

Dentists Perspective Regarding Prophylactic Removal Of Asymptomatic And Impacted Third Molars

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ABSTRACT:

Objective: To determine dentist's perspective regarding NHS guidelines for prophylactic removal of Impacted Third molars among dentists of Karachi.

Study Design and Setting: It was a cross sectional study design based on the questionnaire. Questionnaire was filled by total 110 general dentists selected by random sampling and was practicing in various private and government setups of Karachi to know about their preference regarding prophylactic removal of asymptomatic third molar.

Methodology: The questionnaire comprised of total 13 questions to find out dentists view point about the prophylactic removal of impacted third molar. The results were then analyzed using SPSS version 23. Frequencies, percentages of different variables used in the study were calculated to identify the co-relation among different attributes. P-value of less than or equal to 0.05 was considered statistically significant.

Results: The study reflected that 71.8% dentists were aware with the NHS Guidelines for removal of asymptomatic & impacted third molars while 28.2% dentists preferred conventional approach. The study also revealed Mesioangular impaction as being the most commonly observed type of impaction in the dental practice.

Conclusion: It was concluded from this study that majority of dentists were aware of the guidelines provided by NHS and regarding the angulation of impacted teeth most of the impactions seen at the dental office were Mesioangular.

Key Words: Asymptomatic tooth, Impacted third molar NHS guidelines, Prophylactic tooth removal.

INTRODUCTION:

Mandibular third molars are the most frequently encountered teeth which are impacted in human dentition.¹ Prophylactic removal of asymptomatic tooth is defined as the removal of tooth without any sign and symptoms in order to prevent occurrence of disease or pathology.² Impacted lower third molars are commonly removed surgically in general dental

practice as well as many teaching institutions. Even though there are well demarcated indications for the removal of impacted third molars, still their removal without a concurrent disease is being carried out universally.^{3,4} In many studies, removal of asymptomatic impacted teeth have proven to reduce the pathologies associated with partially erupted or impacted third molars.^{4,5} The indications behind removal of third molars have always been a matter of controversy among the dental practitioners. In the previous years, many dental practitioners have come to a conclusion that asymptomatic third molars should be extracted to counter the risks and complications that follow.^{6,7}

Third molar removal is one of the most prevalent surgeries performed in Oral Surgery. The rationale being is the high trend of their impactions, often linked to various problems in the oral cavity, such as pericoronitis, periodontal deficiencies in the distal margins of second molar, numerous types of odontogenic cysts and tumours, and overlapping of the incisors of lower jaw.^{8,9,10}

Current NHS Guidelines recommended that healthy wisdom teeth should not be removed as a preventive measure, unless there is an evidence of repeated infection or disease associated with the tooth.¹¹ In order to devise a comprehensive treatment plan, dentist must take into account all the factors that may impact the outcome of their treatment.⁹ Concurrently, risk vs. benefit analysis should also be done to justify these surgeries.^{12,13}

Additionally, both the dentists and their patients must consider the drawbacks related to the surgical procedure. These

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drawbacks range from pain to bleeding, dry socket to dehiscence, abscesses, paresthesia, hematoma and trismus. Severe trauma during surgery may lead to fractures of the jaw.¹¹ Therefore, decisions regarding removal and retention should be done wisely according to the available guidelines on prophylactic removal of Impacted Third Molars. The objective of the study was to determine dentist’s perspective regarding NHS guidelines for prophylactic removal of Impacted Third molars among dentists of Karachi.

METHODOLOGY: This cross sectional study was conducted over a period of 3 months from the time of approval in Bahria University Medical & Dental College, Karachi. The instrument to record responses was formulated on the basis of 13 close-ended questions. The interrogated questions were rate of third molar extraction, the philosophy behind the third molar extraction, the type of impaction recommended for extraction, most common age group recommended for extraction, consequences of retaining 3rd molars, the conditions that justify your recommendation of extractions and awareness regarding the NHS guidelines for extraction of wisdom tooth along with the demographic questions which were type of clinical practice, professional experience and location of practice.. Participants were randomly selected via convenience sampling. Total 118 dentists included in the study but due to incomplete questionnaire 8 forms were excluded hence responses of 110 dentists were analyzed for this study. Ethical permission was obtained from the Ethical Review Committee of Bahria University Medical & Dental College before the data collection. Written consent was obtained from the participants before filling the form. Only practicing dentists were included in the study, with age range of 25-65 years. Fresh graduates and house officers were excluded from the study. Data was analyzed using SPSS ver.23. Frequencies, percentages of different variables used in the study were calculated to identify the co-relation via Fisher Exact test.

RESULTS:

From the total 110 dentists 71.8% showed awareness to NHS guidelines for third molar removal cases, while 28.2% of dentists preferred the conventional approach of third molar removal in asymptomatic and impacted third molar cases. It was observed that mesioangular impactions are the most commonly removed impaction in private and hospital settings. (Table 1) followed by distoangular, horizontal and vertical impactions respectively. Regarding consequences of retaining third molar, study revealed that chances of development of cyst and tumors associated with third molar are more prevalent, if the impacted tooth is not removed followed by tooth decay which can pose significant risk to patient’s health and hygiene.(Table 1).

Regarding the correlation between awareness of dentists with NHS Guidelines and Justification of removal of impacted third molar, it was observed that pathologies associated with

third molar were a major concern while planning for removal of impacted third molar followed by recurrent pericoronitis. (Table 2). However, results revealed that awareness of these guidelines did not impart any significant difference among the treatment planning. (P-value: 0.164)

Table-1: Awareness Of NHS Guidelines

	Frequency (%)
Yes	79 (71.8%)
No	31 (28.2%)
Type Of Impactions to which you recommend Extractions	
Mesioangular	57 (51.8%)
Distoangular	23(20.9%)
Vertical	14 (12.7%)
Horizontal	16 (14.5%)
Consequences of Retaining 3rd Molars	
Tooth decay	27 (24.5%)
Bone loss	15 (13.6%)
Interference with needed dental treatment	12 (10.9%)
Periodontal Disease	23 (20.9%)
Development of Associated cysts and tumors	33 (30.1%)

Table 2: Fisher exact test was applied to see the significance. P= 0.05 considered to be statistically significant

Condition that justify your recommendation of Extractions	Awareness Of NHS Guidelines		Total	P-Value
	Yes (%)	No(%)		
Recurrent Pericoronitis	25 (61%)	16 (39%)	41	0.164
Periodontal Defects in Second Molar	9(75%)	3(25%)	12	
Caries in 3rd or 2nd Molar	15 (68.2%)	7(31.8%)	22	
Associated Pathologies with 3rd Molars	28(87.5%)	4 (12.5%)	32	
Crowding of Incisors	2 (66.7%)	1 (33.3%)	3	
Total	79 (71.8%)	31 (28.2%)	110	

DISCUSSION:

The prophylactic surgery of 3rd molar removal is defined as the surgical extraction of third molar in the absence of a disease at its particular site.² During the course of this study, 71.8% of the dentist showed awareness to NHS guideline. However, no significant association was seen between the awareness of guidelines and removal of impacted teeth. In this view, The National Institute for Health and Clinical Excellence (NICE) issued guidance on the management of third molars in 2000.¹⁴ The stated guideline summarized that 40% of the wisdom teeth at NHS are removed without any clinical indication of extraction thus the practice of prophylactic extraction of wisdom teeth should be discontinued. Contrary to the guideline published, removal of impacted teeth is seen as commonly performed procedure in oral surgery.

During the study, 51.8% of the patient showed Mesioangular positioned teeth followed by Distoangular, Horizontal and vertical impactions respectively. This finding was in agreement with a study conducted by M Hatem et al¹⁵ which stated that mesioangular impaction is the most prevalent angulation seen in mandibular impacted teeth. Regarding the consequence of retaining third molar, it was revealed that occurrence of pathological changes including development of cyst and tumor was seen in the retained impacted tooth (30.1%) followed by caries to second molar (24.5%). Various authors have assured that partially erupted molars are more prone to developing pericoronitis and are therefore best chosen for prophylactic removal.^{9,10} Manganaro¹⁶ demonstrated similar findings, with cystic changes reported in nearly 46% of pericoronal radiolucencies around impacted third molar teeth. Several recent studies have evaluated soft tissues retrieved from third molar sites without radiographic evidence of disease (follicular spaces 3 mm or less), and have reported pathologic change in high percentages^{17,18}, which was in accordance with the findings of our study.

Development of caries distal to second molar was also evident in patients presenting with partially impacted third molar according to this study. Allen et al¹⁹ described that caries on distal margins of second molars is more prevalent in second molars that are adjacent to partially erupted third molars. Nunn et al²⁰ have proved in a clear set of words that retention of third molars is directly linked to increased risk of pathologies in middle aged population. The consequences of retaining third molar should be analyzed before formulating treatment plan.^{21,22} Development of cysts, tumors, tooth decay and periodontal issues are the most commonly considered factors which necessitates the removal of impacted wisdom teeth.²³⁻²⁷ Studies have also proven that with age, complications related to third molar surgeries increase significantly.^{26,28-30} Hence, treatment should be planned accordingly taking into account patient's age and medical status.

Among the limitations of the study larger sample size should be conducted to rule out the problems associated with impacted teeth. Clinical and radiographic parameters can also be included for in-depth analysis of effects caused by impacted and asymptomatic third molar in future studies.

CONCLUSION: The study concludes that majority of dentists were aware of the guidelines provided by NHS and regarding the angulation, mesioangular impaction was the most commonly seen impaction at the dental office.

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