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# Short-Term Perception of Recovery after Surgical Removal of Impacted Third Molar

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Short Study

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## ABSTRACT

**Background:** The surgical removal of third molars, or wisdom teeth, is a common oral and maxillofacial procedure that often presents postoperative challenges such as pain, swelling, and restricted jaw function. While clinical recovery parameters are well-documented, patient-perceived recovery progress remains variable and influenced by multiple factors.

**Objective:** This study aims to assess the subjective experiences of patients undergoing third molar extraction, focusing on perceived pain levels, postoperative swelling, functional recovery, and complications during the first postoperative week.

**Methods:** A three-month observational study was conducted at the Department of Oral and Maxillofacial Surgery, Institute of Dental Sciences, BIU, Bareilly. The study included 45 healthy adult patients (aged 18-35 years) who underwent surgical third molar extraction. Data collection involved patient-reported outcomes assessed at 24 hours, 72 hours, and 7 days postoperatively. Parameters included pain levels (measured using the Visual Analogue Scale), difficulty in mouth opening, swelling, and complications. A structured questionnaire was used to evaluate the impact of surgery on daily activities, social interactions, and overall quality of life.

**Results:** The majority of patients reported significant postoperative discomfort, with peak pain occurring within the first 24 hours (VAS score of 6). Swelling was most pronounced on the second postoperative day before gradually subsiding. Functional limitations, such as restricted mouth opening and chewing difficulties, were most evident during the first three days but improved over the study period. A small proportion of patients reported delayed healing and temporary difficulty in mouth opening as complications. Despite these challenges, most patients rated their overall recovery experience as positive, with effective pain management contributing to satisfactory outcomes.

**Conclusion:** Third molar extraction significantly affects patients' quality of life during the early postoperative phase, with pain, swelling, and functional impairment being primary concerns. However, patient education, effective analgesic use, and proper postoperative care can enhance recovery experiences. The findings highlight the need for individualized patient management strategies to improve overall satisfaction and optimize postoperative recovery.

**Keywords:** Patient Perception, Postoperative Recovery, Pain Assessment, Quality of Life, Third Molar Extraction, Swelling.

## Introduction

The surgical removal of third molars, commonly referred to as wisdom teeth, is one of the most frequently performed procedures in oral and maxillofacial surgery.[1] While the procedure is often straightforward, it is not without postoperative challenges, including pain, swelling, restricted jaw movement, and difficulty in resuming normal daily activities.[2] These factors collectively influence the patient's perception of recovery, particularly during the critical early days following the surgery.[3] Despite advances in surgical techniques and postoperative care protocols, patients' subjective experiences of recovery remain highly variable.[4]

The concept of "perceived recovery progress" is significant because it reflects not only the physiological aspects of healing but also the psychological and social dimensions of the recovery process.[5] For example, two patients with similar clinical outcomes may perceive their recovery differently depending on factors such as pain tolerance, expectations, anxiety levels, and the extent to which postoperative symptoms disrupt their daily routines.[6] Understanding this perception is crucial, as it can impact patient satisfaction, adherence to postoperative instructions, and the risk of complications such as dry socket or delayed healing due to inadequate self-care.[7]

The study seeks to investigate the short-term perceived recovery progress among patients who have undergone surgical removal of their third molars. Specifically, it aims to explore how patients assess their recovery within the first week post-surgery and to identify the factors that influence these perceptions.[8] Key dimensions of recovery perception to be examined include the intensity and duration of pain, the severity of swelling, the resumption of normal activities (e.g., eating, speaking, and social interactions), and the psychological responses such as stress or frustration associated with recovery challenges.[9]

Additionally, this research acknowledges the importance of contextual factors such as patient demographics, surgical complexity, and pre-existing health conditions.[10] By integrating these variables, the study aims to provide a more comprehensive understanding of perceived recovery progress and its determinants.

Ultimately, the findings of this study have the potential to enhance patient care by enabling healthcare providers to better manage patient expectations, optimize pain and symptom management strategies, and deliver personalized postoperative care that aligns with individual needs and experiences.[11] In doing so, this research contributes to the broader goal of improving patient-centered outcomes in oral and maxillofacial surgery.

## Aim

To investigate and understand the subjective experiences, perceptions, and factors influencing the perceived short-term recovery progress among patients undergoing surgical extraction of third molars.

## Objectives

- To assess perceived pain levels using the Visual Analogue Scale.
- To evaluate postoperative swelling and edema.
- To examine functional recovery.
- To identify any other complications and adverse events.

## Materials and Methods

It is an observational study of 3 months from April 2024 till June 2024 conducted in the Department of Oral and Maxillofacial Surgery, Institute Of Dental Sciences, BIU, Bareilly consisting of patients who reported to the department for third molar removal. Inclusion criteria consisted of patients who are healthy adult individuals between 18-35 years without any underlying medical conditions, patients under American Society of Anesthesiologists 1

and 2, patients with impacted or partially impacted third molars requiring surgical extraction, patients willing to give informed consent and patients with ability to understand and respond to assessments in Department of Oral and Maxillofacial Surgery over the given period of 3 months. Exclusion criteria includes pregnant or lactating women, patients with underlying medical conditions, patients taking medications such as corticosteroids or immunosuppressants, patients with conditions that may impair their ability to comprehend study instructions.

Participants were informed of the full study information through the Participant Information Sheet. Written informed consent of all the patients was taken in their vernacular language. The data of all subjects were recorded on a customized case history Performa. The questionnaire was given to the patient.

Healthy patients (ASA I or II) older than 18 years requiring surgical removal of impacted lower third molar were selected. The third molar was removed using standard moore and gilby collar technique[10] using bur. After wound closure antibiotic and a non-steroidal anti-inflammatory drug was be prescribed. After 7 days, patients will be recalled for removal of the sutures.

The patients were recalled after 24 hrs and 72 hrs post operatively to check for oral hygiene status and general oral examination and will be given a questionnaire to be filled on each sitting.

Patients failing to return the questionnaire will be excluded from the study. The questionnaire will be based on evaluation of quality of life after third molar extraction and will comprise different items addressing social isolation, working isolation, eating ability and diet variations, speaking ability, sleep impairment and physical appearance.

The following parameters were assessed during follow-up postoperatively at 24 hrs, 72 hrs, and 7th day-

- Pain levels using the Visual Analogue Scale[9] after 24 hrs.
- Difficulty in mouth opening
- Swelling or inflammation[11]
- Any complications or unexpected side effects.

**Results**

During the study, 45 enrolled patients underwent surgery and were invited to participate in this research. The research was done in the period from April to June 2024. From the total initial sample, 45 patients returned with complete data, corresponding to 45 third molar extractions.

According to Winter's classification, most teeth were in a vertical position, followed by a mesioangular, horizontal, and distoangular position. (Fig 7).

A total of 45 patients were included in the study out of which 20 were male and 25 were female, which showed a female predominance. (Fig 6)

Healthy adult individuals between age range of 18-35 years were included in the study.

When patients were asked about the impact of third molar surgery on daily activities they presented the following perceptions.

According to present data patient shows the overall experience during the immediate postoperative period following the surgical extraction of subject's third molars and rating of perceived short term recovery progress following the surgical extraction. Majority subjects rated their experience as 8 (close to excellent).

When the subjects were asked regarding their level of pain after 24 hours after the extraction, majority rated their pain as 6 on the pain measurement scale.(Fig 1)

Patient shows restriction in daily routine and entertainment activities, in the postoperative week, followed by restriction in talking. Activities that presented lower restriction levels were social life, work/study, and sleeping. Restrictions for the first 2 items were moderate on the first day and then presented gradual improvement. In the case of sleeping, restriction was minimal during the entire week.

The symptom that presented the highest average among patients was swelling. According to patient perception, the peak occurred on the second postoperative day, with gradual regression toward the end of the evaluation period. (Fig 2)

When the subjects were asked regarding their level of pain, most of them rated it on a scale of 6 and in terms of their satisfaction level, most patients found the information and guidance provided by their healthcare provider as satisfactory. (Fig 3)

Patients were also requested to record the use of analgesics for pain control during the postoperative period. (Fig 4) Shows that most subjects found pain medication as prescribed to them as very effective.

A small number of patients reported experiencing complications or unexpected side effects, such as difficulty in mouth opening post their surgical extraction as well as delayed healing which was found to be the most common side effect. (Fig 5)

Patients were also requested to register peak and average pain perceived in the first postoperative week based on a VAS. The highest average of both peak of pain and average daily pain occurred on the first day. It is important to emphasize that the most significant difference between peak of pain and average daily pain also occurred on the first day. The second postoperative day shows the most significant decrease in pain perception. On the third day, both peak of pain and average daily pain were reported to have a slight decrease, after which there was a gradual improvement until the sixth day for average daily pain, and the fifth day for peak of pain. On the seventh day there was little change regarding average daily pain, whereas peak of pain came closer to the average perception of daily pain.

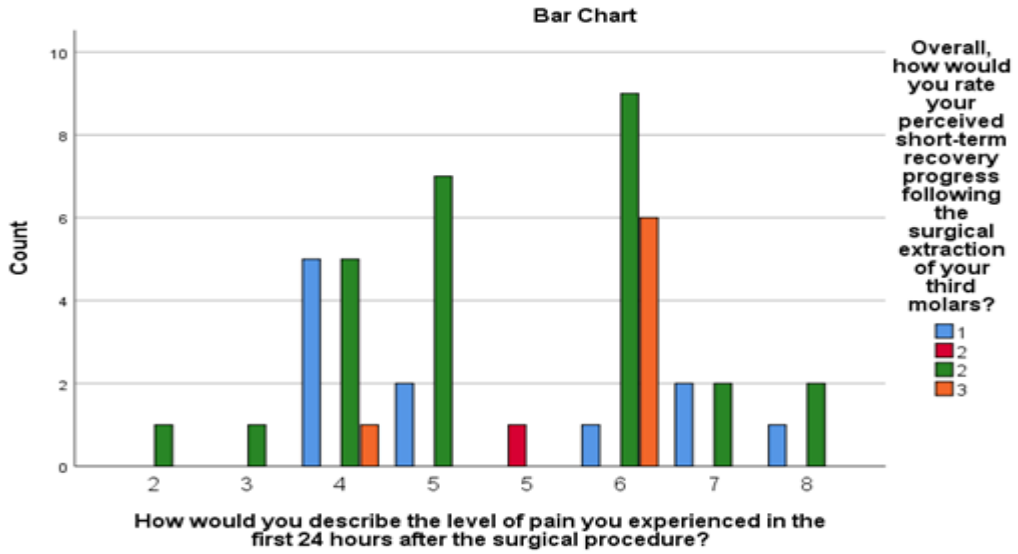


**Figure 1. Overall experience of patient immediate postoperative and after 24 hrs.**

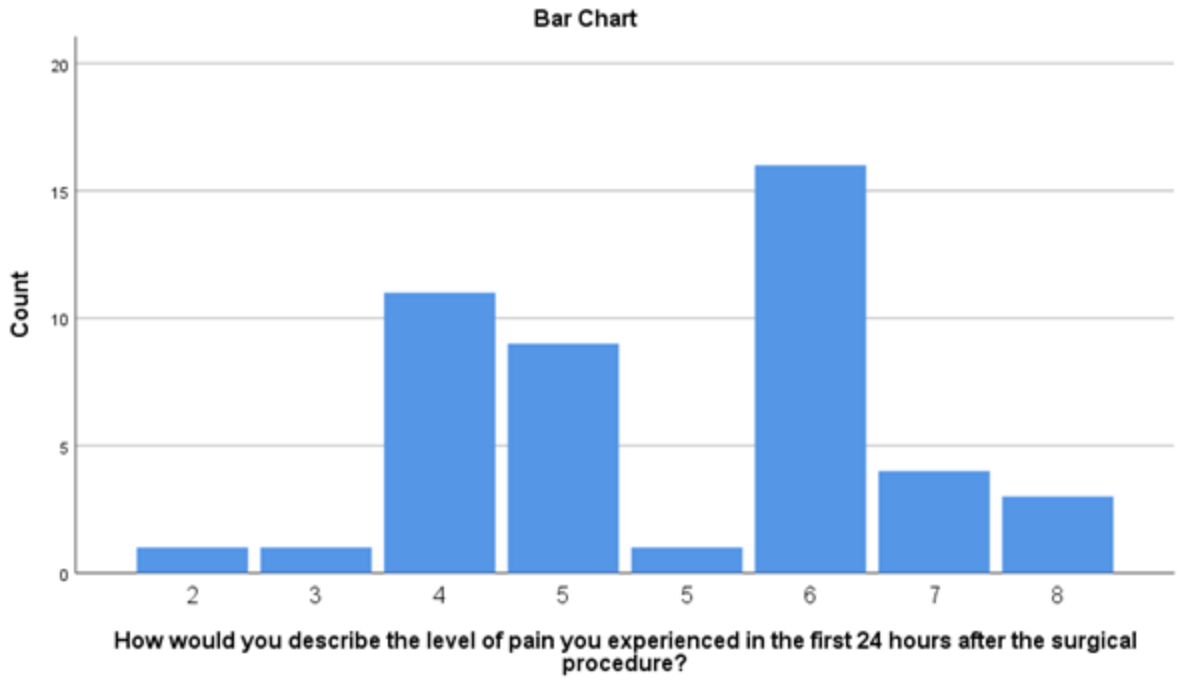


**Figure 2: Shows that the maximum patients experienced swelling/inflammation post-extraction.**

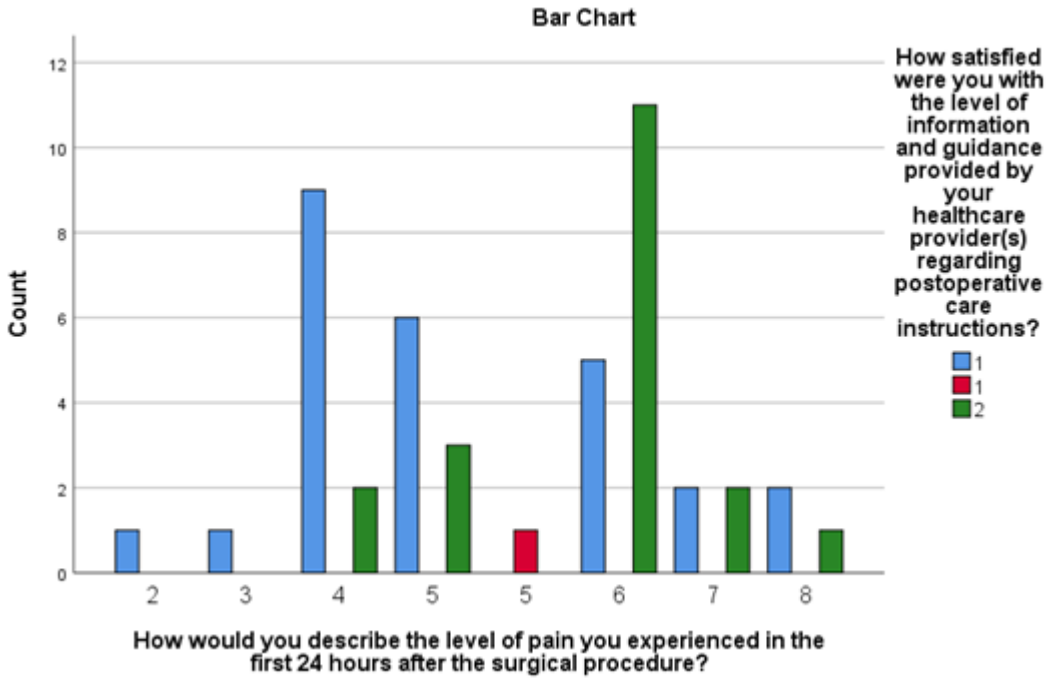


**Figure 3: Shows that when the subjects were asked regarding their level of pain, most of them rated it on a scale of 6 and in terms of their satisfaction level, most patients found the information and guidance provided by their healthcare provider as satisfactory.**

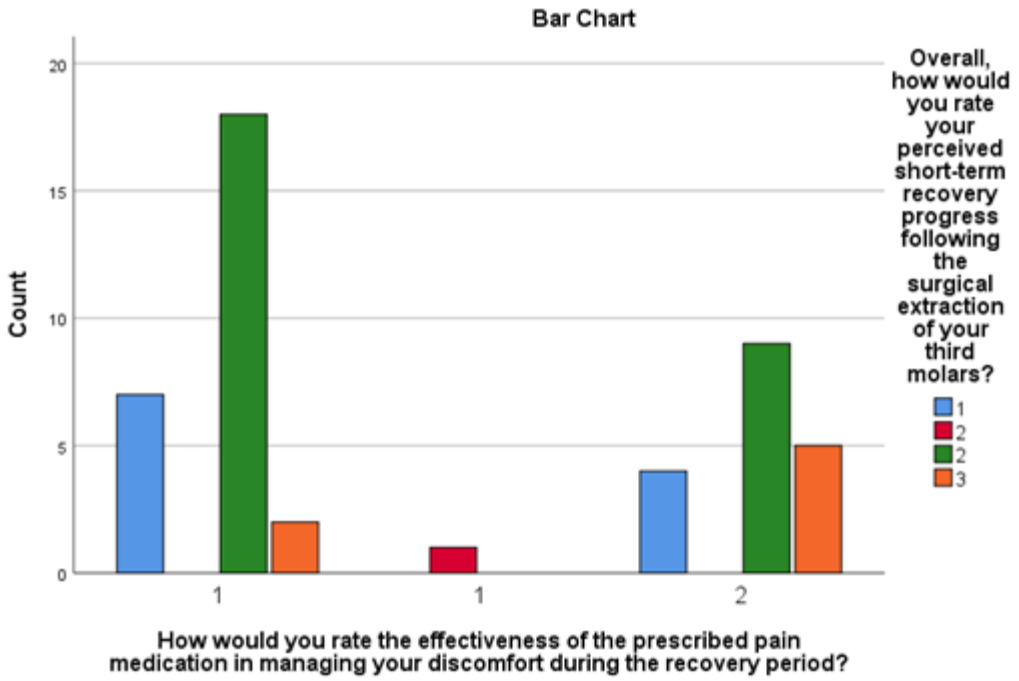


**Figure 4: Shows that most subjects found pain medication, as prescribed to them as very effective.**

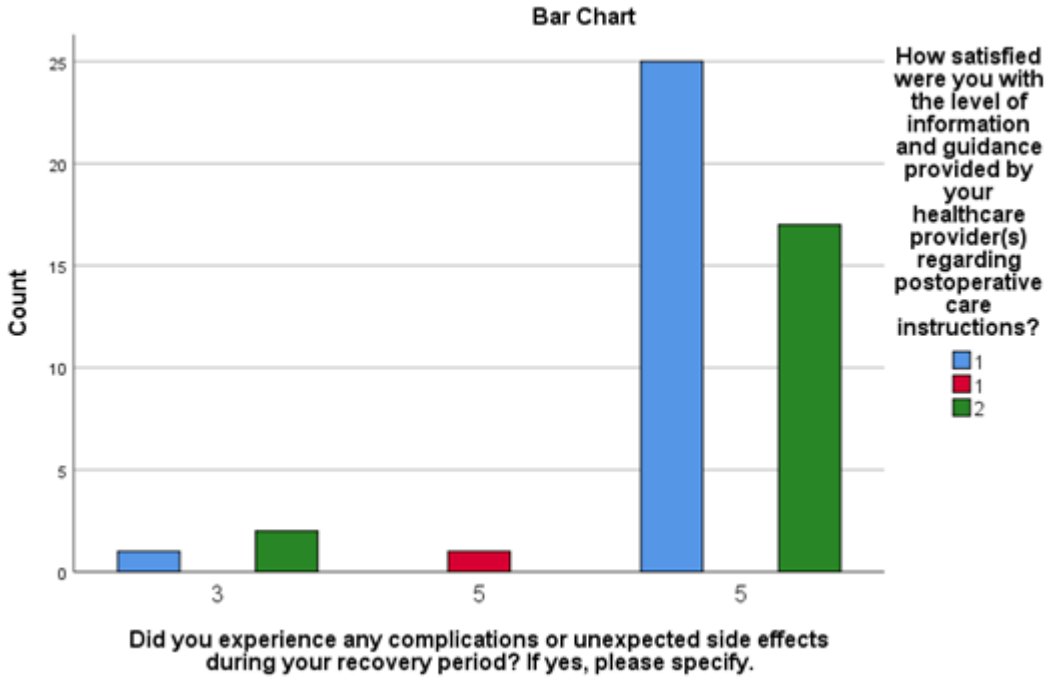


**Figure 5: Shows that most subjects had difficulty in mouth opening post their surgical extraction as well as delayed healing was found to be the most common side effect.**

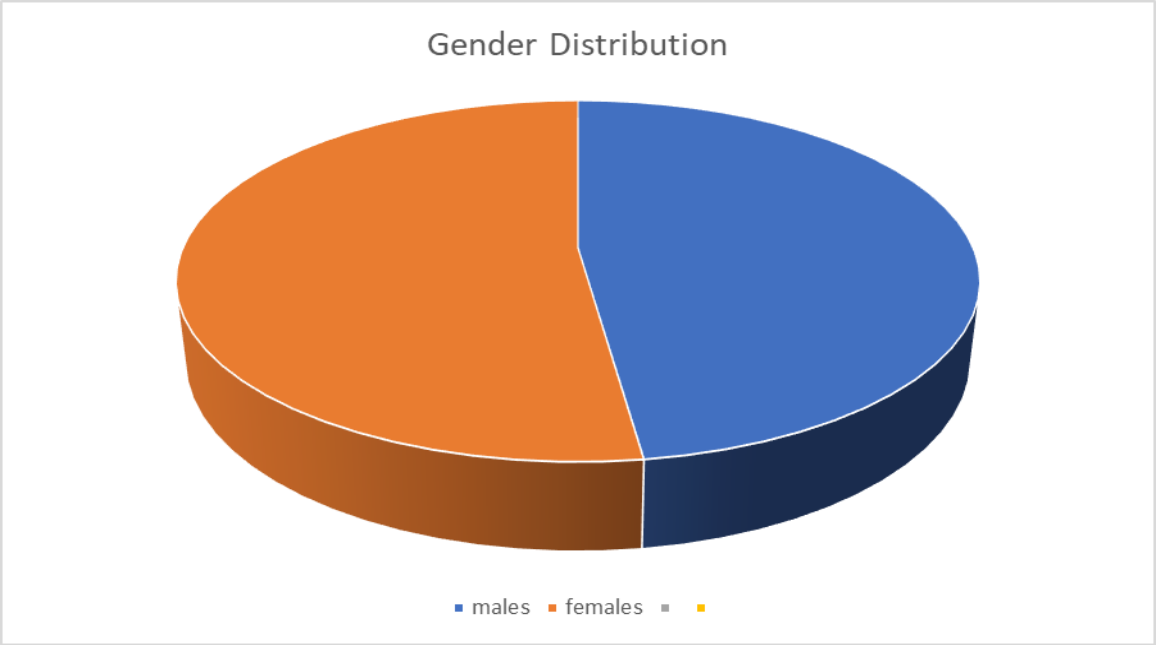


**Figure 6: Gender-wise Distribution.**

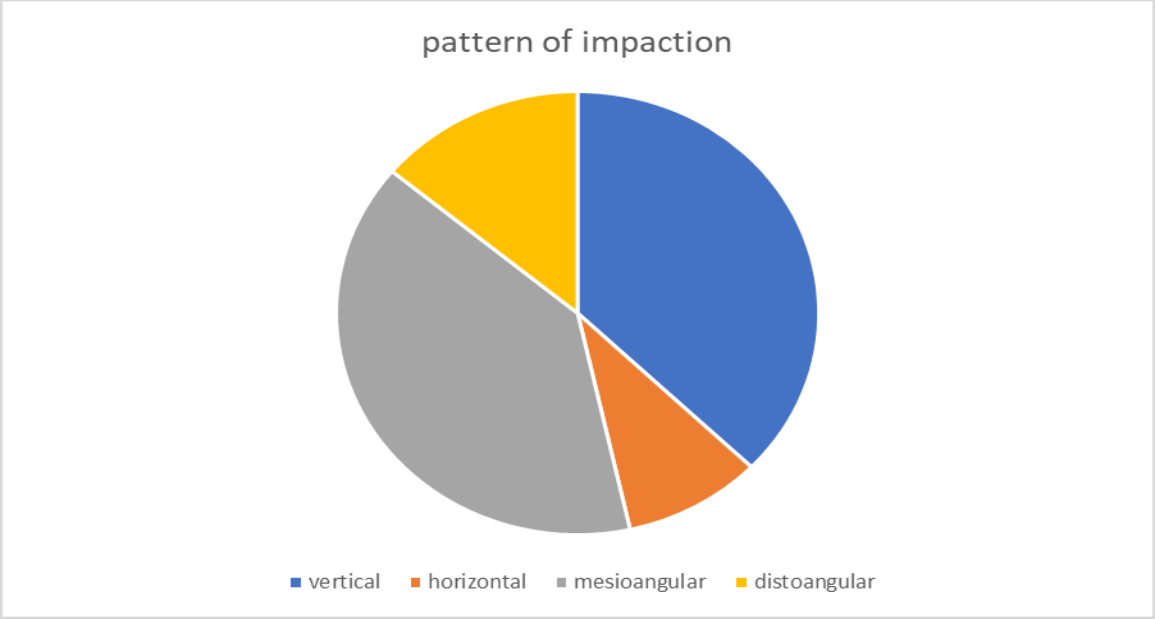


**Figure 7: Pattern of Impaction Distribution showed that vertical impaction was the most common pattern of impaction amongst study subjects.**

Classification of third molars in accordance with Winter

**Discussion**

The findings of this study indicate that third molar surgery significantly affects various aspects of a patient's quality of life, particularly in the first few postoperative days. Although it is widely acknowledged that patients experience difficulties following third molar extraction, the literature remains limited regarding the specific aspects of

daily life that are impacted. This study provides a general overview of patient perception over a one-week period post-surgery. The primary limitations affecting daily activities post-surgery were identified as chewing and mouth opening/trismus, with majority of patients reporting these difficulties on the first day. These results align with previous research, such as Shugars et al[12] who found that 95% of patients experienced difficulty eating within the first two days postoperatively. Similarly, studies by Savin and Ogden[13] corroborate these findings.

Interference with work and studies was reported to be minimal, consistent with previous studies. Variability in this aspect could stem from differences in individual pain perception, treatment expectations, or cultural attitudes toward illness. The study also found that sleep disturbances were comparable to findings in the literature but were not a significant concern for most patients. Regarding symptoms, the prevalence of swelling was slightly higher than other symptoms.

Pain control was managed effectively, with analgesics prescribed for the first three days when pain perception was highest. This approach aligns with studies by White et al[14] and Conrad et al., which reported that pain was most severe within the initial three days post-surgery. Notably, analgesic use in this study ceased earlier than in similar studies, such as that of Shugars et al[12] where 46% of patients were still using pain medication on day seven.

Furthermore, studies suggest that women may experience more intense post-surgical pain due to a higher prevalence of alveolitis compared to men.

Well-informed patients who actively participate in treatment decisions may have higher satisfaction rates, regardless of surgical outcomes. Lindsay[16] reported that 41% of adults in the UK delayed dental visits due to fear, and Fraser and Hampson[17] noted that patients tend to be more apprehensive about surgical procedures that occur infrequently, such as third molar extractions. Additionally, they highlighted the need for improved training among dentists to manage patient anxiety effectively.

According to Earl[18] 88% of patients reported experiencing less or the same amount of pain postoperatively compared to their preoperative expectations. However, 43% of these patients still feared undergoing the procedure again. These findings reinforce the importance of managing patient expectations, providing effective pain management strategies, and improving communication to reduce preoperative anxiety. Future research should continue exploring ways to optimize pain control and patient experience following third molar extraction.

## Conclusion

The results of patient perception records demonstrate that lower third molar extraction has a notable impact on patients' quality of life and overall well-being, particularly during the initial three days following surgery. The most commonly reported limitations were restricted mouth opening and difficulty chewing, primarily due to swelling, which emerged as the most prominent postoperative symptom. Pain levels were highest on the first day, which were easily managed by analgesics. Some patients reported experiencing complications or unexpected side effects, such as difficulty in mouth opening post their surgical extraction as well as delayed healing which was found to be the most common side effect.

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