



Influence Of Impacted Lower Third Molar Teeth On Teeth Crowding

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ABSTRACT: Impacted teeth have ever since been held responsible for influencing crowding of anterior lower teeth. Also the influence of the third molars on mandibular incisor crowding has been extensively studied but still remains controversial. The purpose of this study was to ascertain whether, in Saudi Arabian subjects, the lower third molar can affect anterior crowding and/or the inclination of teeth in the lower lateral segments. Panoramic radiographs were studied in subjects (age range 21 to 42 years, mean 27.2 years) exhibiting impacted lower third molars. Crowding was said to be existing if teeth overlap in the form of radiopaque line between teeth was found. Impaction of third molars was classified based on winters classification. No statistically significant relationships between the angulation of the third molars and anterior incisor crowding was found. Between the first molars and second premolars were found. Paradoxically it was found that anterior crowding absence was found in greater numbers in impacted teeth cases. Furthermore, although the third molar influences the lateral segments, no obvious relationship between the third molar and anterior crowding was observed. Therefore, the angulation of the third molar appears not to cause anterior crowding and as such should not be sacrificed with sole purpose of relieving anterior teeth crowding.

Key Words: impacted teeth, anterior crowding, third molar, angulation

I. INTRODUCTION:

The factors responsible for anterior crowding could be tooth size and arch length discrepancy, presence of supernumerary tooth, Bolton's discrepancy or anterior pressure caused by the presence of third molars and mesial component of force. [1,2] The third molar thus puts pressure on dentition leading to crowding in the anterior region as showed by many authors[3, 4]. And the removal [5,6] or absence [7-9] leads to a more

stable and less crowded dentition. However later authors concluded that third molars do not influence dental crowding and if they do it, its not statistically significant. [10- 14] As such lower third molar influence on anterior crowding is still controversial, and has been an object of debate for many years till now studies to directly evaluate the association between presence of lower third molars and crowding of the anterior teeth are lacking. So the aim of the current study is to study this association in a set of Saudi Arabian population

II. MATERIALS AND METHODS:

This study was a retrospective, cross sectional one studying local population of Southern region of Saudi Arabia who had visited the college of dentistry of King Khalid university. The samples included 500 digital OPGs of individuals with following criteria's.

Inclusion criteria's of subjects were:

- 1.Age ≥ 21 which is upper limit of third molar eruption.
- 2.Full complement of teeth i.e no missing teeth.

Exclusion criteria's of subjects were:

- 1.Removable prosthesis.
2. Lower third molar agenesis or removal.
3. Active or previous orthodontic treatment.

The sampling method used was convenience sampling. The OPGs were divided into two groups (250 each) one with impacted teeth and other without impacted teeth. The OPGs were assessed by a single expert in the field of dentistry, by using a standardized software and were examined as follows:

1. Crowding will be considered to be present if there is overlap of one tooth over the other seen as more prominent radiopaque line between teeth.
2. Impaction will be considered according to winter's and pell & Gregory classification.



Statistical methods were used to find the association between presence of impacted lower third molars and anterior crowding of teeth.

III. RESULTS AND DISCUSSIONS:

Results:

Out of about 650 searched OPG's 500 met the inclusion & exclusion criteria's which were divided into impaction and non impaction groups. Demographically there were 87% males and 13% females. Also the age of the selected individuals ranged from 21 to 42 years with average age of 27.2 years. The other results are shown in the table, graph and pie charts.

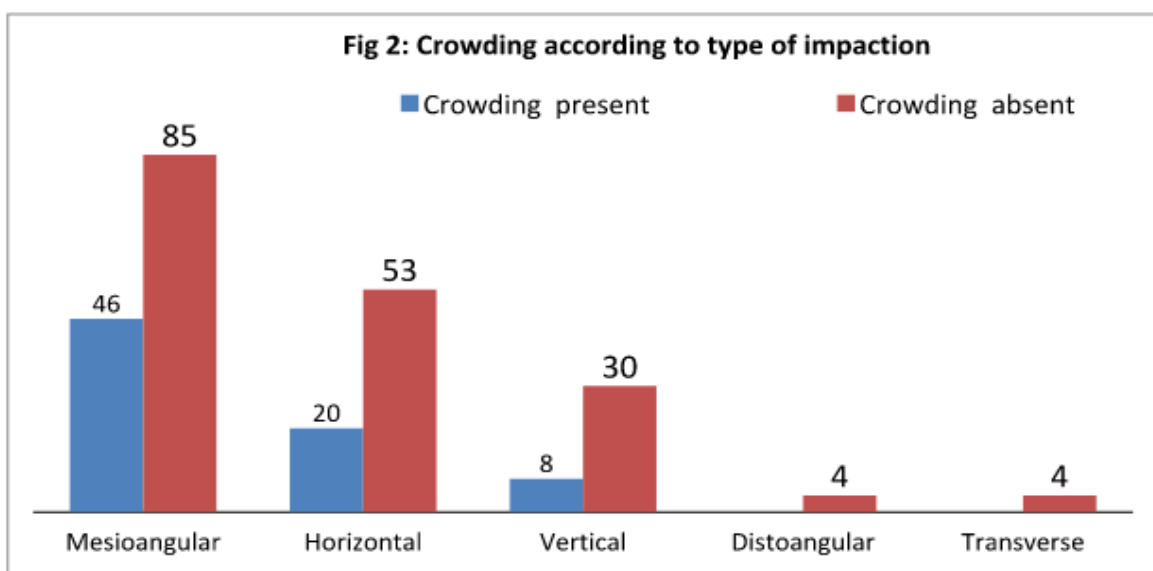
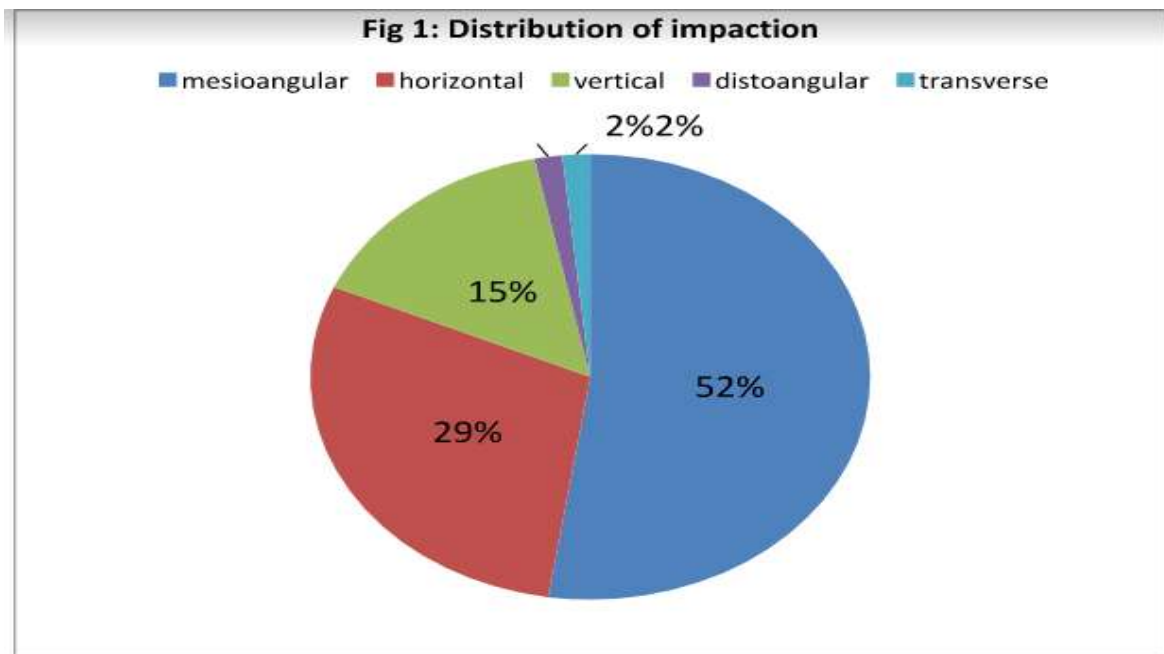




Table 1: Incisor crowding distribution according to gender and age .

Factors	Category	Incisor Crowding Present	Incisor Crowding Absent	P Value
Age (Years)	Mean ± SD	27.14 ± 2.36	27.21 ± 2.52	>.05
Gender	Female, N= 65 (13%)	19 (3.8 %)	46 (9.2%)	>.05
	Male, N= 435 (87 %)	119 (23.8 %)	316 (63.2 %)	
Total		(N= 138)	(N=362)	

Table 2: Incisor crowding distribution according to type of impaction of lower third molars.

Type Of Impaction	Incisor Crowding Present	Incisor Crowding Absent	P Value	Odds Ratio [95% CI]
Mesioangular	92 (18.4 %)	165 (33%)	0.106	0.7346 [0.5053-1.106]
Horizontal	29 (5.8 %)	116 (23.2%)		
Vertical	14 (2.8%)	64 (12.8%)		
Distoangular	0	9 (1.8%)		
Transverse	2 (0.4%)	9 (1.8%)		

DISCUSSION:

Concerning the role of third molars in mandibular incisor crowding, there has been a difference of opinion among authors before and after the 90's. The older ones [3,4] favouring and the later ones [10-14] against the role of third molars. However there is a variety of factors like age of the patients, their ethnical background, the developmental stage of third molars at the time of the extractions, confounding factors that could have affected the results of the above studies. Further very less studies have studied the association of presence of lower third molar as cause of anterior crowding. Our study, though having less subjects to get a statistically significant result, however clearly shows that there is no association between the two. There were more case of absence of crowding than presence with all types of impaction. Also since majority of prophylactic disimpactions are carried to relieve anterior teeth crowding is unjustified as there seems to be no statistical basis for the same.

IV. CONCLUSION:

To conclude the practice of third molar extraction with the sole purpose of relieving anterior tooth crowding is unjustified and hence should be discouraged. Further since the topic is still considered to be controversial further larger studies finding the direct association (which is less studied) of third molar impaction presence and anterior crowding should be encouraged.

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