

A Community-Based Study on Postoperative Pain Management Practices and Patient Satisfaction Following Surgical Procedures

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Abstract

Background: Postoperative pain management is a crucial component of patient care, directly influencing recovery outcomes and patient satisfaction. Despite advances in analgesic techniques, inadequate pain control remains a common issue, particularly in community settings.

Objective: To assess postoperative pain management practices and evaluate patient satisfaction following surgical procedures in a community-based setting.

Methods: This prospective observational study was conducted from November 2022 to April 2023 in Hind Institute of Medical Sciences, Sitapur and Era's Lucknow Medical College and Hospital, Lucknow. A total of 240 postoperative patients were included. Data were collected using a structured questionnaire covering demographic details, type of surgery, analgesic practices, pain intensity using the Visual Analogue Scale (VAS), and patient satisfaction. Data were analyzed using SPSS version 25.0, with statistical significance set at $p < 0.05$.

Results: Most patients (50%) experienced moderate pain, while 20.8% reported severe pain. NSAIDs (41.7%) were the most commonly used analgesics, and the intravenous route (50%) was the preferred mode of administration. Overall, 79.1% of patients were satisfied with pain management. A significant association was observed between pain severity and patient satisfaction, with lower satisfaction among patients experiencing severe pain.

Conclusion: Postoperative pain remains inadequately controlled in a substantial proportion of patients. Implementation of multimodal analgesia, standardized protocols, and regular pain assessment is essential to improve pain outcomes and patient satisfaction, particularly in community-based settings.

Keywords: Postoperative pain, pain management, patient satisfaction, VAS score, analgesics, community-based study.

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Introduction

Postoperative pain remains one of the most common and significant concerns following surgical procedures. Despite advancements in surgical techniques and anesthetic practices, inadequate pain control continues to affect a large proportion of patients worldwide. Effective postoperative pain management is essential not only for patient comfort but also for early mobilization, reduced complications, shorter hospital stay, and improved overall outcomes [1]. Pain is a subjective and multifactorial experience influenced by physiological, psychological, and environmental factors.

The intensity of postoperative pain varies depending on the type of surgery, anesthesia used, and individual patient characteristics. Poorly managed pain can lead to complications such as delayed wound healing, increased risk of infection,

thromboembolic events, and the development of chronic pain syndromes [2,3]. Various pharmacological and non-pharmacological methods are used for postoperative pain management. Commonly used analgesics include non-steroidal anti-inflammatory drugs (NSAIDs), opioids, and combination therapies. Multimodal analgesia, which involves the use of different classes of drugs targeting various pain pathways, has been shown to improve pain control while minimizing side effects [4,5]. Patient satisfaction is an important indicator of the quality of healthcare services and is closely linked to effective pain management. Studies have demonstrated that patients who receive adequate pain relief report higher satisfaction levels and better overall healthcare experiences [6].

However, there is often a gap between prescribed pain management protocols and their actual

implementation, particularly in community and resource-limited settings [7]. Community-based studies provide valuable insights into real-world practices and patient perceptions beyond hospital settings. In developing countries like India, disparities in healthcare access, variations in clinical practices, and lack of standardized pain management protocols can influence patient outcomes and satisfaction levels [8,9]. Therefore, this study was conducted to assess postoperative pain management practices and evaluate patient satisfaction following surgical procedures in a community-based setting.

Materials and Methods

Study Design and Setting: This was a community-based, prospective observational study conducted in Hind Institute of Medical Sciences, Sitapur and Era's Lucknow Medical College and Hospital, Lucknow. The study was carried out over a period of six months, from November 2022 to April 2023.

Study Population and Sample Size: A total of 240 postoperative patients were included in the study. Patients were recruited from both institutions as well as from the surrounding community during follow-up visits.

Inclusion Criteria

- Patients aged 18 years and above
- Patients who had undergone any surgical procedure under general, spinal, or local anesthesia
- Patients in the postoperative period (within 7 days to 1 month)
- Patients who provided informed consent

Exclusion Criteria

- Patients with chronic pain conditions or on long-term analgesics
- Patients with cognitive impairment or psychiatric illness affecting response reliability
- Patients unwilling to participate

Data Collection

Data were collected using a pre-designed and structured questionnaire through direct interviews. The questionnaire included:

- Demographic details (age, gender, residence)
- Type of surgery and anesthesia
- Postoperative pain management practices (type of analgesics, frequency, route of administration)
- Pain assessment using the Visual Analogue Scale (VAS)
- Patient satisfaction regarding pain management (measured using a Likert scale)

Outcome Measures

The primary outcomes assessed were:

- Effectiveness of postoperative pain management
- Level of patient satisfaction
- Association between pain relief and patient satisfaction

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 25.0.

- Descriptive statistics such as mean, standard deviation, frequency, and percentage were used
- Inferential statistics including Chi-square test and Student's t-test were applied where appropriate
- A p-value < 0.05 was considered statistically significant

Ethical Considerations: The study was conducted after obtaining approval from the Institutional Ethics Committees of both participating institutes. Written informed consent was obtained from all participants, and confidentiality of patient information was strictly maintained.

Results and Observations

A total of 240 postoperative patients were included in the study. The observations were analyzed based on demographic profile, type of surgery, pain intensity, analgesic practices, and patient satisfaction.

Table 1: Demographic Characteristics of Study Population (N = 240)

Variable	Category	Frequency (n)	Percentage (%)
Age Group (years)	18–30	60	25.0
	31–50	96	40.0
	51–70	64	26.7
	>70	20	8.3
Gender	Male	140	58.3
	Female	100	41.7
Residence	Rural	150	62.5
	Urban	90	37.5

Majority of patients were in the 31–50 years age group (40%), with a male predominance (58.3%). Most participants belonged to rural areas (62.5%).

Table 2: Type of Surgical Procedures

Type of Surgery	Frequency (n)	Percentage (%)
General Surgery	110	45.8
Orthopedic	60	25.0
Gynecological	40	16.7
Others	30	12.5

General surgical procedures constituted the largest group (45.8%), followed by orthopedic surgeries (25%).

Table 3: Type of Anesthesia Used

Type of Anesthesia	Frequency (n)	Percentage (%)
General Anesthesia	130	54.2
Spinal Anesthesia	90	37.5
Local Anesthesia	20	8.3

General anesthesia was used in the majority of cases (54.2%).

Table 4: Postoperative Pain Intensity (VAS Score)

VAS Score	Pain Category	Frequency (n)	Percentage (%)
0–3	Mild Pain	70	29.2
4–6	Moderate Pain	120	50.0
7–10	Severe Pain	50	20.8

Half of the patients (50%) experienced moderate pain, while 20.8% reported severe pain postoperatively.

Table 5: Analgesic Practices

Analgesic Type	Frequency (n)	Percentage (%)
NSAIDs	100	41.7
Opioids	60	25.0
Combination Therapy	80	33.3

NSAIDs were the most commonly used analgesics (41.7%), followed by combination therapy (33.3%).

Table 6: Route of Analgesic Administration

Route	Frequency (n)	Percentage (%)
Intravenous	120	50.0
Oral	80	33.3
Intramuscular	40	16.7

Intravenous route was the most preferred method (50%).

Table 7: Patient Satisfaction with Pain Management

Satisfaction Level	Frequency (n)	Percentage (%)
Highly Satisfied	80	33.3
Satisfied	110	45.8
Unsatisfied	50	20.8

A majority of patients (79.1%) were either satisfied or highly satisfied with postoperative pain management.

Table 8: Association Between Pain Level and Patient Satisfaction

Pain Level	Satisfied (%)	Unsatisfied (%)
Mild	90%	10%
Moderate	75%	25%
Severe	40%	60%

Higher pain levels were associated with lower patient satisfaction. Patients with mild pain showed the highest satisfaction rates.

Discussion

The present community-based study evaluated postoperative pain management practices and

patient satisfaction among 240 patients following various surgical procedures. The findings highlight that postoperative pain remains a significant clinical issue, with a considerable proportion of patients experiencing moderate to severe pain, despite the availability of analgesic therapies. In the current study, the majority of patients (50%)

reported moderate pain, while 20.8% experienced severe pain in the postoperative period. These findings are consistent with the study by Apfelbaum et al., which reported that a large proportion of surgical patients continue to experience moderate to severe postoperative pain [1]. Similarly, Sommer et al. observed a high prevalence of postoperative pain among surgical patients, emphasizing the need for improved pain management strategies [7].

The present study found that NSAIDs (41.7%) were the most commonly used analgesics, followed by combination therapy (33.3%) and opioids (25%). This pattern reflects a preference for safer analgesic options with fewer side effects, particularly in community settings. Previous studies have shown that while opioids are effective, their use is often limited due to concerns about adverse effects and dependency [4]. Multimodal analgesia, combining NSAIDs with opioids or other agents, has been recommended to enhance pain relief while minimizing complications [5].

Regarding the route of administration, intravenous analgesics were most commonly used (50%), followed by oral and intramuscular routes. This finding is comparable to other hospital-based studies where intravenous administration is preferred in the immediate postoperative period for rapid onset of action [2].

Patient satisfaction is a key indicator of the quality of pain management. In this study, 79.1% of patients were either satisfied or highly satisfied, while 20.8% were unsatisfied. These results are in line with findings by Myles et al., who reported that effective pain control is strongly associated with higher patient satisfaction [6]. However, dissatisfaction in a subset of patients suggests gaps in pain assessment and management practices.

A significant association was observed between pain severity and patient satisfaction, with higher satisfaction among patients experiencing mild pain and lower satisfaction among those with severe pain. This finding supports earlier research indicating that inadequate pain relief negatively impacts patient perception of care and overall recovery [8].

The community-based nature of this study provides valuable insights into real-world practices beyond controlled hospital settings. Variations in pain management practices may be attributed to differences in healthcare resources, patient awareness, and adherence to clinical guidelines. In developing countries like India, such disparities can

influence both pain outcomes and patient satisfaction [9].

Despite advancements in pain management protocols, the persistence of moderate to severe pain in a substantial proportion of patients indicates the need for improved strategies. These include better implementation of multimodal analgesia, regular pain assessment using standardized tools like VAS, and increased patient education regarding pain reporting and management.

Conclusion

Postoperative pain remains inadequately managed in a considerable number of patients, with many experiencing moderate to severe pain. Although overall patient satisfaction was high, it decreased with increasing pain intensity.

Improved implementation of multimodal analgesia, regular pain assessment, and standardized protocols is essential to enhance pain control and patient satisfaction, especially in community settings.

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