



## Scholars research library

Archives of Applied Science Research, 2011, 3 (6):364-368  
(<http://scholarsresearchlibrary.com/archive.html>)



# Prophylactic Extraction of Third Molars in Delta State, Nigeria

Ese Anibor, Mabel O. Etetafia and Patrick S. Igbigi.

*Department of Human Anatomy and Cell Biology, Faculty of Basic Medical Sciences, Delta State University, Abraka, Nigeria.*

---

## ABSTRACT

*Third molars have a bad reputation due to their posterior location in the mouth, hence making them more difficult to clean. The issue of prophylactic extraction of third molars in Delta State was studied using a cross sectional survey. Quantitative methods were used and 394 subjects participated. This involved the use of questionnaires and observation. Intra-oral examination was done to note the presence or absence of the third molars. Impactions of the third molars as well as the state of the periodontal tissues were observed. There was a highly significant relationship between age and impacted third molars ( $P < 0.01$ ). A highly significant relationship was seen for age and third molars ( $P < 0.001$ ). This means that the prevalence of third molars and impacted third molars may be related to age. No significant relationship was however seen for age and infections ( $P > 0.05$ ); an indication that the prevalence of infections associated with third molars may not necessarily depend on age. Hence prophylactic extraction of third molars may not be worthwhile. This study has therefore shown that prophylactic extraction of third molars may not be beneficial.*

**Keywords:** Impacted, third molars, prophylactic, extraction, Delta State.

---

## INTRODUCTION

Third molars (Wisdom teeth) often develop in inappropriate positions, and they may be unable to erupt properly [1]. Third molars have a bad reputation due to their posterior location in the mouth, hence making them more difficult to clean. Their wrinkled, fissured occlusal surface also does not help matters. These teeth may be more prone to developing decay than other teeth. Mandibular third molars often erupt so far distally that they emerge near the vertical mandibular ramus with compromised gingival health, so dentists often suggest that these teeth be removed to prevent future problems. In some people, third molars may be dwarfed in size or may not

develop at all [2]. With the development of society, the living environment of people has also changed with increasing consumption of soft food. Therefore, the jaw sizes in people are decreasing, which has resulted in an increasing frequency of impacted third molars behind the second molars [3]. Hence the causes of impacted third molars include inadequate space to accommodate the erupting teeth [4,5].

Impacted third molars result in infections such as pericoronitis and periodontitis. Some of the other lesions associated with the third molars are caries, tumours and cysts such as dentigerous cyst. Crowding of the anterior teeth is also associated with the wisdom teeth. Resorption of the adjacent second molar could also occur. Various studies have been carried out on third molars around the world [6,7,8,9]. Nigeria has not been left out in such studies [10,11]. Literature search did not reveal any study on the third molars in Delta State. This study will be very interesting and necessary in this environment. This work will enable one see if there are peculiarities in the third molars of the individuals in this state. The studies done in other parts of the world and even in Nigeria will be compared with this study. Information derived from this study will be useful to all practicing Dental Surgeons. It will afford Dental Surgeons more rational decision making as far as the third molars are concerned.

This study was carried out to determine if wisdom teeth should be extracted prophylactically or only when problematic.

### **MATERIALS AND METHODS**

Two educational institutions were selected through balloting from the list of secondary and tertiary institutions in each of the 3 senatorial districts. The subjects were sorted into group A (male) and B (female). There was stratified random sampling to ensure that the age groups of interest (less than 16 years, 16-25 years, 26-35 years, 36-45 years and more than 45 years) were selected. Selected subjects were screened to ensure that they are all Deltans. Quantitative methods were employed in data collection. These involved the use of questionnaires and observation using 394 respondents. The questionnaires were self-administered using the captive audience technique where respondents who are students and teachers were in a classroom or lecture room to complete the questionnaires at the same time. Observation of every subject was done before collecting his or her questionnaire. Extra-oral and intra-oral examinations were done. In the intra-oral examination it was noted if there was presence or absence of the third molars. Also impactions of the third molars were observed. The periodontal tissues were also observed around the mouth and especially surrounding the third molars. Data collection was done in two weeks. It was done between the 21<sup>st</sup> of September and 2<sup>nd</sup> of October, 2009. Ethical issues were considered prior to data collection. The principals of the institutions visited gave their consent before data collection commenced. Informed consent was also obtained from the respondents. Also prior to the commencement of the study, permission was obtained from the Research and Ethics Committee of the College of Health Sciences in Delta State University.

The data obtained from the questionnaires and intra-oral examinations were collated and analyzed using Statistical Package for Social Sciences. Frequency tables and graphs were derived. The data were subjected to chi-square test procedure. The p values less than 0.05

( $P < 0.05$ ) were considered significant. The P values less than 0.01 ( $P < 0.01$ ) and less than 0.001 ( $P < 0.001$ ) were considered highly significant.

## RESULTS

The sample is as shown in Table 1. The modal age group of the respondents is 16-25 years. The frequency of this age group is 152 as indicated in Table 2. The female gender constituted the bulk of the subjects (62.2%) People from different ethnic groups in Delta State were involved in the study as indicated in Table 3. 42.6% of the subjects have their third molars present in their mouths. 17.5% of these claimed to have encountered problems with their third molars. 5.0% of the respondents claimed to have visited a dentist because of their third molars. The most common problem most of the 5% claim to have encountered with their third molars is pain. Table 4 illustrates that those with problematic third molars can thrive with other therapy aside from extraction. The results of the intra-oral examination done on the research subjects indicate that 21.8% have impacted third molar teeth. 9.5% of the people with impacted third molars in this study have oral infections.

The relationship between age and impacted third molars was highly significant ( $P < 0.01$ ). A highly significant relationship was also seen for age and third molars ( $P < 0.001$ ). The relationship between age and infections was not significant ( $P > 0.05$ ).

**Table 1 Sample**

	Frequency	Percentage
School of Health, Ofuoma	62	15.7
College of Education, Agbor	64	16.2
School of Nursing, Warri	67	17.0
College of Education, Warri	71	18.0
State School of Midwifery , Asaba	52	13.2
Orhuwhorun high School, Orhuwhorun	78	19.8
<b>Total</b>	<b>394</b>	<b>100.0</b>

**Table 2 Ages of the Respondents**

	Age	Frequency	Percentage
Valid	<16yrs	83	21.1
	16-25yrs	152	38.6
	26-35yrs	80	20.3
	36-45yrs	44	11.2
	More than 45ys	34	8.6
	Total	393	99.7
Missing		1	.3
System			
<b>Total</b>		<b>394</b>	<b>100.0</b>

**Table 3 Ethnicity**

<b>Ethnicity</b>	<b>Frequency</b>	<b>Percentage</b>
Igbo	105	26.6
Ijaw	14	3.6
Isoko	19	4.8
Itsekiri	13	3.3
Urhobo	243	61.7
<b>Total</b>	<b>394</b>	<b>100.0</b>

**Table 4 Treatment Given For Third Molars**

<b>Therapy</b>	<b>Frequency</b>	<b>Percentage</b>
Valid Antibiotics	1	5.6
Drugs	1	5.6
Extraction	12	66.7
Filling	1	5.6
Irrigate	1	5.6
Other forms of therapy	2	11.2
<b>Total</b>	<b>18</b>	<b>100</b>

## DISCUSSION

A fallacy of two schools of thought exists. One school of thought is endorsed by oral and maxillofacial surgeons who contend that most third molars are potentially pathologic and should be removed. The other holds that only third molars with associated pathology should be removed. The legal system, in which decisions are generally based on norms of practice or local or regional standards of care, credits each school of thought as having equal merit, ignoring the scientific evidence base. The fact that most third molars, impacted or not, do not become diseased and that the risk of iatrogenic injury from such surgery is greater than the risk of leaving asymptomatic, nonpathologic teeth alone does not override the expert opinion of oral and maxillofacial surgeons[12].

From the results, 9.5% of the people with impacted third molars in this study had oral infections. This represents the risk of developing one of the complications associated with impacted third molars. The risk involved is small and may not warrant prophylactic extraction of third molars. There was a highly significant relationship between age and impacted third molars ( $P < 0.01$ ). A highly significant relationship was seen for age and third molars ( $P < 0.001$ ). This means that the prevalence of third molars and impacted third molars may be related to age. No significant relationship was seen for age and infections ( $P > 0.05$ ). This implies that the prevalence of infections associated with third molars may not necessarily depend on age. Hence prophylactic extraction of third molars may not be worthwhile.

In the Scandinavian male population, Bjork *et al.*, (1956) estimated a 20% to 25% risk of impaction of third molars [13]. In this study 21.8% have impacted third molar teeth. Ahlqwist

and Grondahl (1991) found pathological conditions in 16% of impacted third molar cases [14]. 9.5% of the people with impacted third molars in this study have oral infections. Other pathological conditions associated with the third molars such as caries, tumours and cysts like dentigerous cyst were however not investigated in this study.

### CONCLUSION

Prophylactic extraction of third molars may not be beneficial. Wisdom teeth should be extracted only when problematic. However, there should be randomized controlled studies to compare the long-term outcome of prophylactic removal with retention of pathology - free third molars.

### Acknowledgement

We wish to acknowledge the contribution of Mr. Ruben Emoregan towards the success of this work.

### REFERENCES

- [1] FH Martini; MJ Timmons and RB Tallitsch. Human Anatomy 4<sup>th</sup> Ed: Pearson Education, Inc. **2003**, 674-675.
- [2] GJ Tortora. Principles of Human Anatomy 1<sup>st</sup> Ed: Addison Wesley Educational Publishers. Vol 2. **1991**, 161
- [3] DJ Choi; JW Park; SM Hong; HWA Kim; JS Kim and KY Kim M. *Journal of Oral and Maxillofacial Surgery* **2007**, 65 (9) Supplement 1: 43-44. 8<sup>th</sup> Ed: 718.
- [4] PD Waite and RR Raynolds. *Seminar on Orthodontics*. **1998**, 4: 113
- [5] HC Killy and LW Kay. The impacted wisdom tooth. 3<sup>rd</sup> Ed: Churchill Livingstone London. **1978**, 18-19.
- [6] WG Flick. *Journal of Oral and Maxillofacial Surgery*. **1999**, 57 (4): 438 –444.
- [7] I Venta; C Lindqvist and P Ylipaavalniemi. *Acta Odontologica Scandinavica*. **1998**, 56: 193-196.
- [8] M Chiapasco; M Crescentini and G Romanoni. *Journal of Oral and Maxillofacial Surgery*. **1995**, 53 (4): 418-423.
- [9] SE Bishara. *American Journal of Orthodontics and Dentofacial Orthopedics*. **1999**, 115 (6): 628-633.
- [10] WL Adeyemo. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontics*. **2006**, 102 (4): 448-452.
- [11] WL Adeyemo; O Jones; MO Ogunlewe; AL Ladeinde; OA Taiwo and AC Olojede. *Nigerian Postgraduate Medical Journal*. **2008**, 15 (1): 42-46.
- [12] J W Friedman. *American Journal of Public Health*. **2007**, 97(9): 1554–1559.
- [13] A Bjork; E Jensen. and M Palling. *Acta Odontologica Scandinavica*. **1956**, 14: 231-272.
- [14] M Ahlqwist and G Grandahl. *Community Dentistry and Oral Epidemiology*. **1991**, 19 (2): 116 –119.