

Prevalence and Patterns of Mandibular Third Molar Impactions In Madurai, South India –A Descriptive Cross Sectional Study.

*Dr R. Anitha MDS¹, *Dr S.Devakumari MDS²

¹(Oral And Maxillofacial Surgeon, Professor And HOD, Department Of Dentistry, Govt. Rajaji Hospital, Madurai Medical College, Tamilnadu , India.)

²(Corresponding Author, Oral And Maxillofacial Surgeon, Associate Professor And HOD, Department Of Dentistry, Indira Gandhi Medical College And Research Institute(Govt.), Puducherry-605008,India)
Corresponding Author: *Dr S.Devakumari MDS

Abstract: Mandibular third molars are the most common impacted teeth in human dentition. This is attributed to evolution and modern dietary habits. Infections and pathologies from third molars are major factors affecting oral health next to dental caries and periodontal diseases .A descriptive cross sectional study was undertaken to analyse the patterns and prevalence of mandibular third molars in Govt. Rajaji hospital Madurai, India. Demographic and clinical and radiological data of one hundred patients who underwent surgical removal of lower third molars were retrieved tabulated and analysed using SPSS software version 16.The results shows that patient underwent surgical removal of third molars were 1.Females predominantly 2.common age group is 26 to 35 years 3.distoangular being the most common impaction type and 4. Pericoronitis is the most common aetiology.

Keywords: cross sectional study, distoangular impactions, , Pericoronitis, prevalence, third molar impaction.

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I. Introduction

Evolutionary process had led to reduction in jaw size (more parabolic jaws) and tooth size¹.Evolutionary changes coupled with adherence to modern soft diet had increased the incidence of impacted third molars. Studies from western countries and African countries support this hypothesis. Impactions of mandibular third molars lead to early caries formation(due to the complex differential anatomy of the tooth) and food impaction. Mandibular third molars being the last tooth to erupt get impacted and leads to Pericoronitis, dental caries and serious life threatening fascial infections. Prevalence and patterns of impacted mandibular third molars were reported from various states of India and worldwide. Descriptive cross sectional study was conducted to study patterns and prevalence o mandibular third molar impactions in south Indian population, Madurai.

II. Materials And Methods.

A descriptive cross sectional study was conducted in the department of Dentistry, Madurai medical college on prevalence and patterns of impacted mandibular third molars .Demographic, clinical and radiological data (IOPA) were retrieved for 100 patients (January 2016 to August 2016) for the assessment. Following parameters were assessed.

1. -Age.
2. -Sex.
3. -Aetiology.
4. -location of impacted third mandibular third molar (48 or 38) .
5. -Angulation (Winters classification).
6. -Position and level of impacted tooth (Pell and Gregory classification).

Inclusion criteria:

-Age group—16 to 52 yrs.

-Patient who underwent surgical removal of 38 or 48 under LA by Transalveolar method.

Exclusion criteria:

-Missing second molars.

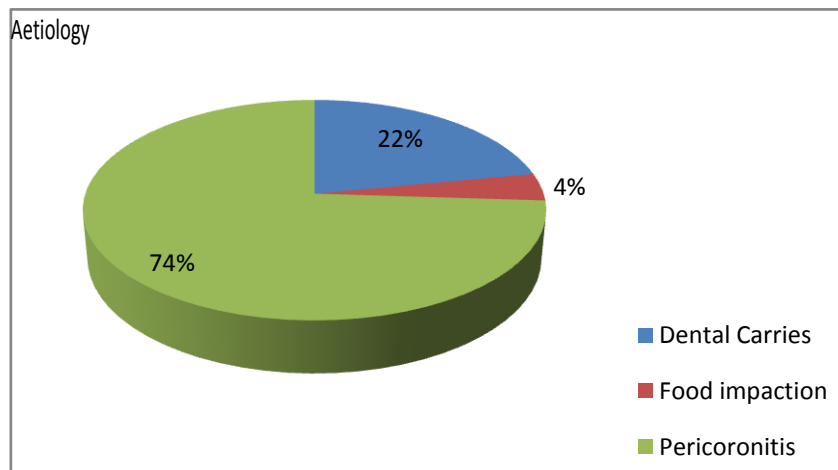
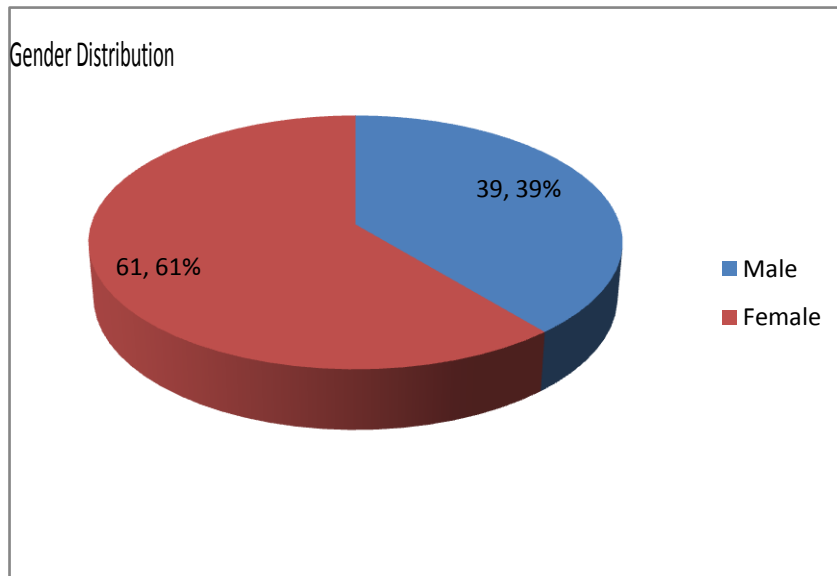
-Previous history of surgery in the mandible.

-Removal for orthodontic reasons.

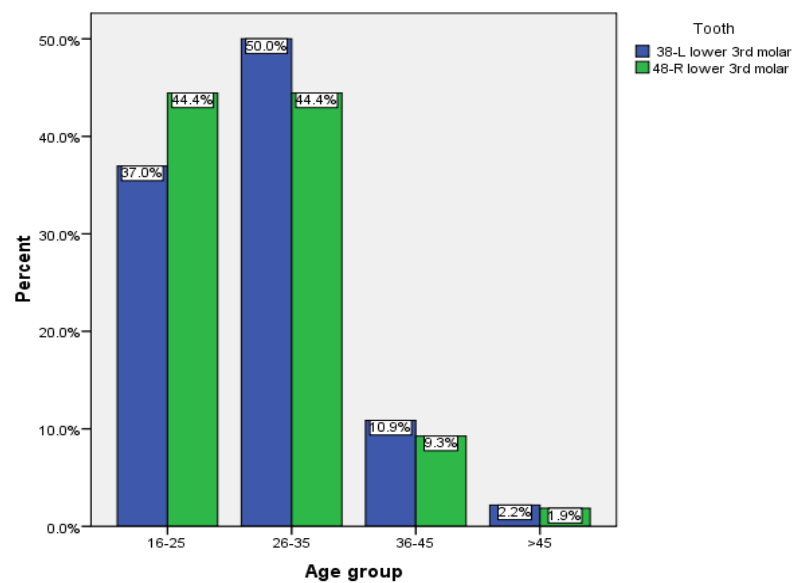
-Buccoangular and ectopic impactions.

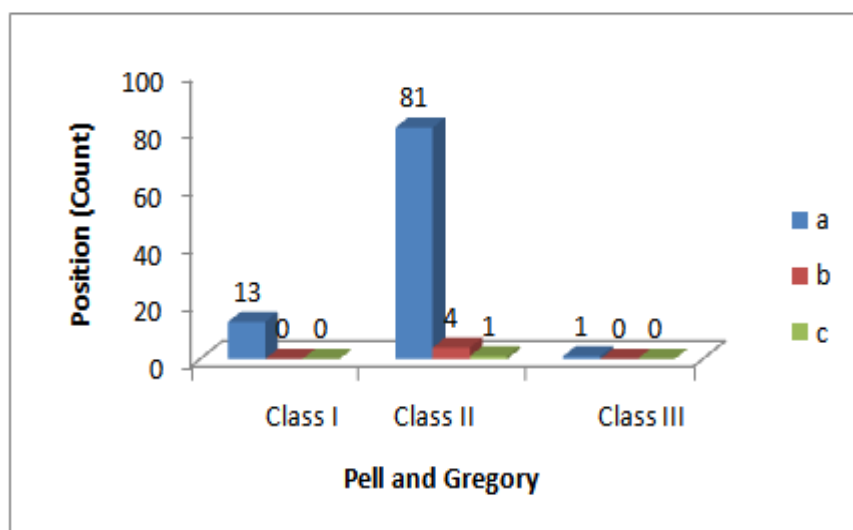
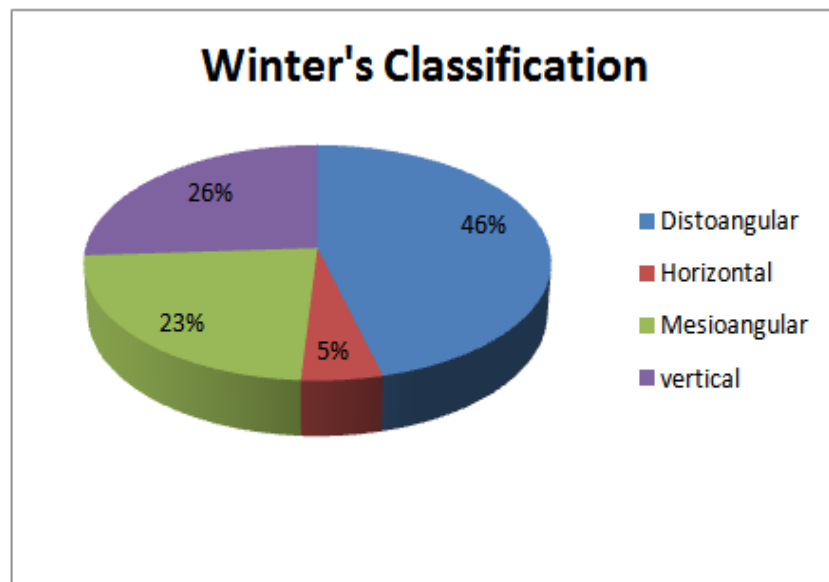
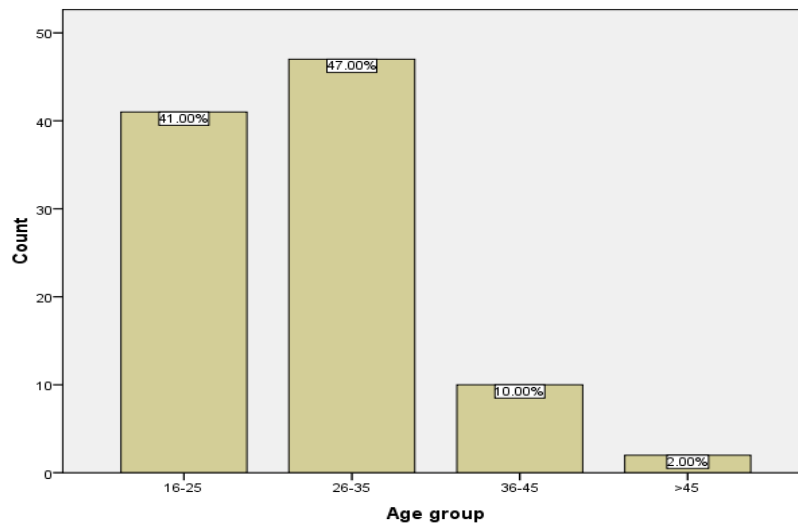
-Impacted tooth removed by closed methods.

7. The analysis of retrieved data was done using SPSS software version 16.



Age distribution





III. Results

Impacted mandibular third molars were more prevalent in the age group of 26 to 35 yrs. 66% Females had undergone surgical removal more than males (61%). The most common aetiology is Pericoronitis(74%) followed by dental caries .Distoangular(winters classification) is the most commonest type of impacted tooth(46%) that was removed followed by vertical type(26%). Position and level as ascertained by Pell and Gregory classification was class 2 and position A (81%) was the most common finding.

IV. Discussion

Removal of Impacted mandibular third molars are common oral surgical procedures that are routinely done in oral surgical clinics. Mandibular third molars are the most common tooth to get impacted in jaws than maxillary third molars , this is due to the presence of compact bone in the mandible and greater mesio distal width of posterior arch in maxilla^{2,3,4}. India being the most diversified country with dense population presents with varied differences in the prevalence of impacted mandibular third molars from different states. This is due to racial differences and difference in food habits.

Our study shows strong females preponderance although some studies contradict about gender predilection^{5,6,7}. This is due to early growth spurt in females and late mineralisation of mandibular third molars. In females the end o growth spurt coincides with the onset of menarche and now the age of menarche is found to be early by 2. 8 years^{8,9,10} in this era because of change in life style and dietary pattern.

As far as age is concerned, impacted tooth removal was mostly done at the age group of 26 to 35 yrs according to our study. This is because in India prophylactic removal of .potentially impacted third molars were not done and only symptomatic tooth were removed one by one under LA generally. This can also be attributed to lack of insurance cover for these elective oral surgical procedures widely.

The most common type of third molar impaction reported for surgical removal was Distoangular impactions. The study by Rajdan¹¹ in north India and Venu gopal Reddy¹² in Dharwad south India shows vertical as the most common type of impactions .This may be due to the fact that their sample collection was not on post operative records. Most of the vertically impacted third molars were attempted by closed methods in Indian setting .Pericoronitis is the commonest cause for impacted tooth removal according to our study.

V. Conclusion

This study on the south Indian population analyses prevalence and patterns of impacted mandibular third molars in this region. Mandibular third molar impactions are the most common oral surgical procedures done. Incidence of impacted tooth is increasing because of modern dietary habits and evolution. With this trend it is imperative to equip Indian health care system with oral and maxillofacial surgeons in all government run hospitals.

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