

Third Molars: To Extract or Not to Extract at Selected Centers of Primary Health Care, Saudi Arabia

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Abstract: ***Background:** The question of whether to extract or not to extract wisdom teeth, also known as third molars, has raised debates for oral and maxillofacial surgeons and patients. Third molars develop when teens commence maturity. In some instances, third molars develop in wrong positions or do not get enough room for development thereby eliciting the need for extraction. The other reasons that bring forth the need to remove third molars include the risk of periodontal defects, dental crowding, pericoronitis and caries on the distal surface of odontogenic cysts. **Objectives:** The current study aims to investigate whether it is appropriate to extract or not to extract third molar, within the selected setting. **Method:** A cohort research design was utilized within the current study m which targeted 750 male and female participants from selected setting, Saudi Arabia. **Results:** Some of the response options include recommend prophylactic removal of third molars among patients in most cases, recommend removal in instances where there is insufficient space or the path of eruption is poor, and finally remove third molars in the existence of pathology symptoms associated with third molars. **Conclusions:** The current study results revealed that there were there is insufficient space or the path of eruption is poor, and finally removes third molars in the existence of pathology symptoms associated with third molars within the study setting.*

Keywords: Third Molars Extraction & Primary Health Care Setting

1. Introduction

Debates have ensued regarding the proper time for removing third molars (Kandasamy and Rinchuse 2009). The difficulty of predicting the associated impact as well as the failure of clear scientific records on the effectiveness of using the impact as the basis for recommending the removal of third molars have formed a solid argument basis for the debate. Furthermore, predicting the impact of the biological condition has turned out to be an intimidating task on the part of oral surgeons. The removal of asymptomatic impacted third molars has neither received scientific criticism nor support. Prevention of lower incisor crowding in the later stages of the patient through the removal of third molars has been the argument held by oral surgeons and orthodontists (Kandasamy and Rinchuse 2009).

However, the most important thing is the need for dentists to have a justifiable action for removing any third molar. Most importantly, it is imperative that the justifiable reason should consider the future treatment plan from a periodontal, surgical, and orthodontic perspective. Prior to performing the prophylactic removal of third molars, a cost/benefit analysis of the procedure is necessary. The analysis would also provide a proper ground on determining whether it would be necessary to carry out the procedure or not. However, the indication of the cost/benefit analysis requires the consideration of the need to prevent cases associated with pathological processes such as cysts, pericoronitis, caries in second molars, and root resorption (Mettes et al. 2012).

The possibility of the occurrence of surgical complications following the removal of third molars is the other point of consideration on whether to extract or not to extract third molars in patients. The rising prevalence of the resultant surgical complications is an indicator of the need to consider

complications as a significant factor in the debate on whether to extract third molars or not. Approximately 10% of patients subjected to the removal of third molars have sought emergency appointments following the procedure. Some of the issues of concern include alveolar osteitis, trismus, hematoma, sequestra paresthesia, dehiscences, abscesses, bleeding, swelling, and severe pain. The possibility of jaw fractures after the removal of third molars is the other point of consideration even though jaw fractures are an uncommon incidence. However, it is evident that patients aged above 25 years exhibit the highest likelihood of encountering jaw fractures after having undergone the removal of third molars (Blondeau & Daniel 2007).

It is also proper to state that extending the period of extracting third molars also subjects the patient to possible mandibular fracture. Contrary to the negative concerns associated with the removal of third molars, it is also evident that the extraction of third molars can be used to replace either first or second molars that had been extracted before. It is also possible to derive stem cells from healthy third molars. As a result, they provide a significant avenue for regenerative medicine (Normando 2015). In the case of orthodontic patients, removing third molars should wait until the termination of the orthodontic treatment. Oral surgeons should only remove the third molar in cases whereby it is mandatory to carry out the process at the onset of the treatment. In order to determine a proper prognosis of the teeth, it would be proper to conduct a follow-up evaluation of the position of the third molar. In the event that the determination of the final position of the teeth occurs after the orthodontic treatment, then it would be proper to reassess the patient using periodic radiographic and patient examination.

In essence, the removal of the third molar should occur in instances where the patient experiences discomfort, pain, or

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dental caries (Cunha-Cruz et al. 2012). It would also be proper to remove the third molar in the event of pericoronitis. The timing of the removal process is the other pertinent aspect in determining whether to extract or not to extract third molars. For instance, it would be proper to remove third molars at an early stage rather than waiting until the onset of periodontal disease. Regardless of the age of the patient, removing third molars has an adverse impact on the adjacent periodontal tissues of the second molars. In the determination of the possible adverse outcomes, it would be proper to consider the patient's oral hygiene, age and the experience of periodontal defect.

On the age aspect, it is evident that the adverse effects increase with the age of the patient. As a result, the patient experiences consequential effects in both cases of both impacted and retained third molars. As one ages, retaining third molars may have the effect of escalating periodontal defects following the failure of the patient to extract the third molar (Sharma 2017). The patient also faces the risk of increased prevalence of caries in the event of the failure to extract the third molar. People aged above 25 years also exhibit higher likelihood of postoperative morbidity. In the event that the oral surgeon finds it appropriate to remove the third molar, the careful extraction of the tooth is essential in the quest to prevent the onset of a periodontal disease.

The need for better health outcomes following the removal of the third molar is the other determinant factor in the removal of the third molar. For instance, loss of gum attachment following the surgery necessitates the use of plaque control, root planning, and scaling (Sharma 2007). In the event that the patient exhibits periodontal attachment loss, there is the need for the use of periodontal surgical techniques. The lack of sound scientific basis on the topic has compelled the legal system to consider both recommendations provided by two different schools of thought. According to the first school of thought that comprises of maxillofacial and oral surgeons, it is proper to extract third molars since they bear the pathologic potential. From the perspective of these professionals, it would be proper to recommend the removal of most of the third molars.

However, the other school of thought emphasizes that the removal of the third molar should only take place following the determination of the pathology association surrounding the tooth. According to the legal system, the arguments presented by each school of thought have an equal merit. The fact that the legal system does not consider the scientific base in their decision implies that oral and maxillofacial surgeons encounter comparatively more lawsuits than their counterparts because of the resultant cases of injury in the course of the elective surgery (Friedman 2007). Therefore, the decision of whether to extract or not extract the third molar depends on the recommendation of the expert oral or maxillofacial surgeon.

2. Participants and Methods

The research is a cohort study that targets 750 male and female participants from Saudi Arabia. The study entails the following up of the target patients by 50 general dentists and

oral surgeons for a period of two years. The study also includes a self-reported patient assessment after every six months as well as a clinical examination conducted at the end of the study period. The dentists will capitalize on their dental office visits to determine eligible participants. The research targets participants aged between 18 and 40 years that have at least one third molar. The participants should not have undergone the removal of a third molar before the onset of the study. The study also requires radiographs of the third molars of the patients under study taken within the last one year. The study will inform patients that the purpose of the study is to determine whether the extraction of third molars is appropriate or inappropriate. In order to determine the experiences of the patients that underwent the removal of at least one third molar and those that failed to adhere to the recommendation of removing the third molar, the research will make follow-up studies to the selected samples twice annually.

Concerning the ethical approval it is evident that patients have the ethical right to determine what occurs to them. Just like the other forms of healthcare, the removal of the third molar also requires valid consent to treatment from the patient. The need for valid consent extends from the provision of personal care to major surgeries. Obtaining consent from patients also expresses a form of courtesy exhibited by healthcare providers to their patients (Williams and Tollervey 2016).

3. Results

The study used a questionnaire and a patient examination carried out by dentists to collect baseline data about the patients. The team comprising of general dentists will then enter the collected data into an online database. Some of the aspects covered by the questionnaire include oral conditions and demographics such as the presence of discomfort or pain from third molars, symptoms of joint disorders and temporomandibular muscle, and paresthesia of lower lips and tongue.

The examinations conducted by general dentists will comprise of radiographic and clinical assessments that include information on the eruption status and angulation of third molars. Measuring third molar angulation will require the use of a special gauge whereas dentists will qualify the eruption status with the use of an eruption guide. The study will round off angulation measurements to the nearest 10°. The clinical examination exercise will include assessing temporomandibular symptoms, paresthesia of tongue and lip, clinical attachment loss, pericoronitis, and dental caries.

Some of the response options include recommend prophylactic removal of third molars among patients in most cases, recommend removal in instances where there is insufficient space or the path of eruption is poor, and finally remove third molars in the existence of pathology symptoms associated with third molars. The research will also record recommendations made by the general dentists based on the radiographic and clinical examinations, to either remove or retain third molars in the selected respondent group. Of key interest to the study is the reason behind the removal or retention of the third molar. As a result, the study will also

record the reasons provided by dentists that formed the basis of their recommendation. The professional and demographic variables of the dentists include their genders, philosophy towards the extraction and retention of third molars, practice setting, and time in practice. Some of the response options include recommend prophylactic removal of third molars among patients in most cases, recommend removal in instances where there is insufficient space or the path of eruption is poor, and finally remove third molars in the existence of pathology symptoms associated with third molars.

The follow-up exercise will involve requiring participants to answer short-answer questions via online surveys semi-annually. In the follow-up exercise, the research will ask patients regarding the primary and secondary reasons behind the decision of the dentist to recommend either the removal or retention of the third molar. The final examination will involve inviting patients to return to their dentists at the end of the study period for clinical examination. Statistical analysis will entail the use of odd ratios to estimate multiple logistic regressions in relating the main outcomes to the patient and dentist characteristics. In order to cluster the participants, the research will use generalized estimating equations. The study also intends to conduct patient-level rather than tooth-level analysis.

4. Discussion

However, removing third molars should occur before their full formation when the individual is below 25 years. Initially, some individuals considered the removal of wisdom teeth to be a rite of passage. However, the main argument for the extraction of third molars is the need to eliminate the ill-fitting and useless teeth that have the potential of causing infections and other complications.

The myth that third molars have a high pathology incidence is invalid because the case is true in only 12% of the total third molar cases questions the need for prophylactic third molar removal. As opposed to other literature that associated less trauma to early removal, some studies indicate that early removal is more painful and traumatic (Friedman 2007). The fact that millions of asymptomatic and healthy third molars are extracted in the United States from young people necessitates the consideration of third molar removal with questioning and hesitation (Goldie 2011). Therefore, the fact that there is no scientific evidence either in support or against prophylactic third molar removal implies that the decision of whether to extract or not to extract relies on an analysis of the costs versus the benefits associated with the procedure.

The other fundamental principle is the right of the patient to self-determination. As a result, professional guidelines uphold the right. The law also supports the fundamental right. In fact, obtaining a valid consent on the part of the oral or maxillofacial surgeon necessitates explaining to the patient in plain words about the proposed treatment, and the associated benefits and risks as well as the potential risks that the patient would encounter in the absence of the treatment. Moreover, the oral or maxillofacial surgeon

should also provide an explanation of the available treatment alternatives.

In the event of a coron-ectomy procedure, it is essential to warn patients about a possible subsequent surgery besides the explaining the usual complications that follow the surgical procedure. From the beginning, the surgeons should inform the patient that the extraction of the third molar is an intended procedure. The need for providing the explanation arises from the possible unintentional mobilization of the roots while elevating the crown (Williams and Tollervey 2016). The need for information and consent emanates from the fact that patients rely on information rather than definition to give consent (Bery 2014). As a result, there is substantial need for clinicians to unveil substantial information to patients to enable them to make informed consents regarding whether to undergo the medical procedure or not.

5. Conclusions

The current study results revealed that there were there is insufficient space or the path of eruption is poor, and finally removes third molars in the existence of pathology symptoms associated with third molars within the study setting.

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