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# Postoperative Pain Management and Patient Satisfaction: A Retrospective Study

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**Abstract**

**Background:** The issue of postoperative pain is a major concern of surgical care that impacts patient recovery, satisfaction, and overall healthcare outcomes. Pain management strategies are crucial to improve clinical outcomes and patient comfort.

**Aim:** To prospectively analyze the current postoperative pain management practices and examine the level of patient satisfaction after surgical operations.

**Methodology:** The study was a retrospective observational one carried out during a period of one year in Gouri Devi Institute of Medical Sciences and Hospital, Durgapur. One hundred and fifty patient records were examined. The information on demographic factors, surgical type, pain management techniques, pain scores, and patient satisfaction levels were gathered and analyzed statistically in terms of descriptive and inferential analysis.

**Results:** Most patients had moderate postoperative pain during the first 24 hours. The most often used method was multimodal analgesia (56%), followed by patient-controlled analgesia (PCA) (24%), and conventional analgesics (20%). The satisfaction with the pain management was high, at around 68 percent. A significant relationship was found between low pain scores and high levels of satisfaction ($p < 0.05$).

**Conclusion:** Postoperative pain management and especially multimodal pain management has tremendous benefits in regards to patient satisfaction. Individualized pain management and frequent pain evaluation are essential in maximizing the level of postoperative care.

**Keywords:** Postoperative pain, Patient satisfaction, Analgesia, Retrospective study, Multimodal analgesia

## Introduction:

Postoperative pain is an unavoidable result of surgery and one of the most important factors predetermining patient recovery, clinical and general satisfaction with healthcare services [1]. In spite of unceasing development of anesthetic methods, minimally invasive operation, and postoperative care practices, poor pain management in the postoperative period is a frequently reported issue within the health care systems. Uncontrolled pain does not only influence the immediate postoperative phase, but also leads to prolonged recovery, morbidity, and medical care dissatisfactions [2]. Management of pain is a vital area of concern in contemporary clinical practice as it is a key

determinant of how the patient will view the quality of healthcare as a whole [3].

Pathophysiology of postoperative pain is complicated and it is a combination of physiological and psychological factors. The release of inflammatory mediators as a consequence of surgical trauma causes the sensitization of peripheral nociceptors and the transmission of pain to the central nervous system [4]. Central sensitization mechanisms also intensify this and increase the perception of pain. Besides the biological factors, there are psychological factors of anxiety, fear, and past experiences that play a major role in determining the intensity and tolerance of pain [5]. Unless managed properly, postoperative pain may cause complications such as delaying the patient mobilization, wound healing, respiratory complications, thromboembolism and increased hospitalization, which eventually impact patient recovery and long-term health outcomes [6].

A significant number of surgical patients undergo moderate or severe postoperative pain, with a continuing discrepancy between anticipated and actual analgesia [7]. The gap is an indication of problems like insufficient pain assessment, intervention delay, and non-use of individualized treatment strategies [8]. The postoperative pain has not only clinical implications but also leads to higher healthcare expenses in terms of longer hospital stays, further interventions and decreased patient productivity. Moreover, inefficient pain management may harm the level of trust in healthcare providers among patients, as well as decrease the compliance with the postoperative care plans, thus affecting the overall success of the treatment [9].

In response to such issues, several pain management approaches have been designed, such as systemic analgesics, regional anesthesia modalities, and other sophisticated modalities, like patient-controlled analgesia [10]. Multimodal analgesia is one of these that has become widely accepted as effective method that incorporates various classes of analgesics and acts on various pain pathways. The process has greater pain-relieving action and reduced adverse effects of high-dose single-drug therapy. It also enhances early mobilization, lessens opioid dependence, and enhances overall recovery results [11]. The satisfaction of the patients, which is one of the primary indicators of the quality of healthcare, is affected not only by pain relieving but also by communication, responsiveness, and overall experience of the care provided, and a patient-centered approach is thus essential [12].

Since postoperative pain has a major influence on recovery and healthcare outcomes, it is necessary to assess the existing pain management strategies in clinical practice [13]. Retrospective studies give meaningful information on the current trends of treatment, intervention efficacy and the satisfaction of the patients. These types of analyses can be used to find the gaps in care and create better, evidence-based strategies [14]. Thus, the current research tends to retrospectively investigate the postoperative pain management strategies and assess patient satisfaction in a tertiary care hospital with the goal of improving the quality and efficacy of postoperative care [15].

## Methodology

### Study Design

The current study was a retrospective observational study which was carried out to assess the postoperative pain management practices and their relationship with patient satisfaction. The design allowed the examination of the earlier documented clinical data to determine trends and results in the everyday clinical practice without impacting patient care.

### Study Area

The research was conducted in the Department of Anaesthesiology, Gouri Devi Institute of Medical Sciences and Hospital, Durgapur, West Bengal, India.

### Study Duration

The research was carried out in a period of one year.

### Study Participants

The study involved adult patients who had undergone surgical procedures at the time of the study.

### Inclusion Criteria

- Patients aged ≥18 years
- Complete postoperative pain records in patients.
- Patients admitted and followed up in the postoperative ward.

### Exclusion Criteria

- Incomplete patient records.
- People with chronic pain conditions.
- ICU patients who are on ventilatory support.
- Those patients who cannot consistently report the pain.

### Sample Size

The study included 150 patient records that fulfilled the inclusion criteria. The sample was chosen due to the availability of complete data and reflected a variety of surgical procedures.

### Procedure

Hospital records were used to gather data in a structured format. Data were demographic (age, gender), type of surgery, pain scale (Visual Analog Scale), analgesic techniques, and satisfaction level in the patient.

The intensity of pain was defined as mild (1-3), moderate (4-6), and severe (7-10). According to the feedbacks taken, patient satisfaction was rated as low, moderate, or high. Patient information was kept confidential during the study.

### Statistical Analysis

The analysis of the data was conducted with the help of SPSS version 27.0. Descriptive statistics like mean, frequency, and percentage were analyzed. Chi-square tests were used to determine associations between variables and a p-value that was below 0.05 was set to indicate the statistical significance.

### Results

Table 1 shows the demography of the study participants. The age distribution indicates that most of the patients fell within the age group of 31-50 years (65, 43.3%), then the above 50 years (45, 30%), and finally the age group of 18-30 years (40, 26.7%) constituted. In terms of gender distribution, males had a higher percentage (85, 56.7%) than females (65, 43.3%). Generally, the population of the study was mainly middle-aged with a minor majority of males.

**Table 1: Demographic Characteristics (n = 150)**

| Parameter | Frequency (n) | Percentage (%) |
|---|---|---|
| **Age (years)** | | |
| 18–30 | 40 | 26.7 |
| 31–50 | 65 | 43.3 |
| >50 | 45 | 30 |
| **Gender** | | |
| Male | 85 | 56.7 |
| Female | 65 | 43.3 |

Table 2 indicates the distribution of the intensity of postoperative pain among the patients. The prevalence of moderate pain was the highest with 75 patients (50%), and severe pain was the second most prevalent with 45 patients (30%). Only mild pain was noted in 30 patients (20%). These results show that a high percentage of patients had moderate to severe pain during the postoperative time, and it is necessary to develop efficient pain management plans.

| Table 2: Pain Intensity Distribution | | |
|---|---|---|
| **Pain Level** | **Frequency (n)** | **Percentage (%)** |
| Mild | 30 | 20 |
| Moderate | 75 | 50 |
| Severe | 45 | 30 |

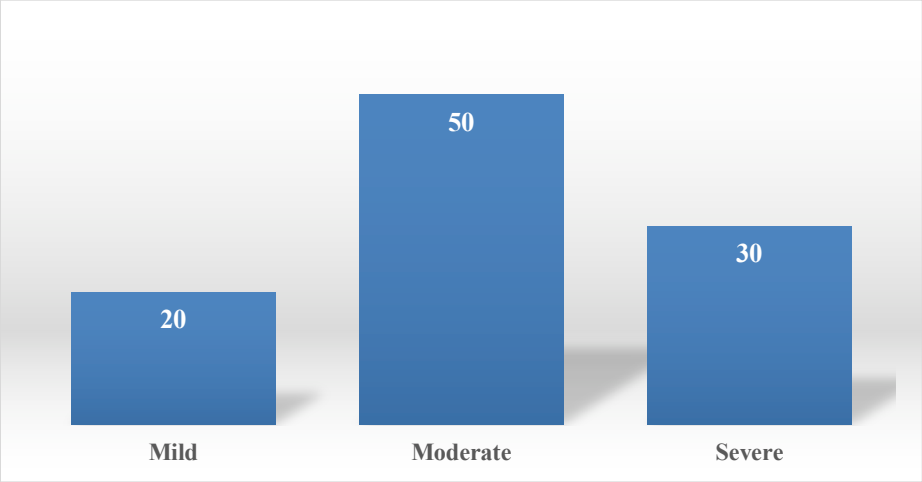


**Figure 1: Visual Representation of Pain Intensity Distribution**

Table 3 shows the various analgesic techniques in the management of postoperative pain. The most common used method was multimodal analgesia with 84 patients (56%), and patient-controlled analgesia (PCA) with 36 patients (24%). In 30 patients (20%), conventional methods of analgesics were applied. This is an indication that multimodal approach could be preferred when dealing with postoperative pain in the study setting.

| Table 3: Analgesic Methods Used | | |
|---|---|---|
| **Method** | **Frequency (n)** | **Percentage (%)** |
| Multimodal analgesia | 84 | 56 |
| PCA | 36 | 24 |
| Conventional analgesics | 30 | 20 |

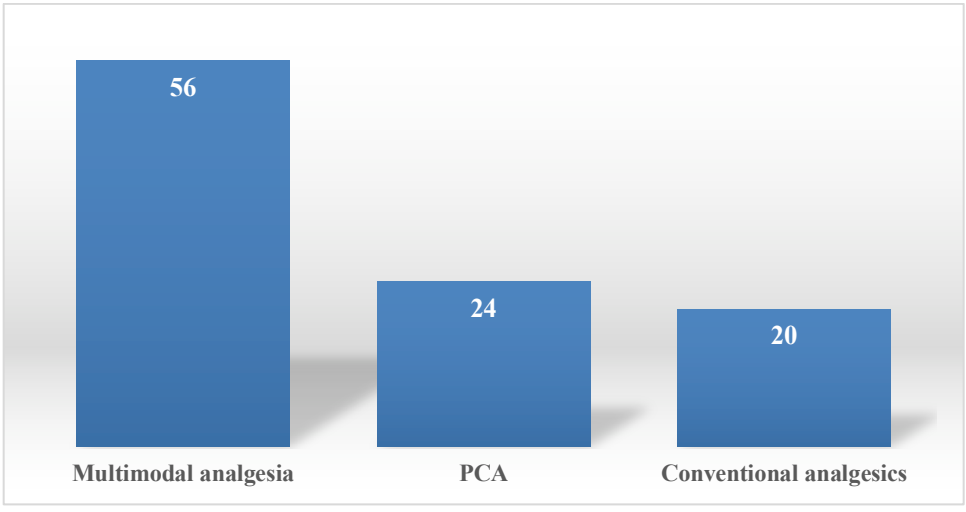


**Figure 2: Visual Representation of Analgesic Methods Used**

The patient satisfaction with postoperative pain management levels is presented in Table 4. Most of the patients were very satisfied (102, 68%), and 30 patients (20%) were moderately satisfied. Low satisfaction was only expressed by 18 patients (12%). Such results suggest that the majority of the patients were pleased with pain management measures put in place.

**Table 4: Patient Satisfaction Levels**

| Satisfaction Level | Frequency (n) | Percentage (%) |
|---|---|---|
| High | 102 | 68 |
| Moderate | 30 | 20 |
| Low | 18 | 12 |

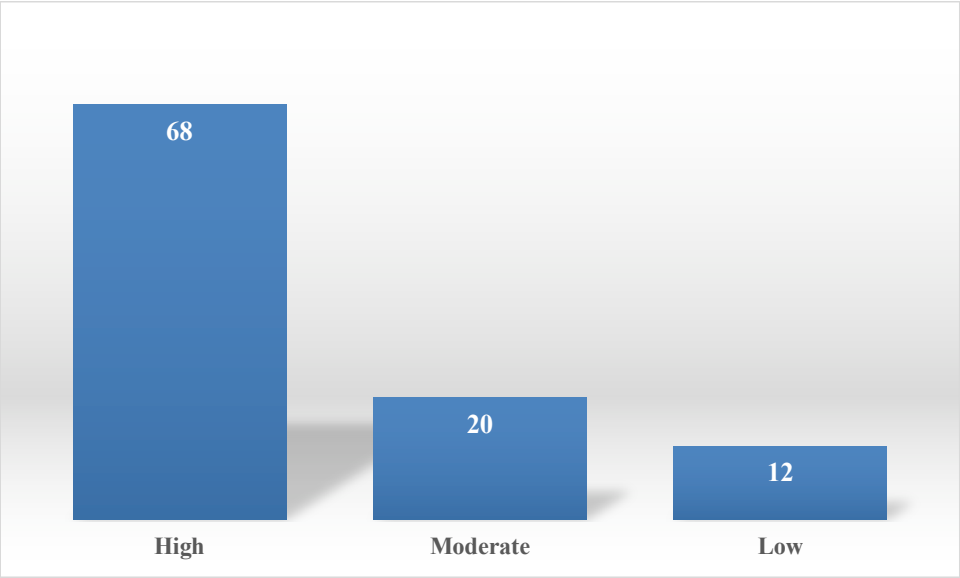


**Figure 3: Visual Representation of Patient Satisfaction Levels**

Table 5 shows the correlation between the level of patient satisfaction and the level of pain. Patients who reported high levels of satisfaction were those with mild pain with 85% of them reporting high levels of satisfaction. Out of the moderate pain group 70% of high satisfaction was reported and in the severe pain group the satisfaction was relatively lower with only 40% of high satisfaction and a greater percentage of moderate and low satisfaction. This means that there is an inverse relationship between the intensity of pain and patient satisfaction.

**Table 5: Association Between Pain Score and Satisfaction**

| Pain Level | High Satisfaction (%) | Moderate (%) | Low (%) |
|---|---|---|---|
| Mild | 85 | 10 | 5 |
| Moderate | 70 | 20 | 10 |
| Severe | 40 | 30 | 30 |

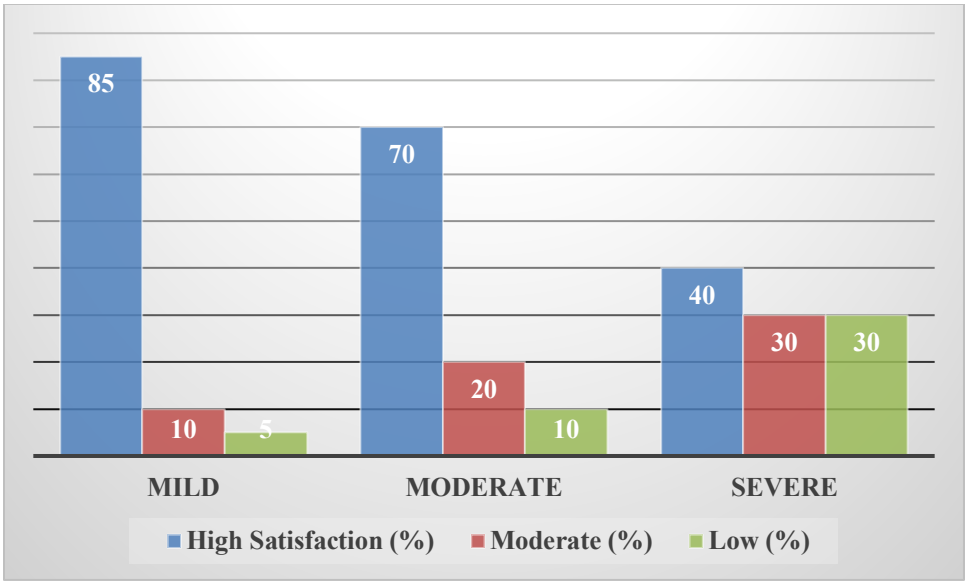


**Figure 4: Visual Representation of Association Between Pain Score and Satisfaction**

## Discussion

The current retrospective research study compared the effectiveness of postoperative pain management techniques and their relationship with patient satisfaction in 150 surgical patients. Demographics revealed that most patients fell within the age range of 31-50 years (43.3%), then above 50 years (30%), and a minor imbalance towards males (56.7%). This distribution suggests that the proportion of middle-aged people in the surgical population is quite large, and this fact might affect the perception of pain and the pain recovery patterns (Schmidt et al., 2009) [16]. These demographic factors are significant to comprehend and adjust the pain management strategies to patient requirements.

The postoperative pain intensity analysis showed that moderate levels of pain were the most reported with 50% of the patients reporting it, then severe and mild levels of pain were reported by 30 and 20% respectively. These results underscore the fact that a significant percentage of patients report moderate to severe postoperative pain, indicating that existing pain management methods are not always effective to control the pain (Sun et al., 2015) [17]. Such a high rate of severe pain in almost one-third of patients demonstrates that it is necessary to better assess, intervene, and plan analgesic to enhance patient outcomes.

In terms of analgesic techniques, multimodal analgesia was the most common technique applied with 56 percent of the patients subjected to this technique which has been increasingly accepted as an effective technique in the management of postoperative pain. In 24% of cases, patient-controlled analgesia (PCA) was applied, which suggests that it provided patient control and a prompt response to pain. Traditional analgesic strategies explained 20% of cases indicating that the same traditional techniques are still used but might not be as effective as the newer ones (Tocher et al., 2012) [18]. These results show that there is a definite inclination towards the advanced and combined approaches to analgesia in clinical practice.

The analysis of patient satisfaction revealed that most patients (68% of the patients) expressed high patient satisfaction, and 20% expressed moderate patient satisfaction and 12% expressed low patient satisfaction. There was a close correlation between the levels of pain and satisfaction (Topolovec-Vranic et al., 2010) [19]. Patients who had mild pain had the highest level of satisfaction (85%), then moderate pain (70%), and those with severe pain had very low levels of satisfaction with only 40% having high satisfaction levels and a larger proportion having

moderate and low levels of satisfaction. This negative correlation confirms that patient satisfaction is one of the main factors of successful pain control.

On the whole, the results suggest that although the existing postoperative pain management procedures are effective and yield high satisfaction among the majority of the patients, there is still a group of those who report poor pain control, especially those with severe pain (Ward et al., 2012) [20]. This highlights the importance of constant monitoring, better pain management, and personalized treatment plans. Focus on multimodal analgesia, patient engagement, and response to intervention can additionally improve patient pain relief and satisfaction, which eventually results in better quality of postoperative care.

## Conclusion

This retrospective study sheds light that the management of postoperative pain is important in defining patient satisfaction and recovery outcomes. The percentage of patients with moderate to severe pain was significant, which means that the improvement of pain control strategies is necessary. Multimodal analgesia proved to be the most effective analgesia method, which was more effective in reducing pain and more satisfying than traditional methods. The apparent correlation between the reduced pain levels and increased satisfaction underlines the significance of sufficient analgesia. The researchers emphasize the importance of personalized pain treatment, frequent pain evaluation, and patient participation in the decision-making process. These practices can be enhanced to help better recovery, decrease complications, and improve the overall quality of healthcare.

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