

Original Research Article

Postoperative Pain Management: Knowledge and Attitudes of Nurses in the Anesthesia and Intensive Care Unit at Donka National Hospital

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Abstract: Objective: To contribute to improving the management of postoperative pain by nurses in the Anesthesia and Intensive Care Unit at Donka National Hospital. **Patients and Methods:** This was a descriptive cross-sectional study lasting six (6) months from August 2024 to February 2025. We included in this study all nurses working in the operating room and post-operative care units who gave their consent to participate in the study. **Results:** During the study, 50 out of 51 nurses responded to the questionnaire, representing a participation rate of 98%. The average age was 29 ± 4 years, with a predominance of 25-30 year olds (42%) and a male majority (sex ratio 1.38). State-registered nurses accounted for 72% and those with 1-5 years of professional experience accounted for 60%. Among them, 56% had received training in pain management, compared to 44% who had not. 68% were familiar with pain assessment scales, while 32% were not. Among participants using scales, 52.9% used the numerical scale (EN 0-10) and 26.5% used the visual analog scale (VAS). For drug management, 62% used tramadol, 20% used morphine, and 18% used paracetamol. **Conclusion:** Continuing education and increased awareness are necessary to optimize postoperative pain management.

Keywords: Care, Pain, Postoperative, Knowledge, Nurses.

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INTRODUCTION

According to the International Association for the Study of Pain (IASP), pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage (International Association for the Study of Pain [IASP], 2017). Postoperative pain is acute pain that occurs after surgery, can last for several days or weeks, and can be nociceptive, neuropathic, or mixed (World Health Organization [WHO], 2018). Although inevitable after surgery, inadequate management of this pain can have negative consequences on recovery and quality of care. The World Health Organization reports that approximately 80% of patients who undergo surgery experience moderate to severe pain in the first 24 hours, a situation that is more pronounced in low-resource countries due to lack of training and limited access to analgesics (Kehlet & Holte, 2006 ; Traoré, 2021).

Operating room nurses play a key role in assessing and managing post-operative pain, particularly in the recovery room. Their knowledge and attitudes directly influence the quality of care. However, several studies show shortcomings in understanding pain mechanisms, using assessment scales, and applying treatments, particularly in sub-Saharan Africa and

Guinea (Rawal, 2016). These difficulties are compounded by structural constraints, misconceptions about opioids, drug shortages, and cultural beliefs that can lead to underestimation of pain (Fawole *et al.*, 2018).

Studies conducted in Nigeria and Ghana have revealed insufficient use of pain assessment tools and a lack of knowledge among nurses (Fawole *et al.*, 2018; Ouedraogo *et al.*, 2019). In Guinea, the lack of data on the knowledge and attitudes of operating room nurses, particularly at Donka National Hospital, justifies the interest of this study in identifying gaps and improving the quality of postoperative pain management. The objective of this study was to contribute to improving the management of postoperative pain by nurses in the Anesthesia and Intensive Care Unit at Donka National Hospital.

PATIENTS AND METHODS

This descriptive cross-sectional study was conducted over a period of six months, from August 2024 to February 2025. All nurses working in operating rooms and post-operative care units who gave their consent to participate in the study were included.

Operating room nurses who were absent or who did not agree to participate in the study were not included.

The analysis focused on several types of variables, grouped into different categories.

- Sociodemographic variables, including age, gender, level of education, and professional experience.
- Knowledge of postoperative pain management, pain assessment, analgesic medications (types, dosage, side effects), non-pharmacological methods (relaxation and positioning), and pain management protocols.
- Attitudes and practices (frequency of pain assessment, types of treatments used, and management according to pain level).
- Assessment of barriers to effective pain management (perception of barriers to optimal pain management, lack of resources, insufficient training).

Statistical analysis was performed using Epi Info software version 7.2.2.6. Qualitative variables were expressed as frequencies and percentages (%), while quantitative variables were presented as means ± standard deviation.

RESULTS

During the study period, out of a total of 51 nurses, 50 responded to our questionnaire, representing a participation rate of 98%. The average age was 29 ± 4 years, with a predominance of the 25-30 age group (42%). There was a clear male predominance, with a sex ratio of 1.38.

State-registered nurses were the most represented (72%). Nurses with between 1 and 5 years of professional experience were the most represented (60%). (See Table I)

Table I: Distribution of participants according to socio-demographic characteristics

Variables	Effective	%
Sex		
Masculine	29	58
Féminine	21	42
Verage Age	29 ± 4 ans	
Level of Education		
State-registered nurse	36	78
Bachelor's degree	8	16
Master's degree	6	12
Professional Experience		
< 1 year	7	14
1-5 years old	30	60
6-10 years old	10	20
> 10 years old	3	6

56% of participants received training in pain management, while 44% did not receive this training.

Among the participants, 68% were familiar with pain assessment scales, compared to 32% who were

not familiar with them. Analysis of the pain assessment scales used by participants showed that 52.9% had used the numerical scale (EN 0-10), 26.5% had used the visual analogue scale (VAS), and 20.6% had used the simple verbal scale (SVS). (See Table II)

Table II: Distribution of participants according to the pain scale used

Scale used	effective	%
Visual Analogue Scale (VAS)	9	26,5
Numerical Scale (EN 0-10)	18	52,9
Simple Verbal Scale (EVS)	7	20,6
Total	34	100

Participants' opinions on pain assessment showed that 44% felt that pain was overestimated, 26% felt it was underestimated, and 30% felt it was correctly assessed.

The frequency of pain assessment reported by participants showed that 26% assessed it very frequently (every hour), 24% frequently (every 2 to 4 hours), 42%

sometimes (depending on the patient's condition) and 6% did not know.

The participants' attitude in the event of failure of pain treatment showed that 80% consulted the doctor, 10% waited for the next dose, 6% increased the dose and 4% used a non-pharmacological method.

The medications used by participants for pain management showed that 62% used tramadol, 20% used morphine, and 18% used paracetamol. (See Table III)

Table III: Distribution of the most commonly used drugs for treating post-operative pain by participants

Medication used	effective	%
Morphine	10	20
Paracetamol	9	18
Tramadol	31	62
Total	50	100

The main obstacles reported by participants were lack of training (88 %), lack of clear protocols (64 %) and lack of resources (52 %).

Participants' recommendations focused mainly on more training for nurses (90 %), better communication within the team (74 %) and increased availability of resources (52 %).

DISCUSSION

Postoperative pain management is a major challenge in surgical nursing. The study conducted among operating theatre nurses at Donka University Hospital highlights significant shortcomings in both knowledge and attitudes regarding postoperative pain management, despite almost unanimous recognition of its importance in the quality of care.

Out of a total workforce of 51 nurses, 50 participated in the study, representing a response rate of 98%. This rate is significantly higher than that reported by Al-Sayaghi *et al.*, in Saudi Arabia in 2022 (44.09%) (Al-Sayaghi *et al.*, 2022), a difference probably related to the smaller size of our sample. Participants had a mean age of 29 ± 4 years, with extremes ranging from 23 to 46 years. The most represented age group was 25 to 30 years (42%). Males predominated, accounting for 58% of participants, corresponding to a sex ratio of 1.38 in favour of males. The majority of participants were state-registered nurses (72%), and those with 1 to 5 years of professional experience were the most numerous. These results are comparable to those of Menlah *et al.*, in Ghana in 2018 (Menlah *et al.*, 2018) and Dessie *et al.*, in Ethiopia in 2019 (Dessie *et al.*, 2019), who also reported a young population, mainly composed of nurses with few years of professional experience.

Regarding training in postoperative pain management, 56% of nurses reported having received specific training, while 44% had never received any. This high proportion of untrained nurses is consistent with the findings of Ou *et al.*, in China in 2021, where 43.6% of respondents had never received continuing education on pain (Ou *et al.*, 2021). This lack of training is a major limiting factor in improving professional practices.

The level of knowledge of pain assessment scales was 68%, with a predominance of the use of the

numerical scale (52.9%). This result is consistent with the literature, which highlights the simplicity and effectiveness of this scale (Menlah *et al.*, 2018). However, the use of more varied assessment tools, such as the simple verbal scale or the visual analogue scale, remains insufficient, even though they are recommended for more accurate assessment, particularly in patients with communication difficulties (Dessie *et al.*, 2019).

All participants recognised pain as a fundamental patient right, which is a positive point and aligns with international recommendations for patient-centred care (Ou *et al.*, 2021). However, a significant proportion of nurses (44%) felt that postoperative pain was often overestimated. This perception can negatively influence care and contribute to undertreatment of pain, a phenomenon that has been widely documented in the literature (Guedj *et al.*, 2020).

With regard to the assessment of post-operative pain, 42% of nurses reported that they assessed pain based on the patient's condition, reflecting a subjective and non-systematic approach. However, regular and standardised pain assessment is essential for effectively adapting analgesic treatment (Auvray *et al.*, 2019).

When patients expressed pain, 48% of nurses administered painkillers, while 40% used non-pharmacological methods. The combination of pharmacological and non-pharmacological treatments remains underused, even though it is recommended for optimal management of post-operative pain (International Association for the Study of Pain, 2021).

If the initial treatment failed, the majority of nurses (80%) consulted a doctor, which is in line with standard protocols (Glowacki, 2015). However, 20% of nurses did not seek medical advice, which can lead to inadequate pain management.

Knowledge of the three levels of analgesia according to the World Health Organisation was observed in 64% of participants, a rate slightly lower than that reported in other studies conducted in sub-Saharan Africa, where it varies between 70 and 80% (Schneider *et al.*, 2020). Tramadol was the most commonly used analgesic (62%), in line with its common use for moderate to severe pain in hospitals (Finnerup *et al.*, 2018). In addition, 60% of nurses

reported using two analgesics simultaneously, which is consistent with the principles of multimodal analgesia (Clarke *et al.*, 2017).

However, knowledge about morphine derivatives remained insufficient. Only 58% of participants were aware of their common adverse effects and 44% were able to identify an overdose situation. This deficit exposes patients to significant risks, including respiratory depression, which is one of the major side effects of opioids (Kaboré *et al.*, 2021). The main obstacle to optimal pain management identified in this study was a lack of training, reported by 88% of nurses, a finding also reported in several other studies (Ouedraogo *et al.*, 2019). Despite this, 74% of participants felt that the institution had adequate resources in place to manage pain. Some authors attribute the difficulties in managing pain to increased workload, communication gaps, lack of knowledge and organisational problems (Shamsu-Deen *et al.*, 2017; Maiga, 2005).

In light of these shortcomings, 90% of nurses recommended strengthening staff training in order to improve postoperative pain management. This recommendation echoes those of several authors who emphasise the importance of continuing education in improving nursing knowledge and practices (Ouedraogo *et al.*, 2019).

CONCLUSION

This study highlighted significant gaps in theoretical knowledge about pain and its treatment, particularly with regard to pathophysiological mechanisms, standardised assessment tools, and the rational use of analgesics, especially opioids. Furthermore, although the majority of nurses recognise the importance of pain management, certain attitudes remain influenced by preconceived ideas, fears about the side effects of treatments, and a lack of continuing education.

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