SUNTEXT REVIEWS

SunText Review of Dental Sciences
ISSN: 2766-4996

Open Access
Research Article
Volume 3:1

General Awareness about Impacted Third Molars Requiring Surgical Intervention among Outpatients of Penang International Dental College - A Questionnaire-Based Study

Varghese A[1], Loganathan K[2], Vaithilingam B[2], Varghese T[3] and Pradeep P[5,*]

[1]*Lecturer oral & Maxillofacial Surgery, Penang International Dental College, Malaysia*
[2]*Private Practitioner, India*
[3]*Lecturer Periodontology, Penang International Dental College, Malaysia*

[*]**Corresponding author:** Pradeep P, Private Practitioner, India; E-mail: ppgreats@gmail.com

Received date: 14 January 2022; **Accepted date:** 22 January 2022; **Published date:** 27 January 2022

Citation: Varghese A, Loganathan K, Vaithilingam B, Varghese T, Pradeep P (2022) Molars Requiring Surgical Intervention among Outpatients of Penang International Dental College - A Questionnaire-Based Study. SunText Rev Dental Sci 3(1): 153.

DOI: https://doi.org/10.51737/2766-4996.2023.153

Abstract

Aim and Objectives: The objective of this study is to evaluate the general awareness about impacted third molars requiring surgical intervention and to assess the level of self-motivation towards acceptance of minor surgical intervention for removal of impacted 3rd molars.

Study design: A random questionnaire-based study was carried out on 100 outpatients who visited Penang International Dental College (PIDC). All the patients were above 18 years of age and have not undergone either consultation or surgical removal of impacted third molar.

Result: A major segment (80%) of the respondents were aware of the presence of wisdom teeth. But most of them (70%) were unaware about when it erupts. However, many (64%) of them were aware of the surgical intervention required for the removal of impacted third molar. Both male and female subjects exhibited similar trends but the frequency was higher in females due to the larger female composition in the sample size. Chinese had the highest frequency in terms of population size (52%). All ethnic groups showed similar trends in answering almost all the questions. There was a difference in frequency of response between ethnic groups for a few questions, indicating that there is significant difference in terms of knowledge between the Chinese and other groups. However, since the Chinese have the highest frequency in terms of population size in this study, this result may not be representative. Most of the respondents (74%) were unwilling for surgical extraction of a painless impacted tooth. When a scenario with a painful impacted tooth was presented, 84% of them opted for surgical extraction, with some of them opting for professional opinion or medicine relief.

Conclusion: This study highlights that often pain is the main driving factor for seeking treatment instead of prophylactic surveillance. Patients may have different ideas regarding the management of their impacted third molars, but this should not affect the dentist's stand on the standard operating procedure of managing impacted third molars.

Keywords: Third molar impaction; Awareness; Surgical intervention

Introduction

Third molars (M3s) are the most distal teeth that develop in each quadrant of the dental arch. They are the large grinding teeth of the oral cavity and are the last to erupt. It is the only tooth developing after the age of 14 years [1].The duration of formation and calcification, crown and root morphology, its course of eruption and final position, presence and absence in the oral cavity are the factors that contribute to the characteristic variations of the third molar [2]. Impaction derived from the Latin origin - impactus, means the cessation of eruption of a tooth caused by physical barrier or ectopic positioning of tooth [3]. Quoted that impacted refers to any tooth that is totally immersed in tissue and has already passed its right time for eruption [4]. The impaction rate is higher for third molars than for any other tooth in modern population, with possible explanation such as

inadequate retro molar space due to limited remodelling resorption, lack of compensatory periosteal apposition at the posterior outline of the maxillary tuberosity, and altered direction of tooth eruption during the functional phase of eruption. Several studies show evidence that mandibular third molars are the most common impacted teeth in various parts of the world [5,6]. The development of the third molar and their interaction with the rest of the dentition has been a major concern in dentistry for decades. According to Impacted M3s are often associated with pericoronitis, dental caries, and resorption of the roots of the adjacent tooth and rarely cyst formation and tumours [7]. In their systematic review, that a cohort study reports of a surprisingly high percentage (25%) of people with asymptomatic wisdom teeth having periodontal disease, as evidenced by probing depths greater than 5 mm [8]. To relieve these symptoms, surgical removal of impacted third molars has become one of the commonest procedures in Malaysia. The guidelines for third molar extraction provided by National Institute for Health Care and Excellence (NICE) was reviewed in 2015 and further amendments were recommended9. The American Associations of Oral and Maxillofacial Surgeons10 states that the decision and rationale regarding third molar treatment is extremely complex, and the risk of complications of early treatment of third molars must not be ignored. They recommended active surveillance and annual review of unerupted wisdom teeth with bone impaction, both clinically and radiographically. The incidence of tooth impactions especially third molars is on the increase and is a major cause of concern of dental professionals who mostly handle these cases in their later stages when complications may arise. These complications may include dental abscesses, tumours or systemic spread of infections arising from impacted teeth. If this condition was to be detected early, patients would seek early intervention thus avoiding the chances of developing complications. However, the decision regarding the why, when and how to treat third molar teeth is extremely complex, with complications that must not be ignored. As a matter of fact, there are often insufficient evidence to support or refute prophylactic removal of impacted wisdom teeth in adults, and instead active surveillance is recommended as precaution. In the eyes of the public, such considerations may not seem essential. Research focuses on subjects receiving public assistance in Montreal. It shows that many patients do not consider oral health as a priority and consequently neglect themselves. Furthermore, despite of their high treatment needs, they do not consult a dentist often and this tends to interrupt their episodes of care. Thus, this study is aimed to evaluate the general awareness about impacted third molars. The primary focus will be the patient's education level on impacted third molars in terms of basic knowledge of the tooth, implication of the impacted third molars and awareness about the procedures involved in third molar removal [9-14].

Research Hypothesis

Null hypothesis is preferred in this study. The hypothesis of the study is as follows:

- **H1:** The general awareness about impacted third molars requiring surgical intervention is inadequate in the population.
- **H2:** The level of self-motivation towards acceptance of minor surgical intervention for removal of impacted 3rd molars is inadequate among the population.

Aim and Objectives

- Aim
- To assess the general awareness and knowledge on impacted third molars.
- Objectives
- To evaluate the general awareness about impacted third molars requiring surgical intervention.
- To assess the level of self-motivation towards acceptance of minor surgical intervention for removal of impacted 3rd molars.

Materials and Methods

The primary focus will be the patient's knowledge level on impacted third molar, and their level of self-motivation towards acceptance of minor surgical intervention for removal of impacted 3rd molars. This research is a random study, and it employs quantitative analysis. Quantitative data obtained from this study is used for statistical and numerical analysis. The study will be carried out on patients visiting PIDC who have not undergone consultation or surgical removal of impacted third molar. A minimum sample size of hundred patients will be selected. No sample size calculation was done.

Inclusion criteria

Patients above 18 years of age, Patients who are willing to answer the questionnaire

Exclusion criteria

Patients who have undergone either consultation for/surgical removal of impacted third molar, Patients not willing to answer questionnaire.

Statistical Analysis

The data analysis process involves applying the reasoning method for understanding and interpreting the data collected by the researcher. The collected data from 100 questionnaires were all used as it contained all the important information to fulfil the objectives. Prior to the study, significance level $p = 0.05$ and confidence level 95 % were used to ensure that the results were

reliable. Before applying statistical techniques, all available data were tabulated to facilitate interpreting process. The primary collected data was converted into user-friendly format by coding method. Using Microsoft Excel, the coding is done in the spreadsheet. All data was transferred from the questionnaire to the spreadsheet. All 100 respondents against relevant question were entered and arranged in rows and columns. Descriptive statistics used in this study include mode, mean and frequency percentage. Data analysis and interpretation process was carried out thoroughly and significant results were determined by the researcher. The results were validated and justified.

Results

Figure 1 represents the results of the response frequencies to determine the distribution of data based on gender. Result indicated that most of the respondents are female (58%) compare to male (42%) (Figure 1).

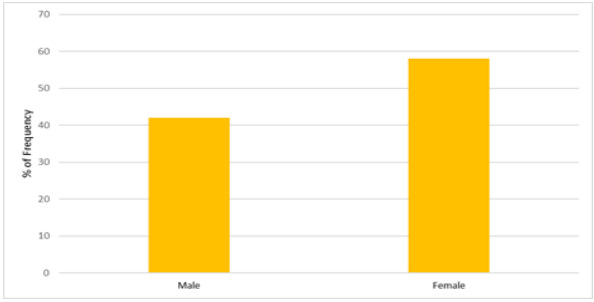

Figure 1: *Demographic details of the study population according to gender (n=100).*

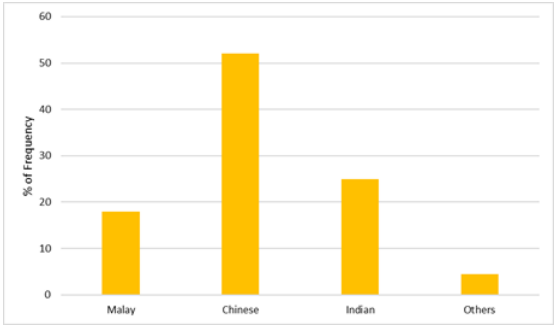

Figure 2: *Demographic details of the study population according to ethnicity (n=100).*

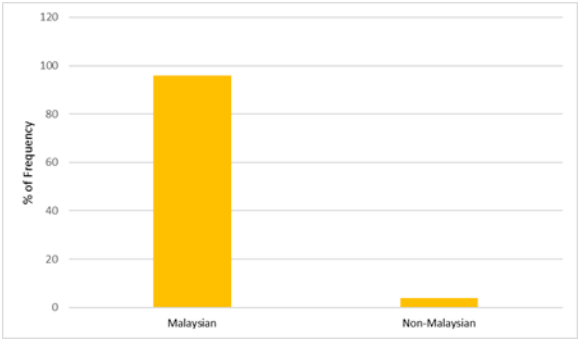

Figure 3: *Demographic details of the study population according to nationality.*

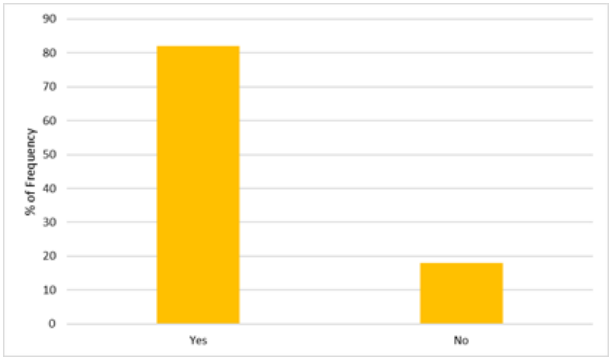

Figure 4: *Question-1- Awareness of presence of wisdom teeth.*

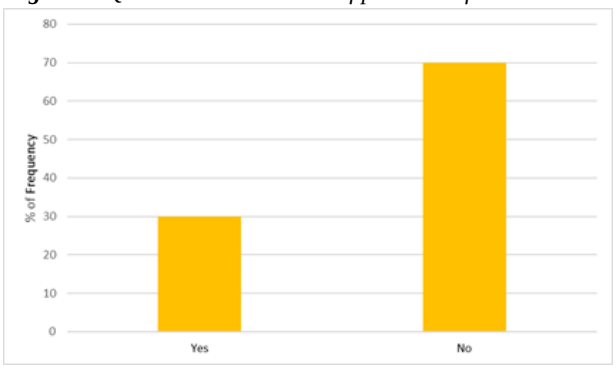

Figure 5: *Question-2- Public knowledge on eruption age of wisdom teeth.*

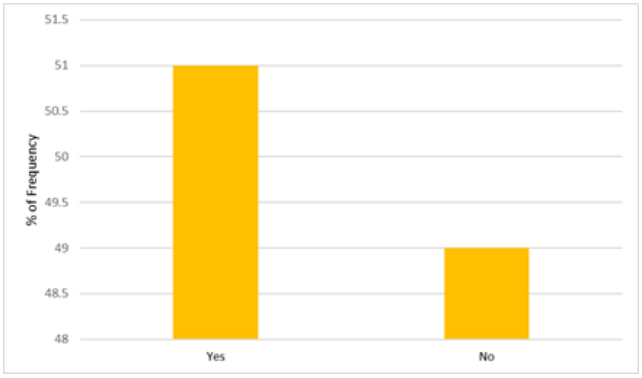

Figure 6: *Question-3 - Public knowledge regarding eruption failure of third molar in normal position.*

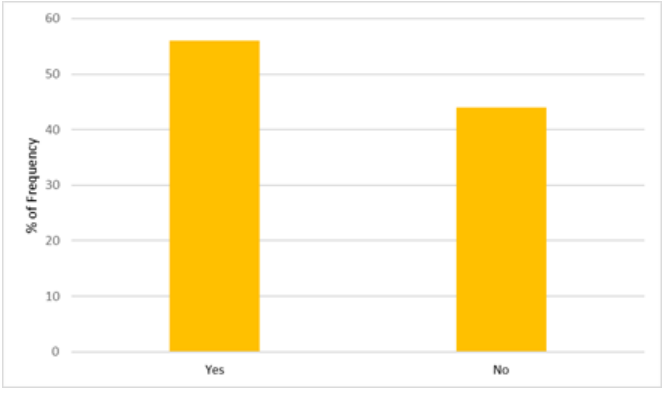

Figure 7: *Question-4 - Awareness regarding future problems associated with unerupted wisdom teeth.*

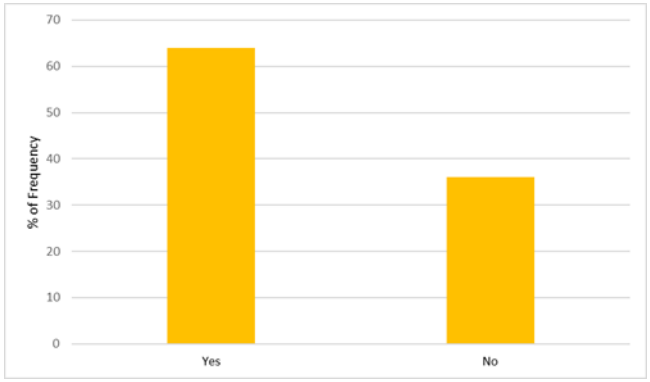

Figure 8: *Question-5 - Public awareness about wisdom teeth removal requiring minor oral surgery.*

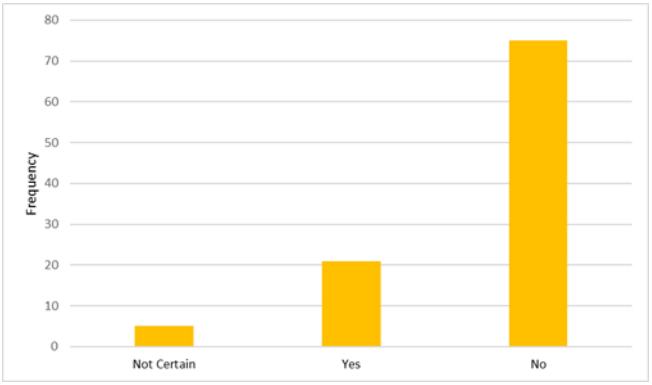

Figure 9: *Question-6 - Public response on removal of painless impacted wisdom teeth.*

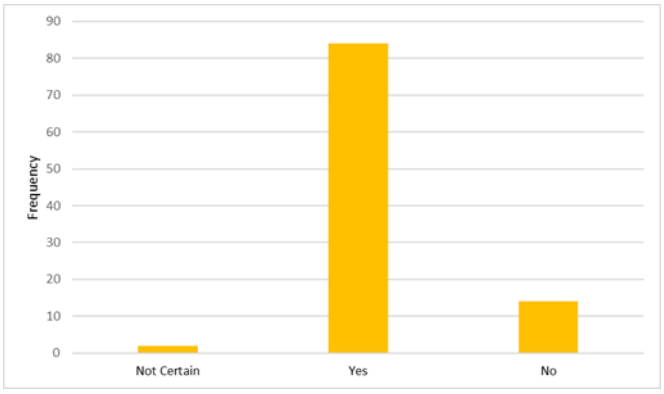

Figure 10: *Question-7 - Public response on removal of painful impacted wisdom teeth.*

Figure 2 represents the results of the response frequencies to determine the distribution of data based on ethnicity. Result indicated that most of the respondents are Chinese (52%) followed by Indian (25%), Malay (18%) and others (5%) (Figure 2).

Figure 3 represents the results of the response frequencies to determine the distribution of data among Malaysians and non-Malaysians. The result showed that most respondents are Malaysian (96%) compare to non-Malaysian (4%) (Figure 3).

Figure 4 represents the results of the response frequencies by gender to determine the public awareness of the presence of wisdom teeth. The results indicated that most respondents are aware of the presence of wisdom teeth (82%) (Figure 4).

Figure 5 represents the results of the response frequencies by gender to assess the public knowledge on eruption age of wisdom teeth. The results showed that majority of the respondents do not know the eruption age of wisdom teeth (70%) (Figure 5).

Figure 6 represents the results of the response frequencies by gender to assess the public knowledge that wisdom teeth will more likely to fail to erupt in its normal position. The results showed nearly an equal of positive response (51%) and negative response (49%) (Figure 6).

Figure 7 represents the results of the response frequencies by gender to assess the public awareness that unerupted wisdom teeth will most likely cause problems in the future. The results showed that majority of the respondents showed positive response (56%) while 44 respondents are not aware about the future complication of unerupted wisdom teeth (Figure 7).

Figure 8 represents the results of the response frequencies by gender to assess the public awareness that removal of unerupted wisdom teeth requires minor oral surgery. The results indicated that majority of the respondents (64%) are aware that the procedure requires minor oral surgery while 36 of them are not aware of it (Figure 8).

Question-7 - Public response on removal of painful impacted wisdom teeth

Figure 9 represents the results of the response frequencies by gender to assess the public response on removal of painful impacted wisdom teeth through minor oral surgery. The results indicated that majority of the respondents (84%) agree to remove painful impacted wisdom teeth whereas 14 respondents refuse to remove them while 2 respondents showed uncertainty to respond (Figure 9,10).

Discussion

It is important to note that the general awareness of the public towards management of third molars are barely satisfactory. It is heartening to know that most (82%) of the respondents are aware of the presence of wisdom teeth, but most of them (70%) are unaware about when it erupts. The responses are evenly split when asked about the tendency of impaction of third molars and their potential complications in the future. However, many of them (64%) do know that impacted teeth do need minor oral surgical intervention. When the data are compared in terms of gender, both male and female exhibit similar trends but the frequency are higher in females, due to the larger female composition in the sample size. In terms of ethnicity, the Chinese have the highest frequency in terms of population size (52%). For all the questions, all ethnic groups show similar trend in

answering almost all the questions. In terms of significant difference, there exist a difference in frequency of the response between ethnic groups for Question 2, 3, 4, 5 and 6, but the difference was not significant ($p>0.05$). However, the p-value for Question 1 ($P=0.026$) and Question 7 ($P=0.017$) is lower than 0.05, which signifies that there is significant difference in terms of these knowledge between the Chinese and other groups. However, since the Chinese have the highest frequency in terms of population size, this result may not be representative. When asked about willingness to remove painless impacted third molars, most of the respondents (74%) says no since the pain is absent. This finding corresponds to the research by Bedoset al11 and statement by the AAOMS10, in which absence of symptoms means absence of illness to them, which may conflict with a dentist's diagnosis. When a different scenario with painful impacted third molar is presented to them, their focus shifted towards removal of the third molar to remove pain (84%), with some of them opting for professional opinion or medicine relief. Question 6 and 7 aims to assess the level of self-motivation towards acceptance of minor surgical intervention for removal of impacted 3rd molars. In this study, the presence or absence of pain is used as a parameter to assess their motivation level. This is due to the fact that pain is one of the main reasons for patients to seek dental treatment. According to Ekanayake & Mendis14, dental pain is a significant predictor of the utilization of dental services, in which 90% of the respondent in their survey who used dental services are for symptomatic reasons. This study highlights the area in the field of dentistry regarding third molar management which needed more attention. More often, aesthetics of the teeth are given more attention. Survey conducted by Dodd in Florida and Afroz supported this statement. On the other hand, due to insufficient evidence to support or refute prophylactic removal of impacted wisdom teeth in adults, active surveillance is recommended as precaution. Pain is often the main driving factor for seeking treatment.

Limitations

Despite the efforts, there are still limitations to this study. The sample size was determined at 100, and the population is unbalanced due to increased Chinese patients during the period of data collection, in which the data may not represent the true population. Future survey should include larger sample size with different data collection points instead of only the dental clinic, to ensure that the sample truly represents the population. The use of pain as an indication may be misleading, since the perception of pain is different for each patient. Moreover, other symptoms which may be associated with impacted third molars such as pericoronitis, dental caries, trauma on occlusion is not included. These symptoms may have different psychological effect on the patient, affecting their awareness to the impacted third molars. The exclusion criteria may not be effective, since patients may obtain information regarding impacted third molars from other sources such as the Internet or from peers, without consulting the dentist. Such information may affect their opinion regarding management of third molars, resulting in multiple different reasons when answering Question 6 and 7.

Conclusion

In conclusion, the general awareness and knowledge on impacted third molars is marginally satisfactory. The understanding about the age of eruption, complications of impaction, minor oral surgery intervention with its risk on removal of this tooth and its relation with pain still requires improvement. The Ministry of Health of Oral Division and Malaysian Dental Authorities should spare more effort to educate the public on awareness and understanding of wisdom teeth and its management. In recent years, there is an overall consensus that prophylactic removal of impacted third molar is done only when future morbidity is anticipated and when patient indicated for surgical removal of impaction is at low risk to develop surgical complications. It is imperative that the Oral health authorities should ensure greater implementation of health educational programs and alternative tools to improve their awareness and knowledge about impaction. Any false statement about impaction should be removed to prevent any confusion and it is hoped that this study has generated some useful baseline information that would be helpful in providing more educational approach on impaction in future.

References

1. Tuteja M, Bahirwani S, Balaji P. An evaluation of third molar eruption for assessment of chronologic age: A panoramic study. J Forensic Dent Sci. 2012; 4: 13-18
2. Elsey MJ, Rock WP. Influence of orthodontic treatment on development of third molars. Br J Oral Maxillofac Surg. 2000; 38: 350-353.
3. Nordenram A, Hultin M, Kjellman O, Ramström G. Indications for surgical removal of the mandibular third molar. Swed Dent J. 1987; 11: 23-29.
4. Gohilot A, Pradhan T, Keluskarc KM. Effects of first premolar extraction on maxillary and mandibular third molar angulation after orthodontic therapy. J Oral BiolCraniofac Res. 2012; 2: 97-104.
5. Lima CJ, Silva LC, Melo MR, Santos JA, Santos TS. Evaluation of the agreement by examiners according to classifications of third molars. Med Oral Patol Oral Cir Bucal. 2012; 17: 281-216.
6. Kaya GS, Aslan M, Omezli MM, Dayi E. Some morphological features related to mandibular third molar impaction. J ClinExp Dent. 2010; 2: 12-17.
7. Renton T, Wilson NHF. Problems with erupting wisdom teeth: signs, symptoms, and management. Br J Gen Pract. 2016; 66: 606-608.
8. Dodson TB, Susarla SM. Impacted wisdom teeth. BMJ Clin Evid. 2014; 1302.

9. Review of TA1; Guidance on the extraction of wisdom teeth. National Institute for Health and Care Excellence Guidance Executive.
10. Wisdom Teeth Management, American Academy of Oral and Maxillofacial Surgeons.
11. Bedos C, Loignon C, Landry A, Allison PJ, Richard L. How health professionals perceive and experience treating people on social assistance: a qualitative study among dentists in Montreal, Canada. BMC Health Serv Res. 2013; 13: 464.
12. Dodd VJ, Logan H, Brown CD, Calderon A, Catalanotto F. Perceptions of Oral Health, Preventive Care, and Care-Seeking Behaviours among Rural Adolescents. J Sch Health. 2014; 84: 802-809.
13. Afroz S, Rathi S, Rajput G, Rahman SA. Dental Esthetics and Its Impact on Psycho-Social Well-Being and Dental Self Confidence: A Campus Based Survey of North Indian University Students. J Indian Prosthodont Soc. 2013; 13: 455-460.
14. Ekanayake L, Mendis R. Self-reported use of dental services among employed adults in Sri Lanka. Int Dent J. 2002; 52: 151-155.