Most participants held B.Sc. or GNM qualifications in both groups, with few having M.Sc. degrees. The majority were staff nurses in both groups. All participants (100%) had prior knowledge of clinical guidelines, obtained mainly through professional education and in-service training. Most nurses in the experimental group worked in private wards (26.7%), while in the control group, the majority worked in general wards (30%). A greater number of nurses completed their undergraduate studies in private institutions in both groups. Regarding specialization, ICU training was most common among both groups. Most participants were from rural and semi-urban areas. Overall, the findings reveal that both the experimental and control groups were comparable in their demographic characteristics.

Section II: Frequency and percentage distribution of clinical variables of patients

Table No. 4.1.2 shows that most participants in the experimental group were aged 31–40 years (26.7%), while in the control group, 16.7% were in the same range. Females predominated in the experimental group, and males in the control group. Most were married, had primary to secondary education, and followed either a vegetarian or lacto-vegetarian diet. The majority of the experimental group were homemakers, while more in the control group were employed. Both groups had similar indoor and outdoor work patterns, with most engaged in moderate to heavy work. A higher proportion in the experimental group earned above ₹15,000 per month, and health workers were the main source of health information for both groups. Overall, the demographic characteristics of both groups were comparable.

Section III: Comparison of the level of Knowledge and practice regarding clinical guidelines

Table No 4.3.1: Frequency and percentage distribution of nurses based on level of knowledge before and after intervention.

Level of Knowledge	Distribution of nurses in(n=30)			
	Experimental Group (n=15)		Control Group(n=15)	
	(f)	(%)	(f)	(%)
Pretest Inadequate(0-10)	0	0	0	0
Moderately adequate (11-15)	10	66.67	9	60
Adequate(16-20)	5	33.33	6	40
Posttest Inadequate(0-10)	0	0	0	0
Moderately adequate (11-15)	0	0	11	73.33
Adequate(16-20)	15	100	4	26.67

Table No 4.3.1 illustrates that, in the experimental group, during the pretest, none of the nurses had inadequate knowledge, 66.67% had moderately adequate knowledge, and 33.33% had adequate knowledge. In the posttest, all nurses (100%) achieved adequate knowledge.

In the control group, during the pretest, none of the nurses had inadequate knowledge, 60% had moderately adequate knowledge, and 40% had adequate knowledge. In the posttest, 73.33% remained moderately adequate, while only 26.67% attained adequate knowledge.

Table No 4.3.2: Frequency and percentage distribution of nurses based on level of practice after intervention.

Level of practice	Distribution of nurses in(n=30)			
	Experimental Group (n=15)		Control Group(n=15)	
	(f)	(%)	(f)	(%)
After Intervention Non-Compliant (0-36)	0	0	6	40
Partially Compliant (37-54)	3	20	9	60
Compliant (55–72)	12	80	0	0

Table No 4.3.2 illustrates the frequency and percentage distribution of nurses based on level of practice after intervention. After the intervention, in the experimental group, 80% of nurses were compliant and 20% were partially compliant, with none being non-compliant. In contrast, in the control group, 40% were non-compliant and 60% were partially compliant, with none achieving compliance.
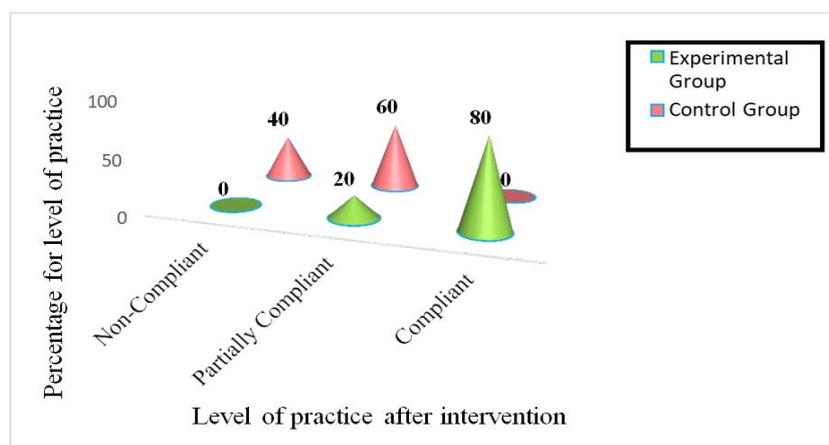

Fig. No-4.3.1: Distribution of samples according to the level of practice after intervention.

Table No. 4.3.3: Comparison of Mean and Standard Deviation of Pre and Post-test level of Knowledge among Nurses in experimental and control group regarding Clinical Pathway of Laparoscopic Cholecystectomy. (n= 30)

Variables	Samples	Mean	SD	Mean difference	Paired 't' Test value
Level of knowledge among nurses	Experimental Group Pre-Test Post-Test	14.3 18.7	2.23 1.22	4.4	8.88* (S)
	Control Group Pre-Test Post-Test	14.6 14.9	2.22 1.58	0.33	0.69

P<0.05 level of significance, NS=Not significant =significant

Table No. 4.3.3 depicts the Pre and post-test level of Knowledge among Nurses in experimental and control groups regarding the Clinical Pathway of Laparoscopic Cholecystectomy. In the experimental group, the pre-test mean knowledge score was 14.3 with a standard deviation of 2.23. The calculated t-value was 4.4 with a Table No value of 8.88, indicating statistical significance. After the intervention, the post-test mean score increased to 18.7 with a standard deviation of 1.22, showing marked improvement.

In the control group, the pre-test mean knowledge score was 14.6 with a standard deviation of 2.22.The t-value was 0.33 with a Table No value of 0.69, which was not significant. The post-test mean score showed only a slight increase to 14.9 with a standard deviation of 1.58, indicating minimal change.

Thus, there is a significant difference between pre and post-test levels of Knowledge among Nurses in the experimental group regarding the Clinical Pathway of Laparoscopic Cholecystectomy.

Table No 4.3.4: Comparison of Mean and Standard Deviation of Practice among Nurses in Experimental and Control Groups regarding Clinical Pathway of Laparoscopic Cholecystectomy (n =30).

| Days	Practice Scores of Nurses				Unpaired 't' Value
	Experimental Group (n=15)		Control Group(n=15)		
	Mean	SD	Mean	SD	
Day-1	58.6	9.22	40.7	7.24	5.90*
Day-2	54.9	7.32	38.4	8.08	5.85*
Day-3	45	4.91	29.6	4.94	8.56*
Mean	52.73	7.15	36.23	6.75	6.77*

*-Significance

Table No 4.3.4 depicts the analysis of practice scores among nurses, which revealed consistently higher performance in the experimental group compared to the control group. On Day 1, the experimental group achieved a mean score of 58.6 ± 9.22, whereas the control group scored 40.7 ± 7.24, with an unpaired *t*-value of 5.90, indicating significance. On Day 2, the experimental group had a mean of 54.9 ± 7.32, compared to 38.4 ± 8.08 in the control group, with a *t*-value of 5.85, again significant. On Day3, the experimental group recorded 45±4.91, while the control group had 29.6 ± 4.94, yielding a highly significant *t*-value of 8.56. When averaged across all three days, the experimental group scored 52.73 ± 7.15, notably higher than the control group's 36.23 ± 6.75, with a significant *t*-value of 6.77, confirming the effectiveness of the planned instructional course in enhancing nursing practice.

Hence the hypothesis (There is a significant difference between post-test level of practice among nurses regarding clinical guidelines among patients undergoing laparoscopic cholecystectomy) is accepted.

Table No 4.3.5: Frequency and percentage distribution of patients based on level of outcome after intervention.

Level of Patient Outcome	Distribution of patients in(n=30)			
	Experimental Group (n=15)		Control Group (n=15)	
	(f)	**(%)**	**(f)**	**(%)**
Level of Patient Outcome after intervention Negative (0-12)	0	0	6	40
Moderately positive (13-18)	5	33.33	9	60
Positive(19-24)	10	66.67	0	0

Table No 4.3.5 describes that, after the intervention, none of the patients in the experimental group reported negative outcomes; 33.33% experienced moderately positive outcomes, while the majority, 66.67%, had positive outcomes. In contrast, in the control group, 40% showed negative outcomes, 60% had moderately positive outcomes, and none achieved positive outcomes.
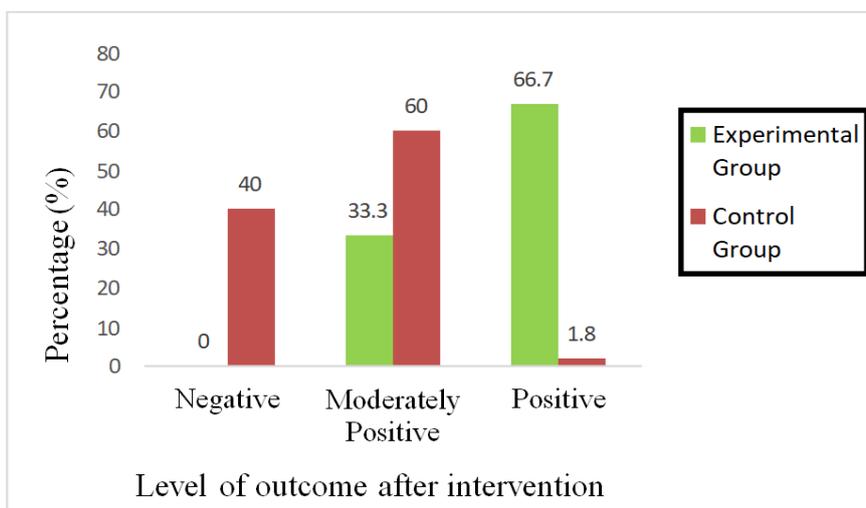
Section IV: Comparison of Patient Outcome in Experimental and Control Group

Table No. 4.4.1: Comparison of Mean and Standard Deviation of Patient Outcome among Patients in Experimental and Control Groups who underwent Laparoscopic Cholecystectomy. (n= 30)

Variables	Samples	Mean	SD	Mean difference	Unpaired 't' value
Patient Outcome	Experimental Group (n=15)	21	2.75	7	6.55*
	Control Group (n=15)	14	3.09		

*-Significance

Table No.4.4.1 presents that, the analysis of patient outcomes after the intervention revealed a marked difference between the two groups. In the experimental group, the mean outcome score was 21 ± 2.75, reflecting substantially better recovery and overall improvement in health status. The calculated t-value of 6.55* confirmed that this difference was statistically significant, thereby establishing the effectiveness of nursing care guided by clinical guidelines. In contrast, the control group had a lower mean outcome score of 14 ± 3.09, indicating relatively poorer progress and less favorable outcomes. These findings clearly highlight that patients cared for by nurses who underwent the planned instructional course demonstrated significantly better health outcomes compared to those who received routine care.

Section V: Comparison of level of satisfaction among Patients in Experimental and Control Group

Table No 4.5.1: Frequency and percentage distribution of patients based on level of satisfaction after intervention.

Level of Patient Satisfaction	Distribution of patients in(n=30)			
	Experimental Group (n=15)		Control Group (n=15)	
	(f)	(%)	(f)	(%)
Level of Patient Satisfaction after intervention Dissatisfied (0-20)	0	0	6	40
Satisfied (21-30)	6	40	9	60
Highly satisfied (31-40)	9	60	0	0

Table No 4.5.1 illustrates that, following the intervention, none of the patients in the experimental group reported dissatisfaction; instead, 40% were satisfied and 60% were highly satisfied with the nursing care they received. In contrast, in the control group, 40% of patients expressed dissatisfaction, 60% were satisfied, and none reported being highly satisfied.

Section VI: Association between level of knowledge and practice among nurses with their selected demographic variables

Table No 4.6.1: Association between the level of knowledge and practice among nurses with their selected demographic variables.

Sl. No	Demographic Variables	Level of Knowledge			
		Inadequate	Moderately adequate	Adequate	x^2
1	Working area General ward	0	9	1	$\chi^2 = 10.03^*$ df= 4 (P=9.48) S*
	Semi-Private ward	0	7	2	
	Private ward	0	3	8	
2	Place of undergraduate completion Private	0	15	2	$\chi^2 = 10.47^*$ df= 3 (P=7.81) S*
	Government	0	14	9	

Table No 4.6.1 illustrates that the chi-square test results, it was found that there was a significant association between the demographic variables working area ($\chi^2=10.03$, df=4, p<0.05) and place of undergraduate completion ($\chi^2=10.47$, df=3, p<0.05) with the level of knowledge and practice regarding clinical guidelines. For other demographic variables such as age, sex, total years of experience, professional qualification, designation, previous knowledge on clinical guidelines, source of information, specialization course undergone, and residential area, no significant association was found, indicating that these variables did not influence the level of knowledge and practice.

Section VII: Association between the post-test level of patient outcome among patients with their selected demographic variables

Table No4.7.1: Association between the level of patients' outcome among patients undergoing cholecystectomy with their selected demographic variables. (n= 30)

Sl. No.	Demographic Variables	Level of patients' outcome			
		Negative	Moderately positive	Positive	χ^2
1	Dietary intake/ Pattern Pure veg	1	8	2	$\chi^2 = 12.62^*$ df = 4 (P=9.48) S*
	Lacto veg	1	4	7	
	Non veg	4	2	1	
2	Nature of work Sedentary worker	3	2	1	$\chi^2 = 13.08^*$ df = 4 (P=9.48) S*
	Moderate worker	2	10	2	
	Heavy worker	1	2	7	

*-Association #-No Association

Table No 4.7.1 illustrates the demo graphic variables of patients in which Dietary intake/Pattern and Nature of work had a significant association with the post-test level of patient outcome among patients. Hence, the hypothesis (There is a significant association between the level of patients' outcome among patients undergoing cholecystectomy with their selected variables) was accepted for the above-mentioned demographic variables.

Whereas the other variables like age in years, sex, marital status, educational qualification, occupational status, place of work, income per month, source of health information and residential area had no association with the post-test level of patient outcome among patients.

Section VIII: Association between the post-test level of patient satisfaction among patients with their selected clinical variables.

Table No 4.8.1: Association between the level of patients' outcome among patients undergoing cholecystectomy with their selected clinical variables.

Sl. No	Clinical Variables	Level of patients' outcome			
		Negative	Moderately positive	Positive	χ^2
10	Any treatment taken for jaundice Drug therapy	1	2	6	$\chi^2 =14.09*$ df= 5 (P=11.08) S*
	Home-based remedies	1	3	2	
	Alternative therapy	1	8	1	
	Nil	3	1	1	
12	History of bad habits Smoking	11	1	1	$\chi^2 =15.96*$ df= 6 (P=12.59) S*
	Alcohol	1	1	1	
	Smoking and alcohol	2	1	1	
	Others	1	10	1	
	None	1	1	6	

Table No4.8.1 showed that, based on the chi-square test results, it was found that there was a significant association between the clinical variables treatment taken for jaundice ($\chi^2 = 14.09$, df = 5, p < 0.05) and history of bad habits ($\chi^2 = 15.96$, df = 6, p < 0.05) with the level of patients' outcome.

For other clinical variables such as height, weight, presence and treatment of co-morbid illness, history of trauma/accident, history of rapid weight loss, past surgical history, duration of diagnosis of gall bladder disease, previous history of jaundice, and duration of medical treatment, no significant association was found, indicating that these variables did not influence the level of patients' outcome.

MAJOR FINDINGS OF THE STUDY
- The study revealed that the majority of nurses were aged 31–35 years, female, and B.Sc. Nursing graduates. Most in the experimental group had over 15 years of experience, while those in the control group had less than 5 years.
- The majority were staff nurses, all had prior knowledge of clinical guidelines, mainly from professional education or in-service training. Most worked in private wards (experimental) or general wards (control), completed their undergraduate studies in private institutions, underwent ICU training, and resided mainly in semi-rural (experimental) or urban (control) areas.

Findings related to the demographic variables of the patients

The study showed that most participants were aged 31–40 years, female, and married, with primary or secondary education. The majority in the experimental group were pure vegetarians and homemakers, while those in the control group were lacto-vegetarians and employed. Most participants worked indoors, performed heavy work, had a monthly income above ₹15,000, and received health information mainly from health workers.

Findings Related to the Clinical Variables of the Patients

- The study showed that most participants in the experimental group had a height of 156–160 cm and in the control group 150–155 cm, with weights mainly between 40–60 kg. Co-morbid illness was present in 33.3% of both groups, with more experimental participants receiving treatment. Trauma, rapid weight loss, and surgical history were slightly higher in the control group. Most were diagnosed with gall bladder disease within 1–3 months (experimental) and 6 months–1 year (control). A history of jaundice and drug therapy was more common in the control group, while the experimental group had shorter treatment duration. Alcohol use predominated in the experimental group, whereas smoking was higher in the control group.

- The study revealed that before intervention, most nurses in both groups had moderately adequate knowledge, but after intervention, all nurses in the experimental group achieved adequate knowledge, showing a significant improvement (t = 8.88*, p < 0.05).

- In the experimental group, 80% were compliant and 66.67% showed positive outcomes, while in the control group, most were only partially compliant with moderate outcomes. Satisfaction was higher in the experimental group, with 60% highly satisfied compared to none in the control group. Practice scores, patient outcomes, and satisfaction were significantly higher in the experimental group (t values = 6.77*, 6.55*, and 6.04* respectively), proving the effectiveness of the planned instructional course on clinical pathways of laparoscopic cholecystectomy.

- Significant associations were found between nurses' pre-test knowledge and their working area and undergraduate education, and between patients' outcomes and their dietary pattern, nature of work, treatment for jaundice, and bad habits, while other demographic and clinical variables showed no association.

LIMITATIONS

- Conducted in a single hospital with a small sample size, limiting generalizability.
- Short study duration prevented assessment of long-term outcomes.
- Observation and self-report bias may have influenced results.
- Patient factors and resource availability could not be fully controlled.

RECOMMENDATIONS

- Replicate the study in multiple settings with larger samples.
- Conduct longitudinal studies to assess long-term knowledge retention.
- Compare various teaching methods to enhance guideline adherence.

- Explore patient-centered outcomes and cost-effectiveness.
- Identify barriers to guideline implementation and promote inter professional collaboration.

NURSING IMPLICATION

Nursing Education

Integrate evidence-based clinical guidelines into curricula using case studies, simulations, and active learning to strengthen critical thinking and clinical judgment.

Nursing Practice

Conduct workshops and audits to improve adherence to guidelines, focusing on pain control, early mobilization, and complication prevention to enhance patient outcomes.

Nursing Administration

Facilitate staff training, implement evidence-based policies, and promote quality improvement and interdisciplinary collaboration for safe, standardized care

Nursing Research

Encourage studies on guideline effectiveness, educational impact, and barriers to implementation to advance perioperative nursing practice.

CONCLUSION

The findings indicate that the planned instructional course was highly effective in enhancing nurses' knowledge. All nurses in the experimental group reached an adequate level of knowledge after the intervention, whereas the control group showed minimal improvement, with most nurses remaining at a moderately adequate level.

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