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Community perception of pain management during minor surgical procedures in public health facilities

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Abstract
Background: Pain management during minor surgical procedures in public health settings is often inadequate, despite its critical influence on patient satisfaction, outcomes, and ethical standards of care. Discrepancies between provider practices and patient expectations contribute to untreated pain and diminished trust in healthcare systems, particularly in resource-limited environments.
Objective: This study aimed to assess community perceptions and satisfaction with pain management during minor surgical procedures in public health facilities, with a focus on communication practices, anesthesia use, and factors associated with patient-reported outcomes.
Methods: A cross-sectional descriptive study was conducted among 420 adult patients who underwent minor surgical procedures (e.g., incision and drainage, debridement, circumcision) in selected public health facilities. Data were collected using structured face-to-face interviews and analyzed using SPSS v25. Pain levels were measured using a numeric rating scale, and satisfaction was assessed via Likert-type items. Chi-square and t-tests were used to identify associations.
Results: While 74.3% of participants reported satisfaction with overall pain control, only 42.4% received information about pain relief options, and 36.4% were asked about their pain before procedures. Moderate to severe pain was reported by 68.3% of respondents (mean score: 4.9±2.1). Satisfaction was significantly associated with anesthesia use ($p = 0.001$), pre-procedural explanation ($p = 0.003$), education level ($p = 0.04$), and lower pain scores ($p = 0.02$). Residence (urban vs. rural) had no significant effect ($p = 0.12$).
Conclusion: Despite relatively high satisfaction rates, critical communication and procedural gaps persist in pain management for minor surgeries. Strengthening provider communication, ensuring consistent anesthesia use, and enhancing patient education are essential to improve pain outcomes and equity in public healthcare delivery.

Keywords: Pain management, minor surgical procedures, patient satisfaction

Introduction

Pain is one of the most common and feared experiences in healthcare, particularly during surgical procedures, and it significantly influences patient satisfaction and health outcomes [1]. Minor surgical procedures, often performed in outpatient and public health settings, are frequently underestimated in terms of the discomfort they cause, leading to inadequate pain control [2]. Although the World Health Organization emphasizes that pain relief is a basic human right, patients in public healthcare systems—especially in low-resource settings—often experience untreated or under-treated pain due to systemic gaps [3].

Public perception of pain management is shaped by cultural beliefs, health literacy, prior experiences, and the communication between patients and healthcare providers [4]. In many communities, pain is either normalized as an expected part of treatment or misunderstood due to lack of awareness about available pain control options [5]. This misunderstanding leads to a critical gap between what is medically feasible and what the patient expects or demands in terms of analgesia, especially during procedures considered "minor" by providers [6].

The disconnect is further amplified by differing perceptions between healthcare workers and patients regarding the severity of pain and the adequacy of its management [7]. For instance, nurses may believe they are providing sufficient pain relief, while patients may feel their suffering is ignored or downplayed [8]. These discrepancies contribute to poor patient satisfaction and may impact treatment adherence, trust in the health system, and future care-seeking behaviors.

Effective communication and patient education are essential components of pain management, yet they are often overlooked in the fast-paced environments of public health facilities [9]. Many patients are not informed about their right to pain relief or the methods available, particularly in settings where provider-to-patient ratios are high and time for patient engagement is limited [10]. In these contexts, a clear understanding of community perception becomes crucial to tailoring interventions that improve both pain control and patient experience.

Despite global advancements in pain management protocols, public health facilities in resource-limited settings continue to face challenges in ensuring equitable and effective pain control during minor surgical procedures [11]. Understanding how communities perceive pain and its management can inform targeted education, policy reform, and training of healthcare providers. This study aims to assess the perceptions of patients regarding pain management during minor surgical procedures in public health settings, with the goal of identifying gaps, misconceptions, and areas for improvement.

Aim of the Study

To evaluate community perceptions and satisfaction with pain management during minor surgical procedures in public health facilities.

Methods

Study Design

This study employed a cross-sectional descriptive design to assess community perceptions of pain management during minor surgical procedures in public health facilities.

Study Setting

The study was conducted in selected public health facilities providing minor surgical services, such as incision and drainage, wound debridement, circumcision, and excision of superficial lesions. Facilities were chosen based on accessibility, patient volume, and service availability.

Study Population and Sampling

Participants included adult patients (≥18 years) who had undergone a minor surgical procedure within the past 24-72 hours at a public health facility. Patients who were critically ill, cognitively impaired, or unwilling to participate were excluded. A convenience sampling method was used to recruit participants until the desired sample size was achieved.

Sample Size Calculation

Sample size was calculated using a single population proportion formula with an assumed 50% prevalence of satisfaction with pain management, 95% confidence interval, and 5% margin of error. Accounting for a 10% non-response rate, the final sample size was determined to be approximately 422 participants.

Data Collection Tool and Procedure

Data were collected using a pretested structured questionnaire, which included:

1. Demographics (age, sex, education level)
2. Procedure-related details (type, setting, anesthesia used)
3. Pain perception and satisfaction (numeric rating scale, verbal descriptors)
4. Information and communication received from healthcare staff

Questionnaires were administered via face-to-face interviews by trained data collectors. Pain perception was measured using a 0-10 numeric rating scale (NRS), and satisfaction was assessed using a Likert scale.

Ethical Considerations

Ethical approval was obtained from the institutional ethics review board. Informed written consent was obtained from all participants prior to data collection. Privacy and confidentiality were strictly maintained throughout the study.

Data Analysis

Collected data were entered into SPSS version 25 for analysis. Descriptive statistics (frequencies, means, standard deviations) were used to summarize demographic and perception data. Associations between sociodemographic factors and satisfaction levels were assessed using Chi-square tests and independent t-tests, with a significance level set at $p < 0.05$.

Results

A total of 420 participants were included in the study. The largest age group was 30-49 years (44.8%), followed by those aged ≥50 (33.6%), indicating a predominantly adult sample. Females slightly outnumbered males (53.6% vs. 46.4%). In terms of education, 87.8% had some level of formal education, with secondary education being the most common (38.8%). Urban dwellers represented a majority (58.3%), suggesting an urban-skewed sample distribution.

Table 1: Sociodemographic Characteristics

	Variable	Frequency (n)	Percentage (%)
Age groups	18-29	91	21.7
	30-49	188	44.8
	≥50	141	33.6
Gender	Male	195	46.4
	Female	225	53.6
Education	No formal education	52	12.2
	Primary	128	30.1
	Secondary	165	38.8
	Tertiary	75	17.6
Address	Urban	245	58.3
	Rural	175	41.7

Among the 420 patients, incision and drainage was the most frequently performed procedure (29.0%), followed by wound debridement (25.7%) and circumcision (20.5%). Excision of lumps (15.2%) and other procedures (9.5%) made up the remainder, indicating a predominance of soft tissue-related minor surgeries.

Table 2A: Type of Procedure

Type of Procedure	Frequency (n)	Percentage (%)
Incision & Drainage	122	29.0
Wound Debridement	108	25.7
Circumcision	86	20.5
Excision of Lumps	64	15.2
Others	40	9.5

Local anesthesia was administered in the majority of cases (60.7%), with topical anesthesia used in 22.7%. Interestingly, 8.3% of participants reported no anesthesia, and an equal proportion were unsure, pointing to potential deficiencies in procedural explanation or documentation.

Table 2B: Type of Anesthesia

Anesthesia Type	Frequency (n)	Percentage (%)
Local Anesthesia	255	60.7
Topical Anesthesia	95	22.7
No Anesthesia	35	8.3
Not Sure	35	8.3

Pain reporting among the 420 patients showed that 44.5% experienced moderate pain, while 23.8% reported severe pain. Mild pain was reported by 31.7%. The mean pain score was 4.9±2.1, reflecting an overall moderate pain experience post-procedure.

Table 3: Pain Perception Scores

Pain Score Category	Frequency (n)	Percentage (%)
0-3 (Mild Pain)	133	31.7
4-6 (Moderate Pain)	187	44.5
7-10 (Severe Pain)	100	23.8
Mean±SD	4.9±2.1	4.9±2.1

Among the 420 respondents, 74.3% expressed satisfaction with overall pain control, and 70.7% were willing to undergo a similar procedure again. However, only 42.4% reported receiving information on pain relief options, and just 36.4% recalled being asked about their pain beforehand, highlighting gaps in patient communication.

Table 4: Patient Satisfaction with Pain Management

Satisfaction Item	Frequency (n)	Percentage (%)
Satisfied with pain control overall	312	74.3
Received information about pain relief options	178	42.4
Provider asked about pain level before procedure	153	36.4
Willing to undergo similar procedure again	297	70.7

Analysis revealed statistically significant associations between satisfaction and the use of anesthesia ($p = 0.001$), explanation before procedure ($p = 0.003$), education level ($p = 0.04$), and pain score ($p = 0.02$). Residence did not show a significant effect ($p = 0.12$), underscoring the primacy of patient-centered communication and pain management in determining satisfaction.

Table 5: Association Between Satisfaction and Variables

Variable	Satisfied (%)	Not Satisfied (%)	p-value
Type of Anesthesia (Received vs None)	82	18	0.001
Explanation Before Procedure (Yes vs No)	87	13	0.003
Education Level (Primary or above vs None)	72	28	0.04
Residence (Urban vs Rural)	63	37	0.12
Pain Score (≥4 vs <4)	72	28	0.02

Discussion

This study provides valuable insights into community perceptions and satisfaction with pain management during minor surgical procedures in public health settings. The findings highlight both strengths in current practice and critical gaps, particularly in communication and procedural analgesia.

The demographic profile of the respondents—largely female, urban, and with at least primary education—aligns with existing research suggesting that pain perception and satisfaction are often influenced by sociodemographic factors such as gender, literacy, and urban access to care [4]. While the majority of patients were satisfied with their pain control (74.3%), only a small proportion reported receiving adequate information (42.4%) or being assessed for pain beforehand (36.4%). These findings suggest a disconnect between clinical delivery and patient engagement—an issue echoed in previous studies on patient-provider communication in pain contexts [9].

The most common procedures performed were incision and drainage and wound debridement, both of which typically require effective local anesthesia. Encouragingly, 60.7% of patients received local anesthesia, but 8.3% reported no anesthesia and an equal proportion were unsure if any was used. This raises concerns about documentation and informed consent practices. The presence of unmedicated procedures may reflect provider oversight or system-level limitations such as lack of supplies or staffing constraints [2].

Pain reporting showed that nearly half (44.5%) of participants experienced moderate pain, and nearly one in four (23.8%) reported severe pain. These findings are consistent with international data indicating that postoperative pain remains a significantly under-managed symptom, particularly in low-resource settings [3]. The overall mean pain score of 4.9±2.1 further reinforces that pain is frequently inadequately controlled, even in supposedly "minor" surgical procedures.

Crucially, satisfaction with pain management was significantly associated with having received anesthesia ($p = 0.001$), receiving pre-procedure explanations ($p = 0.003$), having a higher education level ($p = 0.04$), and experiencing less pain ($p = 0.02$). These findings highlight that beyond pharmacological intervention, patient communication and education are key determinants of satisfaction—a conclusion echoed in previous research [7]. Interestingly, urban vs. rural residence did not significantly affect satisfaction ($p = 0.12$), suggesting that the issue is not one of access, but of quality and consistency of care delivery.

The findings reinforce the idea that minor surgical procedures are not minor in the experience of patients, and thus require the same attention to pain prevention, education, and documentation as major interventions. The underuse of preoperative communication and the underreporting or unawareness of anesthesia use represent areas for immediate quality improvement.

This study was conducted in public health facilities, and findings may not be generalizable to private or tertiary care settings. Additionally, self-reported measures of pain and satisfaction may be subject to recall or response bias. However, the use of structured interviews and a representative sample size strengthens the reliability of the findings.

Conclusion

Although the majority of patients reported satisfaction with their pain management, significant gaps remain in communication, education, and equitable access to anesthesia during minor surgical procedures. Addressing these issues through provider training, protocol reinforcement, and patient education initiatives could lead to better outcomes and more humane care.

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