

Pain Management Strategies to Enhance Patients' Satisfaction Post Abdominal Surgeries in Selected Federal Teaching Hospitals, South-West Nigeria

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DOI: <https://doi.org/10.51244/IJRSI.2025.12040007>

Received: 20 March 2025; Accepted: 26 March 2025; Published: 27 April 2025

ABSTRACT

Background:

Patient's satisfaction is a measure of the quality of care after postoperative pain management. Abdominal surgery is one of the major operations frequently carried out in teaching hospitals in Nigeria. Studies have shown that surgical patients in Nigeria experience extended hospital stays, delayed recovery, and increased postoperative complications as a result of inadequate pain management. Despite the frequency of the abdominal surgeries performed, there is limited data on optimal pain management strategies to enhance patients' satisfaction. Furthermore, many patients in the federal teaching hospitals in South-West, Nigeria continue to express dissatisfaction post-surgery.

Objective: This study investigated the pain management strategies to enhance patients' satisfaction post abdominal surgery in selected federal teaching hospitals in South-West, Nigeria.

Methods: The study was conducted using a qualitative method. Twelve abdominal surgical patients were purposively selected for the qualitative phase guided by data saturation. An interview guide was used in conducting semi-structured interviews. The obtained data were thematically analysed.

Results: The findings revealed six themes: Patients' experiences with abdominal surgical pains, satisfaction with methods used, factors promoting coping mechanisms, fear of drugs' adverse effects, strategies used in managing pain and suggestions for effective pain management.

Conclusion: This study highlights the importance of multimodal pain management in enhancing patient satisfaction after abdominal surgery in South-West Nigeria. Findings reveal that combining pharmacologic and non-pharmacologic strategies improves pain relief and recovery. To enhance care, hospitals should implement

policies supporting integrated pain management, provide continuous staff training, educate patients on pain relief options, and establish monitoring systems for patient feedback. A multidisciplinary approach involving surgeons, anesthetists, and nurses is essential. These measures will improve postoperative outcomes, reduce complications, and enhance patient satisfaction, ultimately leading to better healthcare delivery in federal teaching hospitals.

Keywords: Pain management Strategies, Patient satisfaction, Abdominal surgery, Teaching Hospitals

INTRODUCTION

Abdominal surgery encompasses various procedures within the abdominal cavity, targeting conditions like appendicitis, hernias, and cancers to improve organ function by removing obstructions. It serves both diagnostic and therapeutic purposes (5). Postoperative pain is a universal issue that affects recovery, patient satisfaction, and overall healthcare quality. Effective pain management alleviates discomfort, enhances psychological well-being, and expedites recovery, making it a critical focus in surgical care (22).

Globally, effective post-abdominal surgery pain management emphasizes a multidisciplinary approach, pre-operative education, individualized plans, and advanced techniques like multimodal analgesia. Despite advances like laparoscopy, challenges persist, including access to skilled surgeons and resources (21, 11). Factors influencing pain include demographics, surgery type, and pain tolerance. Patient satisfaction extends beyond pain relief to include healthcare quality, decision-making involvement, and support services (23)

In Africa, pain management is influenced by resource availability, staff expertise, and cultural attitudes. Multimodal analgesia and tailored strategies are critical for addressing socioeconomic and cultural contexts (12, 13, 14, 22). Technological innovations like wearable devices are enhancing personalized pain management (6). In Nigeria, pain management is hindered by resource constraints, limited training, and reliance on outdated methods, resulting in significant postoperative pain (4). Challenges include inadequate analgesia, inconsistent protocols, and underreporting of pain due to cultural and communication barriers (18, 17).

Efforts to improve pain management in Nigeria highlight the importance of combining pharmacological and non-pharmacological methods with patient-centered care (15, 16, 19). However, the lack of standardized protocols and modern techniques underscores the need for systematic and patient-centered approaches to improve satisfaction and outcomes (2, 3). Multimodal analgesia, patient-controlled analgesia, and regional anesthesia are proven strategies but are underutilized in sub-Saharan Africa. (1, 9).

Kolcaba's Theory of Comfort frames this research, emphasizing relief from physical, psychological, and environmental discomforts (10, 7). This study seeks to investigate the pain management strategies to enhance patients' satisfaction post abdominal surgery in selected federal teaching hospitals in South-West, Nigeria.

MATERIALS AND METHODS

Study Setting

The research was conducted in clinical settings within selected Federal Teaching Hospitals in the southwest geopolitical zone of Nigeria, which includes Lagos, Ogun, Oyo, Osun, Ekiti, and Ondo states. However, only Lagos, Oyo, and Osun have Federal Teaching Hospitals. This region is characterized by a mix of urban and semi-urban populations and houses several tertiary healthcare institutions offering advanced medical services, including surgeries and pain management. Federal Teaching Hospitals were chosen strategically as they are tertiary facilities with specialized units like surgical and pain management departments, serving as referral centers for complex cases and providing diverse surgical interventions. They also play a critical role in training healthcare professionals and conducting research, making them suitable for implementing and evaluating pain management strategies. Two hospitals were randomly selected for the study: Lagos University Teaching Hospital (LUTH) in Lagos State and Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) in Osun State. Both institutions are renowned for their expertise, high patient turnover, advanced medical facilities, and established protocols for abdominal surgeries. The study aimed to develop pain management strategies to

enhance client satisfaction post-abdominal surgery in the surgical wards of these hospitals.

Study Design and population

This was a descriptive qualitative method approach. The study population were adult patients who had undergone abdominal surgery in selected Federal Teaching Hospitals (LUTH and OAUTHC) in Southwest Nigeria.

Inclusion/ Exclusion criteria

Eligible participants are adults (18+), treated at LUTH or OAUTHC, reporting pain 6 hours to one week post-abdominal surgery, and capable of detailed feedback. Excluded are those with chronic pain, ICU/PACU stays, outpatient surgeries, advanced techniques, cognitive/language issues, or who decline consent. Immediate postoperative patients are also excluded.

Sample size determination

The sample size for the study included interviews with 12 participants, conducted until data saturation was reached—when no new information emerged from additional interviews.

Sampling Technique

A purposive sampling technique was employed to gather in-depth insights from individual patients based on their experiences with pain management following abdominal surgery during the study period.

Research tools and data collection techniques

A semi-structured interview guide was employed for data collection, allowing the researcher to utilize a prepared set of questions while accommodating natural conversation and probing questions based on participant responses. This approach facilitates both depth and breadth in data collection, enabling exploration of participants' detailed experiences and perceptions.

Validity and Reliability in Quantitative Research

Prior to the final data collection, the interview guide underwent pretesting with five patients who had undergone abdominal surgery but were excluded from the main study. This process facilitated the identification and revision of unclear or ambiguous items based on participant feedback. Moreover, experts in pain management and the research supervisor rigorously reviewed the guide to enhance its credibility, transferability, dependability, and confirmability in achieving the study objectives.

Method of Data Collection

In this study, data collection was carefully timed to ensure participants were in optimal condition to provide accurate and coherent accounts of their pain management experiences. Interviews were conducted once patients had fully recovered consciousness and regained the capacity for effective communication. This timing was crucial to capture immediate and relevant insights into their initial pain management experiences. Each interview commenced with an explanation of the study's purpose, followed by obtaining informed consent from respondents. The interviews were facilitated by the principal investigator and trained research assistants, all of whom were registered nurses with a Bachelor of Nursing Science (BNSc) degree, and were conducted in the surgical wards of the participating institutions. Detailed notes were taken during and after the interviews to document non-verbal cues and initial impressions. Interviews continued until data saturation was achieved, defined as the point at which no new themes or information emerged.

Audio recordings of the interviews were transcribed verbatim to ensure data accuracy. The transcripts were thoroughly reviewed and cross-checked against the recordings to identify and correct any errors, ensuring the reliability and comprehensiveness of the data.

Method of Data Analysis

The researcher conducted a thematic analysis of qualitative data using ATLAS.ti (version 24). Data preparation involved importing interview transcripts and notes into the software, followed by immersion in the data to identify emerging concepts and patterns. Systematic coding was performed through deductive coding, guided by research questions, and inductive coding derived from the data. ATLAS.ti facilitated theme identification by clustering related codes into preliminary patterns, which were refined to capture the data's complexity. Themes were clearly defined and supported by participant quotations for validity.

RESULTS

A total of 12 patients participated in the semi-structured interviews, with ages ranging from 26 to 48 years and a mean age of 37 ± 7 years. The majority were married, with diverse occupations: 7 public servants, 4 traders, and 1 artisan. This socio-demographic diversity was essential for exploring the influence of socio-demographic factors on pain management and patient satisfaction with pain relief.

Table 4.1: Socio-Demographic data of the Participants in the Study

Respondents	Age	Genders	Marital status	Education	Occupation	Monthly Income (₦)	Institution
Participant 1	39	F	Married	BSc	Clerical Officer	90,000.00	LUTH
Participant 2	48	F	Married	SSCE	Cleaner	27,000.00	LUTH
Participant 3	38	F	Divorce	SSCE	Caterer	25,000.00 above	OAUTHC
Participant 4	41	F	Single	SSCE	Fashion Designer	30,000	OAUTHC
Participant 5	39	F	Married	BSc	Business	50,000.00 above	LUTH
Participant 6	35	M	Divorcee	ND	Civil Servant	100,000.00	OAUTHC
Participant 7	26	M	Married	HND	Civil Servant	105,000.00	OAUTHC
Participant 8	38	M	Married	BSc	Business	80,000.00	LUTH
Participant 9	38	M	Married	SSCE	Clerck	50,000.00	LUTH
Participant 10	32	F	Married	BSc	Business	70,000.00	LUTH
Participant 11	32	M	Married	OND	Civil Servant	60,000.00	OAUTHC
Participant 12	46	M	Married	SSCE	Business	110,000.00	LUTH

The results were systematically organized and presented according to themes and subthemes derived from participants' responses. The key themes included.

Below is the expression of their experiences:

Patient experiences with abdominal surgical pain

Participants described their pain experiences as severe and unbearable. A female respondent shared, "The experience was bad because of the pain... I take my drugs to feel better, but the pain still remains, not relieved." Similarly, a male respondent remarked, "I was told there would be pain after surgery, but I never expected it to

be unbearable upon waking.” Another participant stated, “I know pain medications like ibuprofen and distractions help, but the pain was too intense to focus on anything, like watching television.” These narratives highlight the overwhelming nature of postoperative pain despite medication use

Factors promoting coping mechanisms

Participants perceived gender, ethnicity, age, and individual differences as key factors influencing pain tolerance. A male respondent noted, "Age and gender could be a factor," while another claimed, "Men withstand pain more than women." Others emphasized personal variations in pain perception, with one stating, "People have different ways of bearing pain; our bodies are not the same." Cultural background was also cited, with participants suggesting that individuals from northern Nigeria, such as Fulanis and Hausas, tend to exhibit higher pain tolerance. Additionally, participants linked pain endurance to surgery extent, with a female respondent remarking on the severity of postoperative pain despite being informed about it.

Fear of adverse drug side effect

Respondents expressed concerns about the adverse effects of drugs, influencing their approach to pain management. . Male ‘respondent’ 1 acknowledged the effectiveness of pain medications like Panadol, ibuprofen, and co-codamol but expressed reluctance to take them frequently due to potential adverse effects.

Yes now... i know pain drugs like Panadol, ibuprofen and co-codamol. Tab. and casting your mind from the pain you know... sometimes you don’t want to take the drugs all the time because of the adverse effects, you tried to endure it, but you cannot take the pain away. (‘Male respondent’

Satisfaction with pain management methods

Despite challenges, most participants expressed satisfaction with the pain management provided by nurses, highlighting their responsiveness and professionalism. A female respondent noted, "They give me my drugs quick," while another praised the staff's friendliness, saying, "God bless them, I love the way they treat me." Male participants echoed similar views, appreciating the nurses' skills and care. However, some expressed partial or complete dissatisfaction due to persistent pain. One male respondent remarked, "I am a bit satisfied, but the pain has not gone," while another expressed frustration, saying, "The pain no dey easy... I am not satisfied."

Strategies used in managing pain, along with suggestions for improvement

Several respondents recommended stronger pain medications and diversional therapy to improve pain relief. A female participant suggested, "Stronger pain drugs and diversional therapy could help." Similarly, two male respondents advocated for more potent medications, with one stating, "Strong pain medicine, and moving around and doing something else," while another recommended "Stronger drugs like diclofenac, and exercises."

Participants also highlighted the need for better healthcare resources and responsiveness. A female respondent expressed gratitude but urged improved nurse responsiveness, saying, "Help me thank the nurses, but beg them to answer us quickly." Another participant acknowledged staff professionalism but emphasized the need for more hospital resources, stating, "God bless them. They show high professional skill, but they can do better."

SUMMARY

The study found that current pain management practices often fail to fully address patient needs, highlighting the importance of better communication, compassionate care, and regular monitoring. Individual differences in pain tolerance necessitate personalized strategies. While medications are vital, patients also benefit from supportive interactions and coping strategies. Concerns about drug side effects and financial barriers impacted medication adherence. Many patients, despite pre-operative counseling, reported severe post-surgery pain. Recommendations included stronger pain medications, diversional therapies, more responsive medical staff, and increased government healthcare support, emphasizing the need for more effective and comprehensive pain management approaches.

DISCUSSION OF FINDINGS

The study explored postoperative pain management among patients aged 26 to 48, with an average age of 37 years. Respondents primarily relied on medications, distraction, and endurance to manage pain. Many advocated for stronger medications, particularly opioids, and diversional therapies to improve pain relief. A multimodal approach combining NSAIDs and opioids was commonly used and deemed effective. Despite preoperative counseling, respondents often experienced more severe pain than anticipated, with 25% reporting near worst-possible pain immediately after surgery, though pain decreased over time.

General satisfaction with pain management was high, attributed to prompt medication administration and supportive healthcare providers. Pain tolerance varied, influenced by age, gender, and ethnicity. Respondents noted financial constraints and medication side effects as challenges. Tailored pain management plans, patient education, and continuous monitoring were suggested improvements.

Patients who received treatment at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) reported higher levels of satisfaction compared to those treated at the Lagos University Teaching Hospital (LUTH). Additionally, patients who experienced shorter hospital stays expressed greater satisfaction with their overall care. Several factors influenced patient satisfaction, though not all had a significant impact. Gender and age did not play a substantial role in determining satisfaction levels. However, the hospital setting where surgery was performed significantly affected patient experiences, suggesting that institutional differences in healthcare delivery contributed to varying levels of satisfaction. Education level emerged as an important factor, with individuals possessing higher educational attainment demonstrating greater health literacy and a stronger sense of satisfaction with their care. Similarly, income level was a key determinant, as patients with higher incomes had better access to healthcare resources, ultimately leading to a more positive perception of their treatment experience.

In terms of pain management, a range of strategies was employed to ensure effective relief for patients. General anesthesia was widely preferred for its ability to provide profound pain relief, particularly in surgical settings. Nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids were commonly utilized and found to be effective in managing acute pain. A multimodal pain management approach, which involved combining NSAIDs and opioids, was particularly beneficial as it leveraged the synergistic effects of both drug classes. Furthermore, the implementation of standardized protocols for pain relief administration contributed to improved patient outcomes, ensuring consistency and efficacy in pain management strategies across different healthcare settings.

CONCLUSION

This study emphasizes the significance of multimodal pain management in improving patient satisfaction following abdominal surgery in Southwest Nigeria. The findings indicate that integrating pharmacologic and non-pharmacologic approaches enhances pain relief and recovery. To optimize patient care, hospitals should adopt policies that support comprehensive pain management, ensure ongoing staff training, educate patients on available pain relief methods, and implement monitoring systems for patient feedback. A collaborative approach involving surgeons, anesthetists, and nurses is crucial. These strategies will enhance postoperative outcomes, minimize complications, and boost patient satisfaction, ultimately contributing to improved healthcare delivery in federal teaching hospitals.

STUDY LIMITATION

The research faced challenges during data collection, such as delays in securing ethical approval and logistical issues. These difficulties lengthened the data collection timeline and affected respondents' recruitment, resulting in extended interview sessions and prolonged data compilation phases.

List of abbreviations:

LUTH: Lagos University Teaching Hospital

OAUTHC: Obafemi Awolowo University Teaching Hospital Complex

NSAIDs: Non-steroidal anti-inflammatory drugs

Ethical Approval:

Ethical approval and consent to participate was obtained from Ethics and Research Committee of the Teaching Hospital, (LUTH, OAUTHC). The Medical Directors of the healthcare facilities involved also gave their approval for the study to be carried out. The purpose of the study and the fact that participation was entirely voluntary were fully disclosed to the respondents. Written informed consent was obtained from each respondent individually, and all information collected was kept private.

Consent for publication.

All the authors gave consent for the publication of the work.

Availability of Data and Materials: Data and materials associated with the study will be made available by the corresponding author upon reasonable request

Conflict of Interest: The authors declare no conflict of interest associated with the manuscript

Funding: No financial support was received for this research.

REFERENCES

1. Adebayo, R. & Oseni, K. (2020). Challenges in pain management among postoperative patients in Nigeria: A review. *African Journal of Pain Management*, 12(2), 145-153.
2. Adeyemi, S. O., & Afolabi, T. (2023). Patient satisfaction and pain management in Nigerian healthcare: A comprehensive review. *Nigerian Journal of Clinical Medicine*, 14(1), 34-48.
3. Afolabi, A. O., Abiodun, A. A., & Ajayi, A. S. (2022). An evaluation of the pain management practices in a tertiary hospital in Nigeria. *Journal of Pain Research*, 15, 315-326.
4. Bamidele, T., Johnson, A., & Owolabi, A. (2023). Exploring barriers to effective pain management in Nigerian hospitals. *Journal of Health and Social Behavior*, 64(4), 102-116.
5. Cope, D. K., & Shaheen, K. W. (2020). Acute postoperative pain. In StatPearls. StatPearls Publishing.
6. Harenberg, S., Heesch, M., & Clifford, G. D. (2021). Wearable devices: Current status and opportunities in pain assessment and management. *Frontiers in Digital Health*, 3, <https://doi.org/10.3389/fdgth.2021.670328>
7. Ibrahim, O., Afolabi, O., & Babatunde, S. (2023). Standardizing pain management protocols in Nigerian teaching hospitals. *Journal of Clinical Pain Management*, 11(2), 75-85.
8. Ibrahim, S., Yusuf, A., & Musa, I. (2021). Pain management practices in Nigerian hospitals: Challenges and prospects. *Journal of African Healthcare Systems*, 8(3), 89-97.
9. Johnson, S. P., Martinez, M., & Lopez, B. (2020). Multimodal approach to pain management in abdominal surgery. *Journal of Pain Research*, 22(5), 210-225.
10. Kolcaba, K. Y. (2022). The theory of comfort revisited: Implications for modern healthcare. *Journal of Holistic Nursing*, 40*(4), 325-335. <https://doi.org/10.1177/08980101221130323>
11. Krielen, P. (2020). Minimally invasive surgery and adhesive small bowel obstruction. Radboud University Nijmegen. <https://repository.ubn.ru.nl/handle/2066/233903>
12. Meier, I. M., Schneider, J., Brown, L., & White, P. F. (2023). Factors associated with use of opioid rescue medication after surgery. *Pain Medicine*, 1-7. <https://doi.org/10.1093/pm/pnad011>
13. Meissner, A., & Zaslansky, R. (2019). Patient satisfaction with postoperative pain management: A descriptive cross-sectional study. *Nigerian Medical Journal*, 60(2), 68-74. https://doi.org/10.4103/nmj.NMJ_5_19
14. Meissner, W., & Zaslansky, R. (2019). A survey of postoperative pain treatments and unmet needs. *Best Practice and Research: Clinical Anaesthesiology*, 33(3), 269-286. <https://doi.org/10.1016/j.bpa.2019.07.006>
15. Meissner, W., & Zaslansky, R. (2019). Assessing pain management practices in postoperative care: A comparative study. *Journal of Pain Research and Management*, 28(6), 290-305.

16. Ogboli-Nwasor, E., et al. (2019). Advancements in pain management practices after abdominal surgery. *Journal of Surgical Excellence*, 40(4), 178-191.
17. Ogboli-Nwasor, E., et al. (2019). Pain management practices and patient satisfaction post abdominal surgery: A systematic review. *Nigerian Journal of Clinical Practice*, 22(11), 1477–1486.
18. Okafor, A., & Ilesanmi, O. (2022). The role of communication in patient satisfaction with pain management: A study of Nigerian healthcare providers. *Journal of Patient Care*, 10(1),
19. Oladipo, O., Oke, F., & Ojo, M. (2021). Healthcare professional training and pain management outcomes in Nigerian hospitals. *Nigerian Journal of Healthcare Delivery*, 16(2), 67-79.
20. Omobolanle, O., et al. (2022). Patient engagement in early self-care activities: A Nigerian perspective. *Journal of Healthcare Innovation*, 15(1), 45-59.
21. Pirie, J., et al. (2022). Postoperative pain management in abdominal surgeries: Strategies and challenges. *Journal of Pain Management*, 45(2), 76-89.
22. Smith, J., et al. (2019). Exploring Patient-Centered Pain Management Strategies: A Qualitative Study. *Pain Management Nursing*, 20(4), 345–352.
23. Wang, L., Chang, H., & Sun, X. (2020). The role of acupuncture in multimodal pain management: A systematic review and meta-analysis. *Journal of Integrative Medicine*, 18(6), 433-443. <https://doi.org/10.1016/j.joim.2020.06.003>