



**ASSESSMENT OF KNOWLEDGE AND PRACTICE OF PAIN
MANAGEMENT AFTER SURGERY AMONG NURSES WORKING
UNDER ST. PAUL HOSPITAL MILLENNIUM MEDICAL
COLLEGE AT AABET HOSPITAL, ADDIS ABABA, ETHIOPIA:
CROSS-SECTIONAL STUDY, 2025.**

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Assessment of Knowledge and Practice of Pain Management after Surgery Among Nurses Working under SPHMMCat AabetHospital , Addis Ababa, Ethiopia, Cross-Sectional Study, 2025.

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APPROVAL SHEET

As proposal research advisors and co-advisors, we hereby certify that we have read and evaluated this research report prepared under our guidance by, Ashebir Getachew, Abraham Alembo and Alima Issa, entitled Assessment of KNOWLEDGE AND PRACTICE OF PAIN MANAGEMENT AFTER SURGERY AMONG NURSES WORKING UNDER ST. PAUL HOSPITAL MILLENNIUM MEDICAL COLLEGE AT AABET HOSPITAL,, Addis Ababa, Ethiopia, in 2025.

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As members of the Board of Examiners for the Degree in Medical-Surgical Nursing students' open defense examination, we certify that we have read and evaluated the Research report prepared by Ashebir Getachew, Abraham Alembo and Alima Issa, and have examined the candidates.

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ABSTRACT

Background: Pain is a profound and complex experience, it can be physical and emotional, solely a sensory reaction to tissue damage. It remains a leading reason people seek medical help, ranging from acute to chronic conditions. Poor knowledge of pain management and practice of nurses poses a significant challenge to the healthcare system and patient outcome and satisfaction. The practice of pain management varies among nurses based on institutional protocols, training, and available resources. It aims to evaluate the knowledge and practices of nurses in managing post-surgical pain,

Methods: A cross-sectional study design was conducted at AaBET from March up to May, 2025. Data was collected through questionnaire and entered into SPSS version 23 for analysis. Summary statistics like mean, frequency, standard deviations and others used to summarize the data and the data was presented using tables, graphs and texts.

Results: A total of 117 participants were recruited for the study. The finding of this study revealed that 9.4% of nurses' have poor knowledge towards POPM for surgical patient. The majority of study participants 84.6% of them believe that patient increases amount of analgesics need is usually. The practice of pain management among nurses varies based on institutional protocols, training, and available resources. Theo's includes observation as method of pain management provide direct nursing care to POP patients, use pain assessment tool of use of pain score.

Conclusions: The present study was aiming at assessing the knowledge, and practices POPM among Nurses at Aabet Hospital. The overall results show that nurses have good knowledge related to drugs used in pain management. The study found that the practices of nurses related to POPM pain are at low level.

Keywords: Postoperative pain management, Nurses' Knowledge and practice, Surgical Pain, Addis Ababa, Ethiopia

ABBREVIATIONS AND ACCRONEMY

AaBET	Addis Ababa Burn Emergency and Trauma
CI	Confidence Interval
CPD	Continuing professional development
CPSP	Chronic Postsurgical Pain
EMCC	Emergency Medicine and Critical Care
ENT	Eye Ear Nose Throats
ERB	Ethical Review Board
ETB	Ethiopian Birr
IASP	International Association for the Study of Pain
OR	Operation room
PBN	Post Basic Nursing
POP	Post-Operative Pain
SPHMMC	St. Paul Hospital Millennium Medical College
SPSS	Statistical Packed for Social Sciences
VAS	Visual Analog Scale
WHO	World Health Organization

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1. INTRODUCTION

1.1. Background

Pain is a profound and complex experience, it can be physical and emotional, solely a sensory reaction to tissue damage (1). It remains a leading reason people seek medical help, ranging from acute to chronic conditions. Advances in understanding pain mechanisms and treatments have clarified its multidimensional nature, including external influences.

Unfortunately, despite better knowledge and treatments, many patients suffering from chronic pain still receive insufficient care (2).

Anyone caregiving for patients having surgery, providing efficient pain treatment is crucial. Since pain management has major physiological advantages, tracking pain alleviation is becoming a crucial postoperative quality indicator(3). Both acute and chronic postsurgical pain(CPSP) have lately become a neglected phenomenon and need alleviation post-surgery (4).

The most common pain management modalities are systemic and intrathecal administration of opioids, patient-controlled analgesia, non-steroidal anti-inflammatory drugs, and regional nerve blocks. These modalities can be combined to create multimodal analgesia, which produces synergistic analgesia with fewer side effects (5).

1.2. Statement of the problem

The magnitude of postoperative pain remains high and need a plan for adequate pain management in postoperative wards (6). It poses a significant challenge to the healthcare system and patient satisfaction and is associated with chronic pain and long-term narcotic use (7).

Acute postoperative discomfort was quite common (73.1%) among elective gynecologic surgery patients in two Addis Ababa referral hospitals. Since the majority of postoperative pain predictors can be avoided, pain management ought to be a key component of patient care and results. In the study area, the standard of postoperative pain management does not meet the international standard (8). Low level of good information regarding Post-Operative Pain (POP) management among nurses was substantially correlated with educational attainment, work experience, and training (9).

1.3. Significance of the study

Recovery, patient satisfaction, and general health outcomes all depend on efficient post-surgical pain management. Complications including prolonged hospital stays, slowed recovery, and elevated psychological anguish can result from inadequate pain management. Nonetheless, many nurses are undertrained and uninformed in multimodal pain treatment techniques, opioid delivery, and pain evaluation. This study offer vital insights to enhance pain management in Ethiopia by evaluating the knowledge and practice of nurses at ABET Hospital.

Finding the gaps that prevent effective care requires an understanding of nurses' pain management expertise. The study's empirical finding had support focused training initiatives and demonstrate compliance with worldwide pain treatment recommendations. The study was also look at how nurses' capacity to use pain management techniques is impacted by institutional regulations, workload, and resource availability, providing evidence-based suggestions to improve nursing practices and patient care.

The findings had significant implications for nursing education, hospital administration, and healthcare policy. By identifying knowledge gaps, nursing curricula can be improved to emphasize comprehensive pain management training. Hospitals may also implement structured continuing professional development (CPD) programs to keep nurses updated on best practices. At the policy level, adjustments in nurse-patient ratios, improved resource allocation, and standardized pain management protocols may be necessary to enhance postoperative care.

Ultimately, this study was help improve patient outcomes by ensuring better pain management strategies, reducing complications, and enhancing recovery experiences. The findings was also serve as a reference for future research, contributing to broader efforts to strengthen Ethiopia's healthcare system through evidence-based pain management interventions.

2. LITERATURE REVIEW

Pain management after surgery is a critical component of patient care, influencing recovery time, patient satisfaction, and overall health outcomes. Nurses play a pivotal role in assessing pain, administering analgesics, and implementing non-pharmacological interventions to alleviate discomfort. Globally, guidelines such as those from the World Health Organization (WHO) and the International Association for the Study of Pain (IASP) emphasize evidence-based pain management strategies (10,11). However, adherence to these guidelines varies due to differences in training, resource availability, and institutional policies (12).

2.1. Knowledge of pain management after surgery

Studies worldwide highlight significant gaps in nurses' knowledge regarding pain assessment, opioid administration, and multimodal pain management strategies. Research in high-income countries suggests that structured educational programs improve nurses' competence and patient outcomes (12). However, a study by Williams et al. (2023) found that despite extensive training, misconceptions about opioid addiction and inadequate pain assessment tools persist (13).

In Africa, studies indicate a substantial knowledge gap among nurses, particularly in the effective use of pain scales and opioid analgesics (14). A survey in Nigeria reported that only 42% of nurses demonstrated adequate knowledge of WHO's pain management ladder (15). The lack of standardized curricula in nursing education contributes to these gaps (16).

Research in Ethiopia underscores similar challenges. A study by Tesfaye et al. (2023) in tertiary hospitals found that only 35% of nurses had comprehensive knowledge of pain assessment tools. In Addis Ababa, an investigation at Tikur Anbessa Specialized Hospital revealed inconsistencies in knowledge levels across different departments (17). Limited access to continuous professional development (CPD) programs exacerbates these gaps.

One of the primary factors affecting knowledge retention and application in Addis Ababa hospitals is the lack of CPD programs. A study at St. Paul Hospital Millennium Medical College(18) found that although 80% of nurses recognized the importance of pain assessment tools, only 35% had received formal training on postoperative pain management in the past five years. Many nurses relied on outdated knowledge, leading to misconceptions about opioid safety, appropriate dosing, and multimodal pain approaches. This finding is consistent with research from other low-resource settings, where limited access to CPD contributes to stagnation in nursing knowledge.

2.2. Practice of pain management after surgery

The practice of pain management among nurses varies based on institutional protocols, training, and available resources. Studies show that even in developed countries, nurses often under-treat pain due to fear of opioid dependency and inadequate assessment techniques (19). In the US and Europe, hospital policies mandating pain reassessment every two hours have improved patient outcomes (20).

In sub-Saharan Africa, practical challenges include medication shortages, heavy workloads, and cultural beliefs about pain tolerance (21). In Ghana, nurses reported difficulties in implementing pain management guidelines due to a lack of physician support (22).

In Ethiopia, nursing practices are influenced by limited training, lack of pain management protocols, and resource constraints (23). A study at St. Paul Hospital Millennium Medical College found that only 50% of nurses regularly used validated pain assessment tools (24). Additionally, language barriers and communication issues with patients further complicate effective pain management (25).

Research by Abebe et al. (2024) at Yekatit 12 Hospital Medical College found that non-pharmacological pain management strategies, such as repositioning, distraction techniques, and deep breathing exercises, were widely practiced, but often as a substitute rather than a complement to pharmacological pain management. 72% of nurses reported relying on these methods due to a lack of strong analgesics (25). However, the study noted that while these methods were beneficial, they were not sufficient for managing moderate to severe postoperative pain.

2.3. Age

Age plays a role in knowledge retention and application. Studies suggest that younger nurses are more receptive to new pain management strategies, while older nurses rely on experience-based practices (26).

2.4. Educational level

Higher education correlates with better knowledge and adherence to pain management guidelines. A study in South Africa found that nurses with a bachelor's degree performed significantly better in pain assessments than diploma holders (27).

2.5. Year of experience

Experience influences the confidence in pain management, but misconceptions persist even among seasoned nurses. Research indicates that nurses with over ten years of experience are more proficient in opioid administration but may lack updated knowledge on multimodal pain approaches (28).

2.6. Current area of practice

Nurses working in surgical and intensive care units demonstrate higher proficiency in pain management compared to those in general wards (29). In Ethiopia, surgical ward nurses are more familiar with WHO pain scales than nurses in medical wards (30).

2.7. Year of experience in post-op & surgical area

Specialized experience significantly impacts practice. Studies show that nurses with over five years of experience in post-operative care perform better in pain assessment and intervention compared to those with less exposure (31).

Nurses with prolonged experience in postoperative and surgical settings are more proficient in using validated pain assessment tools, such as the Visual Analog Scale (VAS), Numeric Rating Scale (NRS), and the McGill Pain Questionnaire. A study conducted at Tikur Anbessa Specialized Hospital found that nurses with more than five years of experience were significantly more likely to perform accurate and timely pain assessments than newly graduated nurses (17). Their familiarity with different types of postoperative pain (e.g., incisional pain, deep visceral pain, neuropathic pain) enables them to tailor interventions appropriately for each patient.

Nurses with extensive surgical experience are also more confident in administering analgesics, particularly opioids. Research from St. Paul Hospital Millennium Medical College (Bekele et al., 2023) found that senior nurses were more likely to administer the correct doses of opioids and non-opioid analgesics while considering factors such as patient weight, renal function, and opioid tolerance (24). In contrast, less experienced nurses often underdose pain medications due to fear of respiratory depression and opioid addiction, leading to inadequate pain relief for patients.

2.8. Operational Definition

Knowledge: means the nurses' perception and understanding of post-operative pain management based on experience. This categorize as good knowledge and poor knowledge

Good Knowledge: is the Knowledge Status of nurses when they scored more than the mean.

Poor knowledge: is the Knowledge Status of nurses when they scored less than the mean.

Practice: Means the nurses skill on post-operative pain management based on their experience.

Good practice: is the practice Status of nurses when they scored more than the mean.

Poor practice: is the practice Status of nurses when they scored less than the mean.

2.9. Conceptual framework

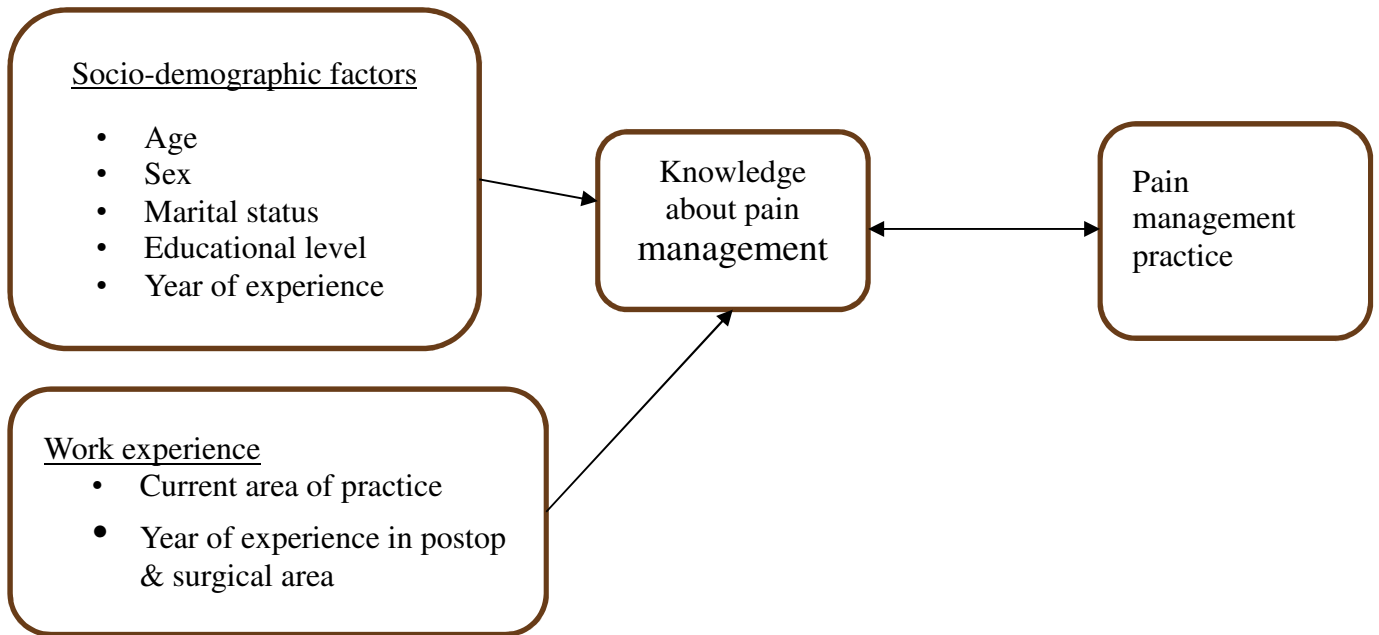


Figure 1: Conceptual framework of the study.

3. OBJECTIVE

3.1. General objective

- To assess the Knowledge and Practice of Pain Management after Surgery Among Nurses Working at AabetHospital , Addis Ababa, Ethiopia, Cross sectional study, 2025.

3.2. Specific objectives

- To assess knowledge of pain management among Nurses Working at Aabet Hospital 2025.
- To assesspractice of pain management among Nurses Working at Aabet Hospital, 2025

4. METHODS AND MATERIALS

4.1. Study design

We conducted the study by using a cross sectional with quantitative study design.

4.2. The study area

Saint Paul Hospital, Millennium Medical College (SPHMMC) is located at Gulele sub city, Addis Ababa Ethiopia. It was built by Emperor Haile Selassie in 1969 with the help of the German Evangelical Church. It aimed to serve the poor community. Ethiopia needs more physicians and staff working in EM. The Emergency Medicine and Critical Care (EMCC) department at the Addis Ababa Burn Emergency and Trauma (AaBET) Hospital, a public hospital under St. Paul's Hospital Millennium Medical College (SPHMMC), is continuously working to improve the number and quality of graduating specialists. The department is currently running three programs: an EMCC residency, an undergraduate EM attachment, and a joint program with a nursing MSc in paramedics. The hospital has four main departments; Emergency Medicine and Intensive care, Plastic Reconstructive and Hand Surgery Orthopedic & Traumatology and Neurosurgery.

The hospital has a total of 200 beds and 34 emergency beds and around 800 staff and 106 emergency room staff nurses, 11 emergency medicine and critical care physicians, 3 general surgeon, 6 neurosurgeon, 8 orthopedic surgeon, 5 plastic and reconstructive surgeons, 15 anesthetists in the emergency room.

This hospital is currently working on improving its emergency, critical care service, The EMCC department was established with the purpose of providing patient-centered quality care, training, and research.

4.3. Study Period:

The study was conducted from March up to May, 2025

4.4. Source population

All surgical and operation room (OR) nurses under SPHMMC of AaBET hospital who have worked in their respective department for more than six months.

4.5. Study population

Target population for this study were Nurses who work at Neuro surgery wards Orthopedic & Pediatric Surgery Ward, under SPHMMC of AaBET Hospital.

4.6. Sample size

Quantitative method using single population a formula was used and the sample size was calculated & the assumption of a 95% confidence interval (CI), a margin of error of 5%, proportion 86% have knowledge of pain management among nurses then we calculate based on the greater number so that we had the largest sample size and we considered 5% a non-response rate.

$$\text{Sample size, } n = \frac{(Z_{\alpha/2})^2 p(1-p)}{d^2}$$

$$n = \frac{(1.96)^2 (0.86)(1-0.86)}{(0.05)^2} = \frac{0.4625}{0.0025} = 185 + 9 = 194$$

Where $(Z_{1-\alpha/2})$ = is standard normal variation, P = proportion in the population of our study area, we had used 50% because here is prior data at SPHMMC conducted in 2019 shows this prevalence (32), d = absolute error or precision.

4.7. Sampling procedure

Simple random sampling technique was used. This involved random selection procedures during the data every nurses in each unit was included in the sample.

4.8. Eligibility Criteria

4.8.1. Inclusion criteria

All surgical and operation room (OR) nurses of AaBET hospital who were working and available at the time of study period were included in the study.

4.8.2. Exclusion criteria

Nurses who don't found during data collection; critically sick, annual leave nurses are excluded during data collection time.

4.9. Study variables

4.9.1. Dependent variables

Knowledge and practice of pain management

4.9.2. Independent variables

Socio demography of the respondent that including: Age, Educational level, year of experience, Current area of practice and year of experience in post-op and surgical area.

4.10. Data collection and analysis

4.10.1. Data collection instrument

The data was collected using self-administered questionnaire which were adopted and developed by reviewing similar literatures (12-24). The questionnaire was in line with objectives of the study, relevance of the study, procedures during data collection, confidentiality of client information, eligibility criteria, respondents' right, informed consent, ways of approach were maintained during the data collection.

4.10.2. Data analysis

The data was entered and analyzed using SPSS version 23. Descriptive analysis of the data using frequency, proportion, percentage and mean was done. Logistic regression was

employed to determine whether there is association between dependent and independent variables, demographic and general characteristics.

4.11. Data presentation

The data was described using descriptive statistic with table percentages frequencies and graphic representations like pi-charts barographs.

4.12. Ethical considerations

Ethical clearance was obtained from the ethical review board (ERB) SPHMMC. All the participants were informed about the purpose of the study and oral consent was obtained.

Also, the participants were informed to skip question which they do not want to answer, quit the investigation process, if they feel uncomfortable. It assured all the information gathered were kept strictly confidential and they do not need to tell their name to the data collectors. So, the researchers only access of the information and use for the study purpose only. They have the full right and decision not to respond the questionnaires or partly.

4.13. Dissemination of findings

The result of the study is disseminated by the use of journals or kept in SPHMMC library for references. Supporters of the research had the accesses to get the result.

5. RESULT

5.1. Socio-demographic characteristics of the respondents

A total of 117 participants were recruited for the study. They were interviewed to assess the Knowledge and Practice of Pain Management after Surgery Among Nurses Working at Aabet Hospital. The minimum and maximum ages of respondents were 20 and 54 years respectively. Of the respondents, 94.0% (n=110) were degree and above, 18.8% (n=22) were greater than ten year of experience. (See in Table 1).

Table 1:Socio demographic characteristics of Nurses Working at AabetHospital , Addis Ababa, Ethiopia, 2025 (n = 117)

Variables	Options	Frequency (n)	Percent (%)
Department	Neuro Surgery ward	9	7.7
	Recovery Ward	19	16.2
	Orthopedic Ward	16	13.7
	Burn Unit Ward	17	14.5
	OR Ward	37	31.6
	Plastic Surgery ward	19	16.2
Sex	Male	36	30.8
	Female	81	69.2
Age	19–30	48	41.0
	31-40	59	50.4
	>=40	10	8.5
Marital status	Single	37	31.6
	Married	80	68.4

Educational Status	Diploma	7	6.0
	Degree	72	61.5
	Masters	38	32.5
Year of experience	less than 2 year	12	10.3
	2 to 5 year	44	37.6
	5 to 10 year	39	33.3
	10 to 15 year	19	16.2
	15 to 20 year	2	1.7
	>20 year	1	.9
Experience in Post-OP	< 2 years	37	31.6
	2 to 5 years	41	35.0
	5 to 10 years	31	26.5
	11 to 15 years	7	6.0
	> 20 years	1	.9

5.2. Pain management Practice of the respondents

The practice of pain management among nurses varies based on institutional protocols, training, and available resources. The study includes observation as a method of pain management, provide direct nursing care to POP patients, use pain assessment tool of use of pain score seen in table 2 below.

Table 2: Pain management systems of Nurses Working at Aabet Hospital, Addis Ababa, Ethiopia, 2025 (n = 117)

Variables	Options	Frequency (n)	Percent (%)
Observation as method of pain management	Yes	65	55.6
	No	52	44.4
Side effects	Yes	83	70.9
	No	34	29.1
Provide direct nursing care to POP patients	Yes	42	35.9
	No	75	64.1
Assessing pain to communicate	Yes	84	71.8
	No	33	28.2
Use pain assessment tool	Yes	99	84.6
	No	18	15.4
Use of pain score	Yes	85	72.6
	No	32	27.4
Agree with patient statement about pain	Yes	84	71.8
	No	33	28.2
Use pain relief	Yes	82	70.1
	No	35	29.9

5.3. Knowledge of Pain Management of the respondents

The findings of this study revealed that a significant majority of nurses (90.6%) demonstrated good knowledge of postoperative pain management. Most respondents were aware of key principles, including the importance of assessing pain before and after administering analgesics, the benefits of combining analgesics with different mechanisms of action, and the appropriate use of opioid and non-opioid medications for surgical pain. This

high level of knowledge suggests that the nursing workforce at Aabet Hospital is well-equipped with the theoretical understanding necessary for effective pain management. However, despite this encouraging knowledge base, translating it into consistent and comprehensive clinical practice remains a critical area for improvement (Figure 2)



Figure 2. Knowledge of Nurses about pain management at Aabet hospital

Among the study participants majority 84.6% (n = 99) of them believe that patient increases amount of analgesics need is usually, and the remaining 15.4% (n = 18) doesn't believe in this. On a question "Paracetamol tablets are used in managing surgical pain" 66.7% (n = 78) responded "Yes" and the rest 33.3% (n = 39) responded "No".

Assessment of knowledge on “pharmacological methods: Opioids analgesic such as Pethidine and Pentazocine are used to relieve pain in surgical patients” 57.3% (n = 67) of the participants responded the mentioned medications can be used for surgical patients. Assessment of knowledge on “combining analgesics that work by different mechanisms may result in better pain control with fewer side effects than using a single analgesic.” 74.4% (n = 87) responded “Yes.” For more information see table 3 below.

Table 3: Assessment of Knowledge of Nurses Working at AabetHospital, Addis Ababa, Ethiopia, 2025 (n = 117)

Variables	Options	Frequency (n)	Percent (%)
Pharmacological methods: opioids analgesic such as pethidine and pentazocine are used to relieve pain in surgical	Yes	67	57.3
	No	50	42.7
Paracetamol tablets is used in managing surgical pain.	Yes	78	66.7
	No	39	33.3
when a patient requests increasing amounts of analgesics to control pain, this usually indicate that the patient is psychologically dependent	Yes	99	84.6
	No	18	15.4
cold and heat such as warm bath, sitz bath, ice bags compress should be used in the management of surgical pain	Yes	55	47.0
	No	62	53.0
combining analgesics that work by different mechanisms may result in better pain control with	Yes	87	74.4
	No	30	25.6

fewer side effects than using a single analgesic agent			
pain should be assessed before and after administering pain drugs.	Yes	97	82.9
	No	20	17.1
observation is part of the method used in surgical pain assessment	Yes	65	55.6
	No	52	44.4
the side effects of narcotics should be observed at least 20 minutes after administration	Yes	83	70.9
	No	34	29.1
if the source of pain is not known a pain drug should not be used during the pain evaluation period because this could mask the ability to correctly diagnose the cause of pain.	Yes	74	63.2
	No	43	37.8
opoids should not be used in patients with a history of substance abuse	Yes	63	53.8
	No	54	46.2
rating scale ranging from “0” no pain at all “10” the worst pain is essential to adopt in pain assessment	Yes	69	59.0
	No	48	41.0
if a patient sleeps with no movement postoperatively, this indicated that patient is not in pain	Yes	89	76.1
	No	28	23.9

On the question regarding the importance of assessing pain before and after administering pain medication, the majority of respondents (82.9%, n = 97) correctly answered “Yes,” indicating a strong understanding of essential pain management protocols. This reflects a positive awareness among nurses about the need for continuous pain evaluation to guide treatment effectiveness and adjust interventions as needed. Such practice is crucial in

ensuring that patients receive timely and adequate pain relief, minimizing complications and enhancing recovery outcomes after surgery (Figure 3).

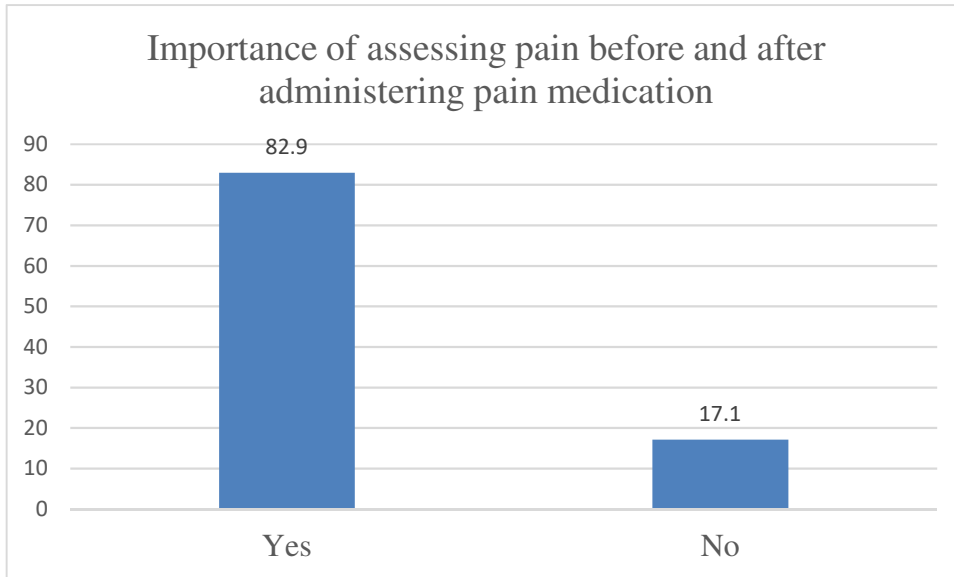


Figure 3. Importance of assessing pain before and after administering pain medication among nurses in Aabet hospital

6. CONCLUSION

The present study was aiming at assessing the knowledge, and practices POPM among Nurses at Aabet Hospital. The overall results show that nurses have good knowledge related to drugs used in pain management. The study found that the practices of nurses related to POPM pain are at low level. It highlights that while nurses at Aabet Hospital possess a relatively high level of theoretical knowledge regarding postoperative pain management, significant gaps remain in translating that knowledge into consistent clinical practice. Although most respondents were aware of the importance of using pain assessment tools and recognized key pharmacological interventions, fewer were actively engaged in direct patient care or applying comprehensive pain management techniques. These findings underscore the need for ongoing professional development, supportive institutional protocols, and practical training to bridge the knowledge-practice gap and ensure effective, patient-centered pain management in surgical settings.

7. DISCUSSION

This study aimed at assessing Knowledge & Practice among Nurses Working at Aabet Hospital, Addis Ababa, Ethiopia. The finding of this study revealed that 9.4% of nurses' have poor knowledge towards POPM for surgical patient. This is lower than the study conducted in Nigeria, Tikur Anbessa and St. Paul Hospital Millennium Medical College 58%, 65% and 20% have poor knowledge respectively towards POPM for surgical patient (15, 17, 18) It is in line with the study conducted in Derer Faculty Hospital in which only 9% of nurses had poor knowledge (24).

This good result may be because of most of the nurses involved in the study have educational status Bachelor Degree and above to acquired good knowledge of pain and long year experience of pain management particularly in the trauma center in the Emergency of the Hospital

This study aimed to assess the knowledge and practice of pain management after surgery among nurses working at Aabet Hospital in Addis Ababa, Ethiopia. A total of 117 nurses participated in the study, offering valuable insight into current postoperative pain management approaches.

The majority of respondents (94%) had attained a degree or higher, with a significant portion (32.5%) holding master's degrees. This indicates a highly educated nursing workforce, which is an important foundation for effective postoperative care. Despite this, only 18.8% of

participants had more than ten years of experience, highlighting a relatively young workforce. Most nurses (50.4%) were between the ages of 31–40, and the majority (69.2%) were female, which aligns with trends in the nursing profession both locally and globally (WHO, 2020).

The distribution across departments shows that the Operating Room (OR) had the highest proportion of nurses (31.6%), followed by Recovery and Plastic Surgery wards. The presence of a large number of nurses in these critical units reflects the hospital's surgical service intensity and underscores the importance of adequate knowledge and skill in pain management.

The study revealed that although 84.6% of nurses reported using pain assessment tools, only 35.9% indicated that they personally provide direct nursing care to postoperative patients. This might suggest a potential gap in direct involvement or perhaps a delegation of such responsibilities in the clinical workflow. Furthermore, while 72.6% used pain scores and 71.8% agreed with patients' self-reported pain levels, only 55.6% used observation as a pain assessment method. This may suggest a partial reliance on objective tools over holistic assessment, which could lead to underestimation of patient discomfort in some cases.

Additionally, a concerning 29.9% of nurses reported not using any form of pain relief intervention. This may reflect barriers such as lack of supplies, time constraints, institutional protocols, or insufficient training on pain management strategies. The low percentage of

nurses involved in direct care (35.9%) further emphasizes the potential disconnect between theoretical knowledge and bedside practice.

The results show a mixed level of knowledge among the respondents. Although 84.6% understood that an increasing demand for analgesics by patients does not necessarily indicate psychological dependence, and 74.4% recognized the value of multimodal analgesia, only 66.7% knew that paracetamol is commonly used in surgical pain management. Furthermore, just 57.3% were aware that opioid analgesics like pethidine and pentazocine are useful in surgical contexts.

Worryingly, misconceptions remain: over 76% of nurses agreed with the statement that a postoperative patient who sleeps quietly is not in pain. This reflects a knowledge gap, as pain can often be underreported or masked by patient fatigue or sedation (Pasero& McCaffery, 2011). Additionally, while most nurses understood the importance of assessing pain before and after administering medication (82.9%), fewer acknowledged non-pharmacological methods like heat and cold application (47%).

These findings are consistent with studies conducted in other Ethiopian hospitals, such as in Jimma and Bahir Dar, which reported moderate knowledge and practice gaps in surgical pain management (Gebeyehu et al., 2018; Abebe et al., 2019). Globally, inadequate knowledge among nurses continues to be a barrier to effective pain control (Liu et al., 2018).

The discrepancies between knowledge and practice underscore the need for targeted in-service training programs and regular clinical mentorship to bridge the knowledge–practice gap. Institutional policies should also empower nurses to take more proactive roles in pain assessment and management. Equipping nurses with adequate resources, standardized pain assessment tools, and clearly defined protocols could significantly enhance the quality of postoperative care and improve patient outcomes.

8. RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed to improve postoperative pain management among nurses in Ethiopian Health system of SPHMMC at Aabet Hospital:

1. **In-service Training:** Regular and structured training sessions should be conducted to update nurses on current evidence-based pain management practices, including both pharmacological and non-pharmacological approaches.
2. **Strengthen Practical Engagement:** Nurses should be encouraged and given the opportunity to be more directly involved in postoperative patient care to enhance skill application and improve patient outcomes.
3. **Standardized Protocols:** The hospital should adopt and enforce standardized pain assessment and management protocols to ensure consistency and accuracy in care delivery across all surgical departments.
4. **Resource Provision:** Adequate pain assessment tools and analgesic medications should be made consistently available to enable proper implementation of pain management strategies.
5. **Monitoring and Support:** Nursing supervisors and clinical mentors should routinely monitor pain management practices and provide feedback and support to address identified gaps.

6. **Promote Holistic Pain Assessment:** Emphasize the importance of observing patient behavior, communication, and physiological indicators alongside using pain scales, to ensure a more comprehensive approach to pain assessment.
7. **Incorporate Pain Management into Orientation Programs:** New nurses should receive orientation on hospital pain management protocols and best practices during their induction to foster a culture of quality care from the outset.

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10.ANNEX 1: CONSENT FORM AND STRUCTURED QUESTIONNAIRE

Saint Paul Hospital, Millennium Medical College (SPHMMC) School of Nursing

Title: Assessment of Knowledge and Practice of Pain Management after Surgery Among Nurses Working at AabetHospital , Addis Ababa, Ethiopia, Cross Sectional Study, 2025.

Dear, Respondent's our name are _____ 3rd year PBN student from Saint Paul Hospital, Millennium Medical College (SPHMMC) School of Nursing conducting study to assessment Knowledge and Practice of Pain Management after Surgery Among Nurses Working at Aabet Hospital. Thank you for participating in the research voluntarily and your valuable time. Finally, the information you give will be used only for the purpose of this study only and it will be confidentially.

Would you be willing to participate? (Circle one) Yes No

PART I: Socio-Demography, Circle one

S.NO	QUESTIONS	RESPONSE	CODE
1.	Sex	1- Male 2- Female	
2.	Age (in years)	1- 19-30 2- 31-40 3- >=40	
3.	Marital Status	1- Single 2 -Married 3 -Divorced 4 -Widowed	
4.	Educational Status	1- Diploma 2- Degree 3- Masters	

5.	Year of experience	1 – less than 2 year 2 – 2 to 5 year 3 – 5 to 10 year 4– 10 to 15 year 5- 15 to 20 year 6- > than 20 year	
6.	Current area of practice	1- Neuro Surgery ward 2- Recovery Ward 3- Orthopedic Ward 4- Burn Unit Ward 5- OR Ward 6- Plastic Surgery ward	
7.	Year of experience in post-op & surgical area	1- < 2 years 2- 2 to 5 years 3- 5 to 10 years 4- 11 to 15 years 5- 16 to 20 years 6- > 20 years	

Part - Two: questions on assessment of knowledge of respondents

S.No	Variables	Response	Code
8.	when a patient requests increasing amounts of analgesics to control pain, is this usually indicate that the patient is psychologically dependent	1.Yes 2.No	
9.	Can Paracetamol tablets is used in managing surgical pain.	1.Yes 2.No	
10.	cold and heat such as warm bath, sitz bath, ice bags compress should be used in the management of surgical pain	1.Yes 2.No	
11.	pharmacological methods: opioids analgesic such as pethidine and pentazocine are used to relieve pain in surgical patients	1.Yes 2.No	
12.	combining analgesics that work by different mechanisms may result in better pain control with fewer side effects than using a single analgesic agent	1.Yes 2.No	
13.	pain should be assessed before and after administering pain drugs.	1.Yes 2.No	

14.	Is observation part of the method used in surgical pain assessment	1.Yes 2.No	
15.	the side effects of narcotics should be observed at least 20 minutes after administration	1.Yes 2.No	
16.	if the source of pain is not known a pain drug should not be used during the pain evaluation period because this could mask the ability to correctly diagnose the cause of pain.	1.Yes 2.No	
17.	if the source of pain is not known a pain drug should not be used during the pain evaluation period because this could mask the ability to correctly diagnose the cause of pain.	1.Yes 2.No	
18.	Are opioids should not be used in patients with a history of substance abuse	1.Yes 2.No	
19.	Rating scale ranging from “0” no pain at all “10” the worst pain is essential to adopt in pain assessment	1.Yes 2.No	
20.	If a patient sleeps with no movement post operatively, this indicated that patient is not in pain	1.Yes 2.No	

Part - Three: Practice of Nurses towards pain management

21.	Do you provide direct nursing care to POP patients?	1. Yes 2. No	
22.	Do you assess for pain for patient able to communicate? .	1. Yes 2. No	
23.	Do you use a pain assessment tool?	1. Yes 2. No	
24.	How frequent do you use a pain assessment tool?	1. Yes 2. No	
25.	Type of pain relief selected for the patient should be based on the type of surgery.	1. Yes 2. No	
26.	Are pain scores and management discussed during nurse-to-nurse report?	1. Yes 2. No	
27.	Do you always agree with patients' statements about their pain?	1. Yes 2. No	