Selcuk Dental Journal 13/2 (Ağustos 2026): 216-220

Research / Araştırma Makalesi

Assessment of Patient Satisfaction in Relation to Postoperative Morbidity After Surgical Removal of Impacted Third Molars

Gömülü Üçüncü Azı Dişlerinin Cerrahi Olarak Çıkarılmasından Sonra Ameliyat Sonrası Morbiditeye İlişkin Hasta Memnuniyetinin Değerlendirilmesi

Aylin ÇALIŞ[α], **Yıldız ÜNÜVAR**[β], **Zelal GÜNDÜZ**[α], **Candan EFEOĞLU**[€], **Banu ÖZVERİ KOYUNCU**[α]

[α]Ege University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İzmir, Türkiye
[α]Ege Üniversitesi, Diş Hekimliği Fakültesi, Ağız, Diş ve Çene Cerrahisi AD, İzmir, Türkiye
[β]İzmir Tınaztepe University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İzmir, Türkiye
[β]İzmir Tınaztepe Üniversitesi, Diş Hekimliği Fakültesi, Ağız, Diş ve Çene Cerrahisi AD, İzmir, Türkiye
[€]Dokuz Eylül University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, İzmir, Türkiye
[€]Dokuz Eylül Üniversitesi, Diş Hekimliği Fakültesi, Ağız. Diş ve Çene Cerrahisi AD, İzmir, Türkiye

ABSTRACT

Background/Aim: Impacted third molar extraction is a common oral surgical procedure, and beyond surgical outcomes, patient satisfaction is an important indicator of care quality. This study aimed to evaluate patient satisfaction, postoperative complications, and factors influencing these outcomes.

Materials and Methods: A total of 369 patients who underwent impacted mandibular or maxillary third molar extraction between July 2022 and November 2023 at Ege University were included. Demographic characteristics, preoperative symptoms, surgical details, and complications were recorded. The Pell and Gregory classification was used for mandibular molars. Satisfaction was assessed using a Numeric Rating Scale (NRS) and a survey addressing patients' experiences with the procedure. Statistical analyses examined associations between demographic and clinical factors with satisfaction scores.

Results: Among the patients, 30.62% were male and 69.38% female, with a mean age of 24.6 years. Preoperative symptoms were reported by 59.89%, most commonly pain (58.54%). Postoperative complications occurred in 27.91% of cases, primarily pain lasting longer than 72 hours (24.66%), trismus (7.32%), paresthesia (1.90%), and alveolitis (1.63%). Despite these complaints, overall satisfaction levels were high: 49.32% rated their experience as 10/10, and 96.75% expressed willingness to return to the clinic for future care.

Conclusion: Although postoperative discomfort was frequent, patient satisfaction remained high. Effective communication, adequate pain management, and accessible postoperative support appear to play key roles in enhancing the patient experience. Incorporating patient-centered approaches may help further improve outcomes and satisfaction.

Keywords: Third molar surgery; Patient satisfaction; Postoperative complications; Oral surgery; Visual analog scale.

ÖZ

Arka Plan/Amaç: Gömülü üçüncü azı dişinin çekilmesi yaygın bir ağız cerrahisi işlemidir ve cerrahi sonuçların ötesinde, hasta memnuniyeti bakım kalitesinin önemli bir göstergesidir. Bu çalışmanın amacı, hasta memnuniyetini, ameliyat sonrası komplikasyonları ve bu sonuçları etkileyen faktörleri değerlendirmektir.

Gereç ve Yöntem: Temmuz 2022 ile Kasım 2023 tarihleri arasında Ege Üniversitesi'nde mandibular veya maksiller gömülü üçüncü azı dişi çekimi geçiren toplam 369 hasta çalışmaya dahil edilmiştir. Demografik özellikler, ameliyat öncesi semptomlar, cerrahi detaylar ve komplikasyonlar kaydedilmiştir. Mandibular molarlar için Pell ve Gregory sınıflandırması kullanılmıştır. Memnuniyet, Sayısal Değerlendirme Ölçeği (NRS) ve hastaların işlemle ilgili deneyimlerini ele alan bir anket kullanılarak değerlendirilmiştir. İstatistiksel analizlerde, demografik ve klinik faktörlerle memnuniyet puanları arasındaki ilişkiler incelenmiştir.

Bulgular: Hastaların %30,62'si erkek, %69,38'i kadındı ve ortalama yaş 24,6 idi. Hastaların %59,89'u ameliyat öncesi semptomlar bildirdi; en sık görülen semptom ağrıydı (%58,54). Ameliyat sonrası komplikasyonlar vakaların %27,91'inde görüldü; bunlar başlıca 72 saatten uzun süren ağrı (%24,66), trismus (%7,32), parestezi (%1,90) ve alveolit (%1,63) idi. Bu şikayetlere rağmen genel memnuniyet düzeyi yüksekti: %49,32'si deneyimlerini 10/10 olarak değerlendirdi ve %96,75'i gelecekte tedavi için kliniğe tekrar gelmeye istekli olduğunu belirtti.

Sonuç: Ameliyat sonrası rahatsızlık sık görülse de hasta memnuniyeti yüksek seviyede kalmıştır. Etkili iletişim, yeterli ağrı yönetimi ve erişilebilir ameliyat sonrası destek, hasta deneyimini iyileştirmede kilit rol oynuyor gibi görünmektedir. Hasta odaklı yaklaşımların benimsenmesi, sonuçların ve memnuniyetin daha da iyileştirilmesine yardımcı olabilir.

Anahtar Kelimeler: Üçüncü azı dişi ameliyatı; Hasta memnuniyeti; Ameliyat sonrası komplikasyonlar; Ağız cerrahisi; Görsel analog ölçek.

Introduction

The extraction of impacted third molars is one of the most frequently performed minor surgical procedures in dentistry. The decision to extract these teeth is based on a thorough evaluation of clinical symptoms and radiological findings. The most common indications for extraction include preoperative symptoms such as pain, swelling, and trismus, as well as clinical and radiological diagnoses of acute pericoronitis, dental caries, localized or spreading facial infections, or combinations of these conditions. In cases where patients are asymptomatic, extraction may still be necessary due to periodontal disease, cysts, or tumors detected incidentally on panoramic radiographs. Additionally, impacted third molars may be associated with myofascial or atypical pain in the affected quadrant. Furthermore, asymptomatic, non-functional third molars may be extracted as part of prosthetic or orthodontic treatment planning.[1]

The complexity of impacted third molar extractions varies depending on multiple factors, necessitating classification systems to assess surgical difficulty. This study was used the Pell and Gregory classification, which categorizes lower third molars based on their horizontal distance relative to the anterior border of the ramus and second molar. Additionally, it contains evaluates the depth of impaction in both the lower and upper jaws. The purpose of this classification is to assess the surgical approach difficulty by considering the mesiodistal dimension in the lower jaw and the vertical position in the upper jaw concerning occlusal and cervical planes.[2,3]

The duration and complexity of third molar extractions are influenced by several factors, including the tooth's position, depth within the bone, patient-specific systemic conditions, and overall patient cooperation. Prolonged extraction times are associated with increased complication rates.[4,5] Additional risk factors for postoperative complications include patient age, gender, presence of pericoronitis,

Gönderilme Tarihi/Received: 10 Aralık, 2025
Kabul Tarihi/Accepted: 12 Mayıs, 2026
Yayınlanma Tarihi/Published: 24 Ağustos, 2026
Atıf Bilgisi/Cite this article as: Çalış A, Ünüvar Y, Gündüz Z, Efeoğlu C, Özveri Koyuncu B. Assessment of Patient Satisfaction in Relation to Postoperative Morbidity After Surgical Removal of Impacted Third Molars. Selcuk Dent J 2026;13(2): 216-220 Doi: 10.15311/selcukdentj.1838302

Sorumlu yazar/Corresponding Author: Zelal GÜNDÜZ
E-mail: zelalgunduz98@gmail.com
Doi: 10.15311/selcukdentj.1838302

oral hygiene status, smoking habits, and the use of birth control pills. Surgical technique, irrigation, anesthesia type, and surgeon experience also significantly impact complication development.[6]

Impacted third molars may lead to various complications, including pericoronitis, root resorption, dental caries, periodontitis, localized or facial infections, cysts, tumors, and mandibular fractures. Postoperative complications may include alveolitis, infection, pain, swelling, trismus, bleeding, nerve damage, mandibular or maxillary tuberosity fractures, displacement of tooth fragments into anatomical spaces, injury to adjacent teeth, or temporomandibular joint issues[7,8,9].

Preoperative assessment is crucial for predicting surgical difficulty and informing patients about expected outcomes, including operation duration, difficulty level, postoperative pain, and potential complications.[10] Radiological evaluation aids in anticipating possible challenges and risks associated with the tooth's position.[11]

Understanding the factors that enhance patient satisfaction can provide valuable insights for clinicians seeking to deliver optimal care. In oral and maxillofacial surgery, including the management of impacted third molars, many practitioners primarily focus on achieving favorable surgical outcomes. However, a significant disparity exists between the provision of ideal clinical care and patients' perception of such care, as most patients lack the technical knowledge required to assess surgical success. Given that patient satisfaction ultimately determines the acceptability of a service, it is essential for clinicians to recognize patient needs and preferences in order to refine and enhance the quality of care provided.

The aim of this study is to evaluate the prevalence of complications and patient satisfaction following impacted third molar surgery in a university hospital. A key objective is to determine the risk factors contributing to these complications. It is hypothesized that while the types of complications remain consistent with findings from previous studies, their incidence rates may vary. The spesific aim was to identify key factors influencing patient satisfaction, particularly in relation to the treatment center and the quality of care delivered by both medical practitioners and administrative staff following third molar surgery. By evaluating these aspects, this research seeks to contribute to the development of more patient-centered approaches, thereby improving overall treatment experiences and outcomes.

Material and Methods

Study Design

This study was designed as a cross-sectional study to evaluate patient satisfaction and postoperative complications following the surgical removal of impacted third molars in a university hospital setting. Data were collected from patients who underwent impacted third molar surgeries at the Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, xxx University, between July 2022 and November 2023. A total of 400 patients were initially considered; however, due to incomplete evaluation reports, 31 patients were excluded, and the final study cohort comprised 369 patients.

The study was approved by the Ege University Social and Human Sciences Scientific Research and Publication Ethics Council. (Number of Meetings/Decisions:07/12-protocol number:1559)

Patients were eligible for inclusion if preoperative panoramic radiographs and postoperative follow-up records were available. Data were extracted from patient records and case report forms. Mandibular impacted third molars were classified according to the Pell and Gregory classification system. The recorded variables included demographic characteristics (age and sex), preoperative clinical findings (pain and swelling), surgical variables (type of flap: envelope or triangular), and postoperative complications assessed at the postoperative day 7 follow-up visit for suture removal. Postoperative complications included inferior alveolar nerve and/or lingual nerve sensory disturbance, alveolar osteitis, postoperative infection, bleeding requiring hospital readmission, pain persisting beyond 72 hours, and trismus.

Additional data on patient experience were collected, including waiting times for an appointment, the patient's place of origin for treatment, and their willingness to choose the same clinic for future procedures. Patient satisfaction was assessed using the NRS (Numeric Rating Scale) to quantify their perception of the care provided. This analysis aimed to identify factors associated with both patient satisfaction and postoperative complications to improve clinical practices and enhance patient outcomes.

Study Variables

The primary outcome variable was the presence or absence of postoperative complications following impacted third molar extraction. The secondary outcome variable was the classification of postoperative complications into five categories: (1) infection (alveolar osteitis, abscess, or other surgical site infections), (2) neurosensory disturbance (n.lingualis, n.alveolaris inferior, n.buccalis nerve paresthesia), (3) prolonged pain persisting beyond 72 hours postoperatively, (4) postoperative bleeding necessitating hospital readmission, and (5) other complications such as trismus.

Patient-related explanatory variables included age, sex, preoperative symptoms (pain, swelling, or both),

Surgery-related explanatory variables included the classification of mandibular impaction according to the Pell and Gregory system, the type of surgical flap used (envelope or triangular) The acuteness of the extraction was categorized as either elective or due to an acute odontogenic infection (pain, swelling, pus, or pericoronitis with symptoms).

Patient satisfaction-related variables included waiting time for an appointment, distance to hospital, willingness to return to the same clinic for future procedures, and overall satisfaction assessed using the NRS.[12]

Statistical Analysis

Statistical analyses were performed using SAS software version 9.4 (SAS Institute Inc., Cary, NC, USA). Descriptive statistics were used to summarize the study data. Continuous variables were presented as mean ± standard deviation, whereas categorical variables were expressed as frequencies and percentages. For comparative analyses, patient satisfaction scores were dichotomized into lower (<7) and higher (≥7) satisfaction groups based on the 10-point Numeric Rating Scale (NRS). Associations between categorical variables and satisfaction groups were evaluated using the chi-square test, likelihood ratio chi-square test, or Fisher's exact test, as appropriate. For ordinal or non-normally distributed numerical variables, the Kruskal–Wallis test was used. A p-value of <0.05 was considered statistically significant.

Results

A total of 369 patients were included in the study, comprising 113 males (30.62 %) and 256 females (69.38 %). Descriptive statistics of patient-related variables are presented in **Table 1**. The distribution of extracted third molars was as follows: 14 upper right (3.80 %), 14 upper left (3.80 %), 174 lower left (47.16 %), and 167 lower right (45.24 %).(**Table 2**)

Table 1. Distribution of demographic characteristics of the study population

Characteristic	Frequency (n)	Percent (%)
Age		
Mean 24.6 ±14,07		
Sex		
Male	113	31
Female	256	69

Table 2. Classification of impacted third molars and preoperative symptoms

Characteristic	Frequency (n)	Percent (%)
Side of Surgery		
Maxilla	28	7,6
Mandible	341	92,4
Pell And Gregory Classification		
Class I	112	30,43
Class II	200	54,35
Class III	29	7,61
Class A	166	44,99
Class B	137	37,13
Class C	66	17,89
Preoperative Symptoms		
Yes	221	59.89
No	148	40.11
Preoperative Pain	216	58,54
Preoperative Swelling	52	14,09

Impacted third molars were classified according to the Pell and Gregory classification system. Maxillary third molars were excluded from this classification, as the system is specifically designed for mandibular impactions. Among the mandibular third molars, 112 (30.43 %) were categorized as Class 1, 200 (54.35 %) as Class 2, and 28 (7.61 %) as Class 3. In terms of vertical positioning, 166 teeth (44.99 %) were classified as Position A, 137 (37.13 %) as Position B, and 66 (17.89 %) as Position C. This depth-based classification included both maxillary and mandibular third molars.(**Table 2**)

Preoperative symptoms were reported in 221 patients, accounting for 59.89 % of the total study population, while the remaining 148 patients (40.11 %) were asymptomatic at the time of referral. Among those with symptoms, the most frequently reported complaint was pain, present in 216 individuals (58.54 %). Additionally, 52 patients (14.09 %) experienced swelling prior to surgery. These findings indicate that a substantial proportion of the study population presented with preoperative discomfort, with pain being the predominant symptom.(**Table 2**)

Postoperative complaints were reported in 103 patients (27.91 %), while 266 patients (72.09 %) did not experience any postoperative issues. The most common complaint was pain persisting beyond 72 hours, reported in 91 cases (24.66 %). This was followed by trismus in 27 patients (7.32 %), paresthesia in 7 patients (1.90 %), and alveolitis in 6 patients (1.63 %). Postoperative bleeding requiring hospital readmission occurred in 2 cases (0.54 %), while only 1 patient (0.27 %) developed a postoperative infection. Paresthesia was observed in 7 patients (1.90 %). All reported neurosensory disturbances were related to inferior alveolar nerve involvement and manifested as numbness in the lower lip. No cases of lingual nerve dysesthesia were observed in this study. A comprehensive distribution of postoperative complaints is presented in **Table 3**.

Table 3. Distribution of postoperative complications

Characteristic	Frequency (n)	Percent (%)
Postoperative Complaints		
Yes	**103**	**27,91**
No	**266**	**72,09**
Postoperative Complaints		
Paresthesia	**7**	**1,9**
Alveolitis	**6**	**1,63**
Bleeding	**2**	**0,54**
Pain After 72h	**91**	**24,66**
Trismus	**27**	**7,32**
Infection	**1**	**0,27**

Regarding patient experience, 260 patients (70.46 %) considered the appointment waiting time to be acceptable, while 109 patients (29.54 %) reported dissatisfaction with waiting times. When asked whether they would prefer the same clinic for future surgical procedures, 357 patients (96.75 %) responded positively. The majority of patients (92.68 %) resided in İzmir, whereas 27 patients (7.32 %) traveled from outside the province for treatment.

Patient satisfaction was further assessed using the Numeric Rating Scale (NRS). Patients were asked to rate their overall satisfaction with the treatment experience on a scale from 1 to 10. High satisfaction scores predominated, with a score of 10 being the most frequently reported response. The distribution of NRS scores is presented in **Table 4**.

Table 4. Distribution of Numeric Rating Scale (NRS) scores regarding patient satisfaction.

NRS	Frequency (n)	Percent (%)
1	1	0,27
2	1	0,27
3	4	1,08
4	2	0,54
5	9	2,44
6	11	2,98
7	32	8,67
8	65	17,62
9	62	16,8
10	182	49,32

For comparative analyses, patient satisfaction scores were dichotomized into lower (<7) and higher (≥7) satisfaction groups. No statistically significant associations were observed between satisfaction group and Pell and Gregory class (p=0.2078), depth of impaction (p=0.5618), presence of preoperative complaints (p=0.8417), preoperative pain (p=1.0000), preoperative swelling (p=0.7806), or the number of previous symptom episodes (p>0.05). Likewise, no significant association was found between satisfaction group and the presence of postoperative complications (p=0.6618). None of the specific postoperative complications, including paresthesia (p=0.4271), alveolar osteitis (p=0.3793), postoperative bleeding requiring hospital readmission (p=1.0000), pain persisting beyond 72 hours (p=0.6494), trismus (p=0.7084), and postoperative infection (p=1.0000), showed a significant association with satisfaction group. In contrast, willingness to choose the same clinic again for a future surgical procedure was significantly associated with higher satisfaction scores (p<0.0001).

Discussion

The surgical extraction of mandibular third molars, commonly referred to as lower wisdom teeth, is among the most frequently performed procedures in oral and maxillofacial surgery[13]. Although the surgery aims to alleviate pain, discomfort, pathological conditions, or prevent potential dental issues associated with these teeth, it is not without challenges. A range of complications may arise following the extraction of third molars, including alveolar osteitis (dry socket), temporary or permanent paresthesia, bleeding, sequestra, fistula formation, abscess, and hematoma[14,15]. Research indicates that surgical procedures and potential complications can significantly impact patients' quality of life. Dissatisfaction is often higher in the initial days following surgery; however, providing patients with clear and detailed postoperative instructions helps to alleviate this dissatisfaction and improve their overall experience[16]. In this study, the overall complaint rate was 27.9 %.

Studies on third molar extractions reveal that patient satisfaction can vary based on gender. Female patients tend to report higher levels of postoperative discomfort, including pain and swelling, compared to male patients, potentially affecting overall satisfaction. These differences may result from variations in pain perception and inflammatory response between genders. Additionally, females often experience longer surgery durations for cases with comparable surgical difficulty, which can further influence recovery experience and satisfaction levels after the procedure[17]. In our study, similar to the literature, the dissatisfaction rate was found to be higher among female patients compared to male patients, this difference was not statistically significant (p = 0.3933).

The Pell and Gregory classification is widely recognized for its importance in assessing the surgical difficulty of third molar extractions. Literature suggests that cases involving lower difficulty levels such as Class 1 impactions and Position A are typically associated with higher patient satisfaction. These types of impactions generally require less invasive surgical techniques, leading to shorter recovery times and a lower risk of complications. Conversely, Class 3 impactions and Position C, located in deeper and more challenging areas, often involve longer procedures and more complex postoperative management[18]. As a result, these patients tend to experience increased postoperative pain and swelling, which can negatively influence their overall satisfaction. In our study, although not statistically significant, satisfaction levels were similar in each group (p = 0.5618).

Many researchs indicates that pain after tooth extraction generally subsides significantly within 72 hours. Persistent or increasing pain, bad breath, and delayed healing in the extraction site can suggest dry socket, which occurs in 0.5-5.6 % of cases but can rise to 30 % for wisdom teeth extractions[19,20,21]. In this study, the rate of dry socket was 1.6 %, aligning with previous reports. While pain at 72 hours was assessed as potentially related to dry socket, 24.7 % of patients reported persistent pain, suggesting that patient-reported pain alone should not be used to diagnose dry socket.

Postoperative bleeding rates for mandibular and maxillary third molar extractions are reported to be 0.6 % and 0.4 %, respectively. It is widely considered that most post-extraction bleeding originates from the surrounding soft tissues rather than the socket. Suturing helps achieve hemostasis by applying tension to the edges of the flap, which reduces blood oozing from the tissues[22,23]. In our study, the bleeding rate was found to be 0.5 %, similar to the literature.

Inferior alveolar nerve injury, typically presenting with paresthesia or anesthesia of the lower lip, chin, and buccal gingivae on the affected side, has a reported incidence ranging from 0.26 % to 8.4 %. Similarly, lingual nerve injury, which commonly manifests as numbness in the ipsilateral anterior two-thirds of the tongue and taste disturbances,

has been reported with an incidence between 0.1 % and 22%[24]. In our study, the incidence of paresthesia was observed to be 1.9 %, which falls within the reported range for inferior alveolar nerve injuries but is notably lower than the upper limit of the incidence spectrum reported in the literature. This suggests that our outcomes align with the expected ranges, reflecting a relatively favorable nerve injury rate compared to the higher incidences cited in some studies. In the present study, all neurosensory disturbances were associated with inferior alveolar nerve involvement, presenting as numbness in the lower lip, and no cases of lingual nerve dysesthesia were detected. Also in this study, the incidence of trismus was measured at 7.3 %. This finding aligns with reported rates in the literature, where trismus commonly arises from surgical trauma, edema, and involvement of the masticatory muscles. The observed rate may also be influenced by factors such as the complexity of the procedure, surgical duration, and the extent of tissue manipulation. These results underscore the importance of meticulous surgical techniques and effective postoperative management to minimize such complications.

Patient satisfaction with dental treatment plays a critical role in shaping healthcare utilization patterns. High levels of satisfaction are associated with improved treatment adherence, reduced appointment disruptions, and lower experiences of pain and anxiety.

Numeric Rating Scale (NRS) is a valid and reliable tool for assessing pain intensity, allowing patients to quantify their pain using a numerical range. It has been shown to be sensitive to changes in pain levels and demonstrates consistent results across different patient populations. Moreover, NRS has been reported to measure constructs comparable to other commonly used pain assessment tools, showing significant correlations with them.[25]

Patient satisfaction is a critical aspect of the overall success of oral surgery, impacting both the short- and long-term outcomes of surgical procedures. In the context of oral and maxillofacial surgery, patient satisfaction goes beyond just the technical success of the procedure—it encompasses the patient's emotional, psychological, and social well-being throughout the treatment process. In this study, 96.7% of the patients expressed their satisfaction by responding affirmatively to the question, "If you were to undergo another surgical procedure, would you choose to have it performed at this clinic again?"

Limitations

The surgical procedures were performed by oral and maxillofacial surgery residents who had completed at least one year of residency training and by experienced specialists in the department. However, as the procedures were not performed by a single operator, variations in surgical experience may have influenced the outcomes and should be considered as a limitation of the study.

It will be possible to make the results meaningful with a larger number of patients.

Conclusion

The relationship between patient satisfaction and postoperative complications is crucial in determining the overall success of oral surgery. This study highlights that common complications following third molar surgery, such as pain, swelling, and bleeding, are significant sources of discomfort and concern for patients, sometimes prompting them to seek emergency care. Despite the occurrence of these complications, patient satisfaction remains a key outcome, as it is influenced not only by the technical success of the procedure but also by how effectively the complications are managed. Therefore, managing patient expectations and addressing complications in a compassionate and clear manner are essential for maintaining high levels of satisfaction, even in the presence of postoperative challenges.

Although most patients are satisfied with their waiting times for surgery, we believe that taking measures to further shorten the waiting time will increase satisfaction.

These are to speed up the process by matching the degree of difficulty of the surgeries with the doctor's experience and determining it on the surgery appointment sheet, and to ensure that wisdom tooth extractions, which are simple within the health system in our country, are performed in primary health centers and more difficult cases are brought to university hospitals.

We will have created a standard working order in our clinic ith these measures. We also believe that evaluating a larger number of patients will make the results of the study more meaningful.

Değerlendirme / Peer-Review

İki Dış Hakem / Çift Taraflı Körleme

Etik Beyan / Ethical statement

It is declared that during the preparation process of this study, scientific and ethical principles were followed and all the studies benefited are stated in the bibliography.

Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.

Benzerlik Taraması / Similarity scan

Yapıldı – ithenticate

Etik Bildirim / Ethical statement

ethic.selcukdentaljournal@hotmail.com

Telif Hakkı & Lisans / Copyright & License

Yazarlar dergide yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmaları CC BY-NC 4.0 lisansı altında yayımlanmaktadır.

Finansman / Grant Support

This study was supported by the Ege University Scientific Research Projects Coordination Unit (Project No: 23885). The authors express their sincere gratitude for the financial support provided.

Bu çalışma Ege Üniversitesi Bilimsel Araştırma Projeleri Koordinasyon Birimi tarafından desteklenmiştir (Proje No: 23885). Yazarlar, sağlanan mali destek için içtenlikle teşekkür ederler.

Çıkar Çatışması / Conflict of Interest

Yazarlar çıkar çatışması bildirmemiştir. | The authors have no conflict of interest to declare.

Yazar Katkıları / Author Contributions

Çalışmanın Tasarlanması | Design of Study: AÇ (%50), CE (%25), BÖK (%25)
Veri Toplanması | Data Acquisition: AÇ (%30), ZG (%40), YÜ (%30)
Veri Analizi | Data Analysis: AÇ (%50), CE (%50)
Makalenin Yazımı | Writing up: AÇ (%20), YÜ (%20), ZG (%20), CE (%20), BÖK (%20)
Makale Gönderimi ve Revizyonu | Submission and Revision: AÇ (%50), ZG (%50)

REFERENCES

1. Steed MB. The indications for third-molar extractions. *J Am Dent Assoc*. 2014;145(6):570-573. doi:10.14219/JADA.2014.18.
2. Bhansali SP, Bhansali S, Tiwari A. Review of difficulty indices for removal of impacted third molars and a new classification of difficulty indices. *J Maxillofac Oral Surg*. 2020;20(2):167. doi:10.1007/s12663-020-01452-6.
3. Pell GJ. Impacted mandibular third molars: classification and modified technique for removal. *Dent Dig*. 1933;39:330-338.
4. Santamaria J, Arteagoitia I. Radiologic variables of clinical significance in the extraction of impacted mandibular third molars. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 1997;84(5):469-473. doi:10.1016/S1079-2104(97)90259-6.
5. Gbotolorun OM, Arotiba GT, Ladeinde AL. Assessment of factors associated with surgical difficulty in impacted mandibular third molar extraction. *J Oral Maxillofac Surg*. 2007;65(10):1977-1983. doi:10.1016/j.joms.2006.11.030.
6. Akbulut N, et al. Gömük alt yirmi yaş dişi cerrahisi sonrasında görülen erken dönem komplikasyonlar: retrospektif değerlendirme. *Eur Ann Dent Sci*. 2010;37(2):71-76.
7. Koskela SJ, Ventä I, Snäll J, Välimaa H, Toivari M. Risk factors for complications from challenging lower third molar extractions in tertiary hospital patients. *Acta Odontol Scand*. 2024;83:690-695. doi:10.2340/aos.v83.42464.
8. Rizqiawan A, Lesmaya YD, Rasyida AZ, Amir MS, Ono S, Kamadjaja DB. Postoperative complications of impacted mandibular third molar extraction related to patient's age and surgical difficulty level: a cross-sectional retrospective study. *Int J Dent*. 2022;2022:7239339. doi:10.1155/2022/7239339.
9. Sayed N, Bakathir A, Pasha M, Al-Sudairy S. Complications of third molar extraction: a retrospective study from a tertiary healthcare centre in Oman. *Sultan Qaboos Univ Med J*. 2019;19(3):e230. doi:10.18295/squmj.2019.19.03.009.
10. Benediktsdóttir IS, Wenzel A, Petersen JK, Hintze H. Mandibular third molar removal: risk indicators for extended operation time, postoperative pain, and complications. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod*. 2004;97(4):438-446. doi:10.1016/j.tripleo.2003.10.018.
11. Jaroń A, Trybek G. The pattern of mandibular third molar impaction and assessment of surgery difficulty: a retrospective study of radiographs in East Baltic population. *Int J Environ Res Public Health*. 2021;18(11):6016. doi:10.3390/ijerph18116016.
12. Sirintawat N, Sawang K, Chaiyasamut T, Wongsirichat N. Pain measurement in oral and maxillofacial surgery. *J Dent Anesth Pain Med*. 2017;17(4):253-263. doi:10.17245/jdapm.2017.17.4.253.
13. Bailey E, Kashbour W, Shah N, Worthington HV, Renton TF, Coulthard P. Surgical techniques for the removal of mandibular wisdom teeth. *Cochrane Database Syst Rev*. 2020;7:CD004345. doi:10.1002/14651858.CD004345.pub3.
14. Pourmand PP, Sigron GR, Mache B, Stadlinger B, Locher MC. The most common complications after wisdom-tooth removal: part 2: a retrospective study of 1,562 cases in the maxilla. *Swiss Dent J*. 2014;124(10).
15. Sigron GR, Pourmand PP, Mache B, Stadlinger B, Locher MC. The most common complications after wisdom-tooth removal: part 1: a retrospective study of 1,199 cases in the mandible. *Swiss Dent J*. 2014;124(10).
16. Hallab L, Azzouzi A, Chami B. Quality of life after extraction of mandibular wisdom teeth: a systematic review. *Ann Med Surg (Lond)*. 2022;81:104387. doi:10.1016/j.amsu.2022.104387.
17. Tekin G, Saruhan N, Dereci Ö, Koşar Y. The effect of gender in extractions of impacted third molar: a retrospective cross-sectional study. *J Biotechnol Strateg Health Res*. 2022;6(3):226-230. doi:10.34084/bshr.1197597.
18. Yuasa H, Kawai T, Sugiura M. Classification of surgical difficulty in extracting impacted third molars. *Br J Oral Maxillofac Surg*. 2002;40(1):26-31. doi:10.1054/bjom.2001.0684.
19. Swanson AE. Prevention of dry socket: an overview. Oral Surg Oral Med Oral Pathol. 1990;70(2):131-136. doi:10.1016/0030-4220(90)90104-Z.
20. Vezeau PJ. Dental extraction wound management: medicating postextraction sockets. J Oral Maxillofac Surg. 2000;58(5):531-537. doi:10.1016/S0278-2391(00)90016-8.
21. Akinbami BO, Godspower T. Dry socket: incidence, clinical features, and predisposing factors. Int J Dent. 2014;2014:796102. doi:10.1155/2014/796102.
22. Cheng Y, Al-Aroomi MA, Al-Worafi NA, Al Moraissi EA, Sun C. Influence of inflammation on bleeding and wound healing following surgical extraction of impacted lower third molars. *BMC Oral Health*. 2023;23(1):83. doi:10.1186/s12903-023-02754-0.
23. Chiapasco M, De Cicco L, Marrone G. Side effects and complications associated with third molar surgery. *Oral Surg Oral Med Oral Pathol*. 1993;76(4):412-420. doi:10.1016/0030-4220(93)90005-O.
24. Cheung LK, Leung YY, Chow LK, Wong MCM, Chan EKK, Fok YH. Incidence of neurosensory deficits and recovery after lower third molar surgery: a prospective clinical study of 4338 cases. *Int J Oral Maxillofac Surg*. 2010;39(4):320-326. doi:10.1016/j.ijom.2009.11.010.
25. Thong ISK, Jensen MP, Miró J, Tan G. The validity of pain intensity measures: what do the NRS, VAS, VRS, and FPS-R measure? *Scand J Pain*. 2018;18(1):99-107. doi:10.1515/sjpain-2018-0012.