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Third Molar A Cause for Dental Crowding: Opinion of Orthodontists And Oral Surgeons

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Abstract
Aim: *To study the relation between third molar eruption and dental crowding .*
Objective : *The main objective is to study the role of the third molars as a cause of incisor crowding .*
Background: *The role of third molar a cause for incisor crowding has been continuous controversial. cause for the dental crowding. This is a questionnaire based study.*
Reason: *This research is done to study the different opinion of orthodontists and the oral surgeon for the extraction of third molar to prevent the dental crowding .*
Keywords: *third molar , crowding, extraction.*

I. Introduction

The relation between third molars and dental crowding has not yet been clarified in the literature. Clinicians have always been divided between supporters and opponents of anterior dental crowding produced by the force generated by the third molar eruption. For the same reason, the surgical prophylactic approach for the third molar has always been seen as the cure by the former and a 'placebo' by the latter. Many articles are available about this topic in the literature. Bergstrom [1] in 1961 was one of the first authors to analyze the influence of the third molar in the developing dental arch and to say that there was a relationship between the teeth and the incisor change. Vego [2] 1 year later concluded that the eruption of lower third molars could exert a force on the neighboring teeth. More recently, Lindqvist [3] maintained that the eruption would create a pressure toward the anterior teeth. On the contrary, Broadbent [4] was one of the first authors to support the opposite theory whereby the presence of third molars had no influence on the teeth. Many other authors reported no correlation between third molars and anterior crowding.

Sidlauskas [5] and Richardson [6] did not consider the force exerted by the wisdom tooth capable of causing crowding. Southard [7] analyzed the eruption process and concluded that there is no force generated by that, and even if it existed, it would be insufficient to significantly affect anterior crowding. Karasawa [8] concluded that the presence of wisdom tooth had no influence on anterior teeth. Mettes et al. [9] in a systematic review showed that there was no sufficient evidence to support the prophylactic extraction theory. Bishara [10] from his systematic review concluded that the influence of the third molars on the alignment of the anterior dentition may be controversial, but there is no evidence to incriminate these teeth as being the only or even the most important etiologic factor in the post-treatment changes in incisor alignment. Marielle Blake et al. [11] from their review concluded that 'if third molars were a contributing factor in the development of late lower incisor crowding, their role is likely to be one of minor importance'.

A randomized controlled trial was conducted by Harradine et al. [12] on 77 patients. They evaluated Little's index of irregularity, intercanine width, and arch length in patients after completion of orthodontic treatment randomly submitted to third molar extraction. The difference in crowding between the group with extracted third molar and the group with retained third molar was not clinically significant, and therefore, the removal of third molars to reduce or prevent late incisor crowding could not be justified.Even if the recent literature available on this topic denies a correlation between third molar eruption and anterior incisor crowding [13,14], Lindauer et al. [15] in a survey between US practitioners identified significant differences in the mindset of oral surgeons and orthodontists. According to Lindauer, surgeons were still significantly more likely than orthodontists to believe that erupting third molars produce an anterior component of force and cause crowding of the anterior dentition, and were therefore more likely to recommend prophylactic removal of third molars to prevent crowding. The aim of this work is to compare the current opinion of orthodontists and oral surgeons in Saveetha dental college.

II. Methods

A twelve- question questionnaire was created and distributed to the orthodontists and the oral surgeons of Saveetha Dental College.

The questions were

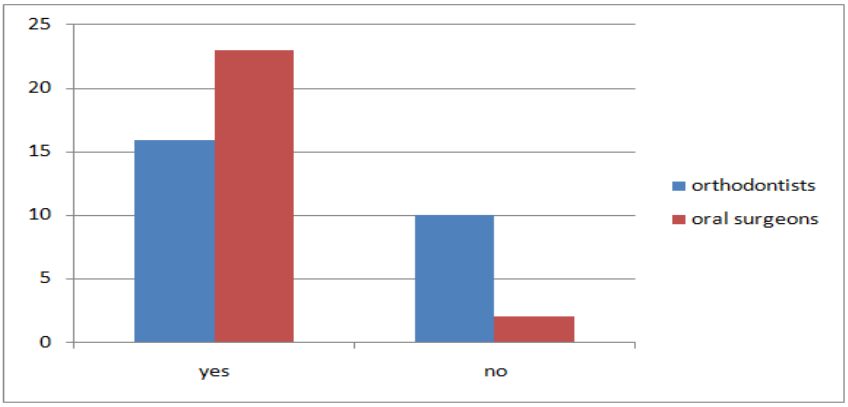
1. Which category do you belong to? (orthodontist/ oral surgeons)
2. How old are you ?
3. Years of experience in your specialty-
4. Do you think that the eruption of upper third molar is able to create anterior dental crowding ? (yes/no). If yes (always , often , sometimes, rarely)
5. Do you think that the eruption of lower third molars is able to create anterior dental crowding? (yes/no) . If yes (always , often, sometimes, rarely)
6. Do you consider the prophylactic extraction of the upper third molar useful to prevent anterior dental crowding ? (yes/no) . If yes (always , often , sometimes, rarely)
7. Do you consider the prophylactic extraction of the lower third molar useful to prevent anterior dental crowding ? (yes/no) . If yes (always, often , sometimes, rarely)
8. Do you think unerupted lower third molars can cause anterior crowding? (yes/no). If yes (always, often,sometimes,rarely)
9. Do you think unerupted upper third molars can cause anterior crowding ?(yes/no) . If yes (always, often, sometimes, rarely)
10. Do you think impacted lower third molar can cause anterior crowding? (yes/no) . If yes (always , often, sometimes, rarely)
11. Do you think imapacted upper third molar can cause anterior crowding ? (yes/no). If yes (always, often, sometimes, rarely)
12. If the anterior crowding is not because of impacted ,uneruptedor erupting third molar, what will be the other causes for anterior crowding ?

a) Supernumerary tooth
b) Variation in size/ shape of teeth
c) Arch length /tooth size discrepancy
d) Abnormal oral habits
e) Improper fillings (crown/bridge/restoration/braces)
f) Heredity
g) Premature loss of deciduous dentition
h) Delayed eruption of permanent dentition
i) All of the above
j) None of the above
k) If Any Other Cause Mention-

Institutional approval for the questionnaire was granted. Fifty one questionnaires were distributed among the oral surgeons and the orthodontists. Twenty six questionnaires were filled by the orthodontists and twenty five questionnaires were filled by the oral surgeons. Members were asked to tick the options and give their opinion on the role played by the third molar eruption in the incisor crowding both in the lower and the upper maxilla. They also had to report their clinical viewpoint on the effectiveness of third molar extraction in order to prevent dental crowding. The data were collected and the graph was done in MS Excel document .

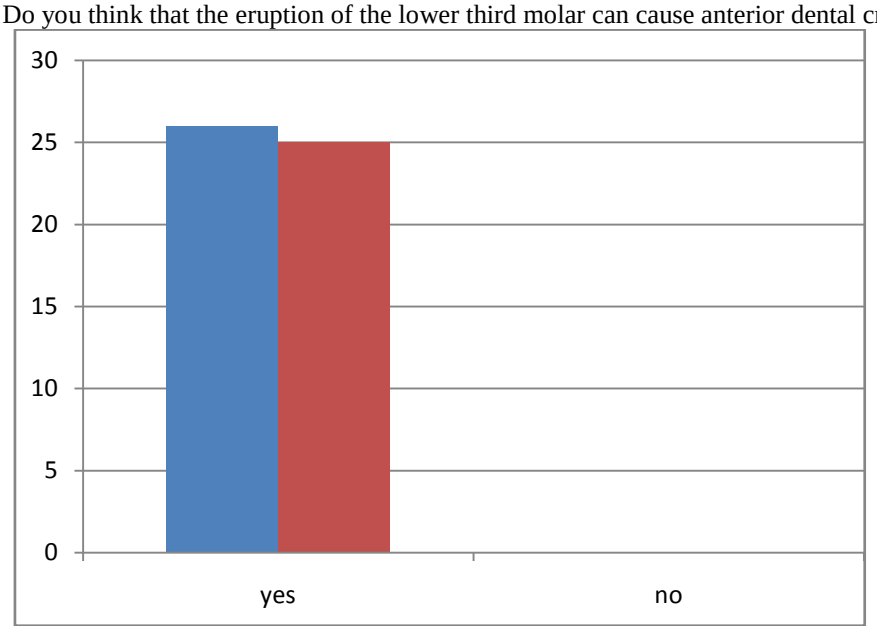
III. Results

A total of 51 memebers of both the departments completed the research survey. The orthodontists and the oral surgeons were from a age group of 25 to 42 years. The results are as follows for each questionnaire able1: Do you think that the eruption of upper third molar is able to create anterior dental crowding ?



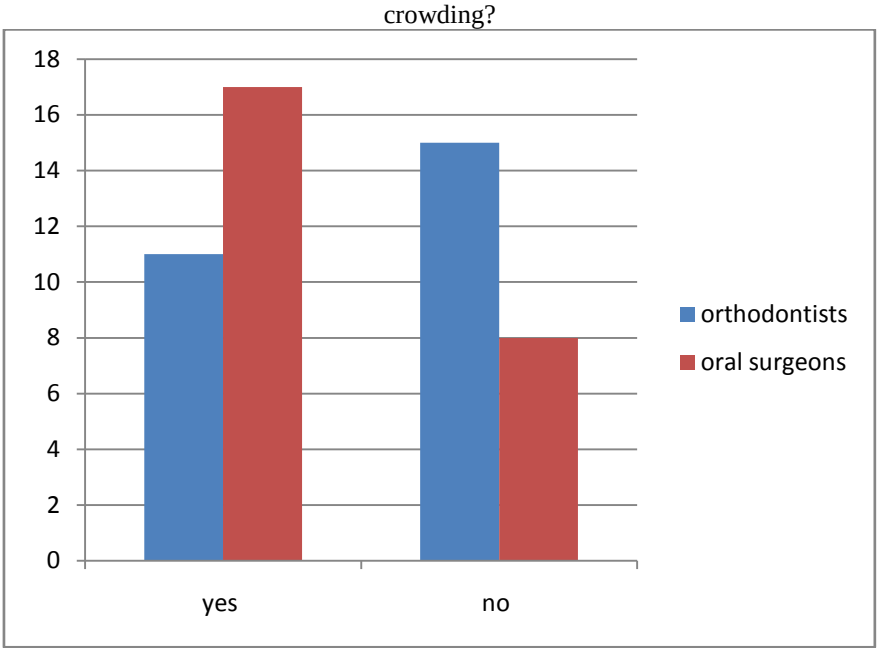
The 60% of the orthodontists and 92% of the oral surgeons think that eruption of the upper third molar is able to create anterior dental crowding. Whereas, 40% of the orthodontists and 8% of the oral surgeons think that eruption of the upper third molar is not a cause of anterior dental crowding. (table1)

Table 2: Do you think that the eruption of the lower third molar can cause anterior dental crowding?



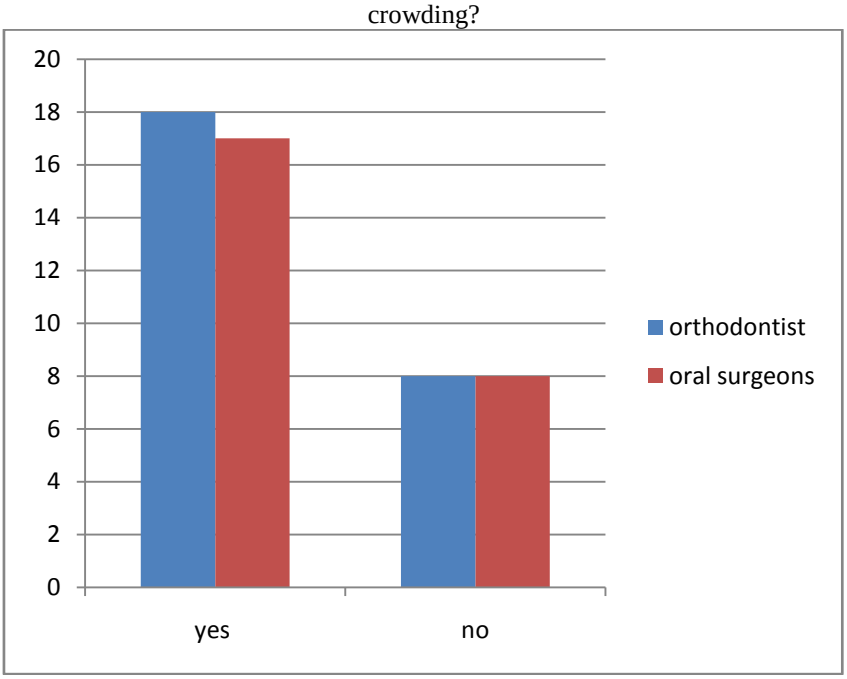
For the question about the eruption of lower third molar being a cause for the lower anterior crowding, 100% of both the oral surgeons and orthodontists agrees that eruption of the lower third molars can cause anterior dental crowding in the lower jaw.

Table3: Do you consider the prophylactic extraction of the upper third molar is useful to prevent the anterior crowding?



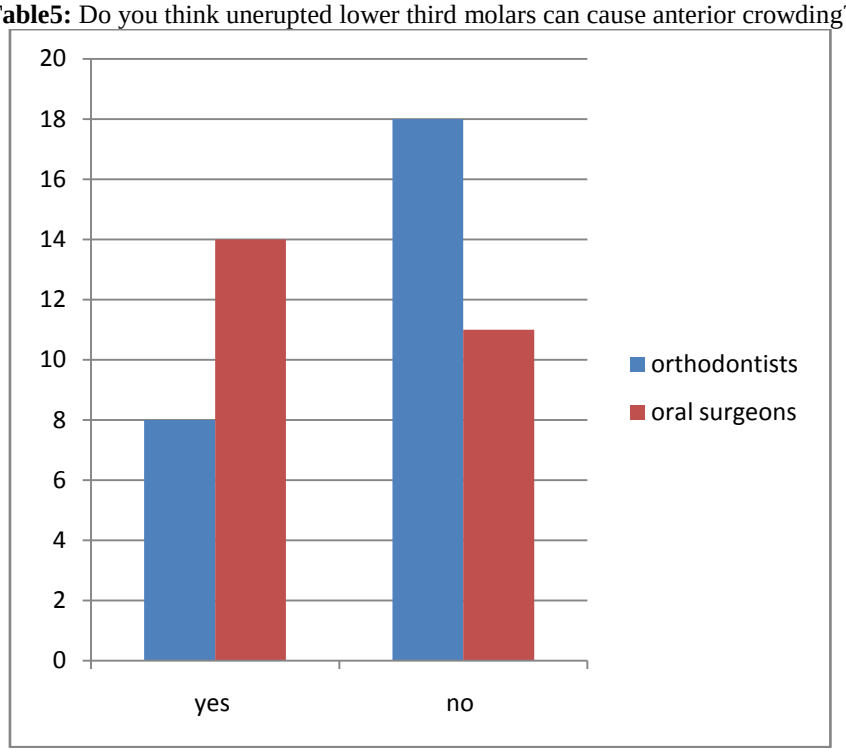
The 44% of the orthodontists and 68%of the oral surgeons agree that prophylactic extraction of the upper third molar is useful to prevent the upper anterior crowding. Whereas, 60% of the orthodontists and 32% of the oral surgeons disagree that extraction of upper third molars is useful to prevent the upper anterior dental crowding.

Table4: Do you consider prophylactic extraction of the lower third molar useful to prevent anterior dental crowding?



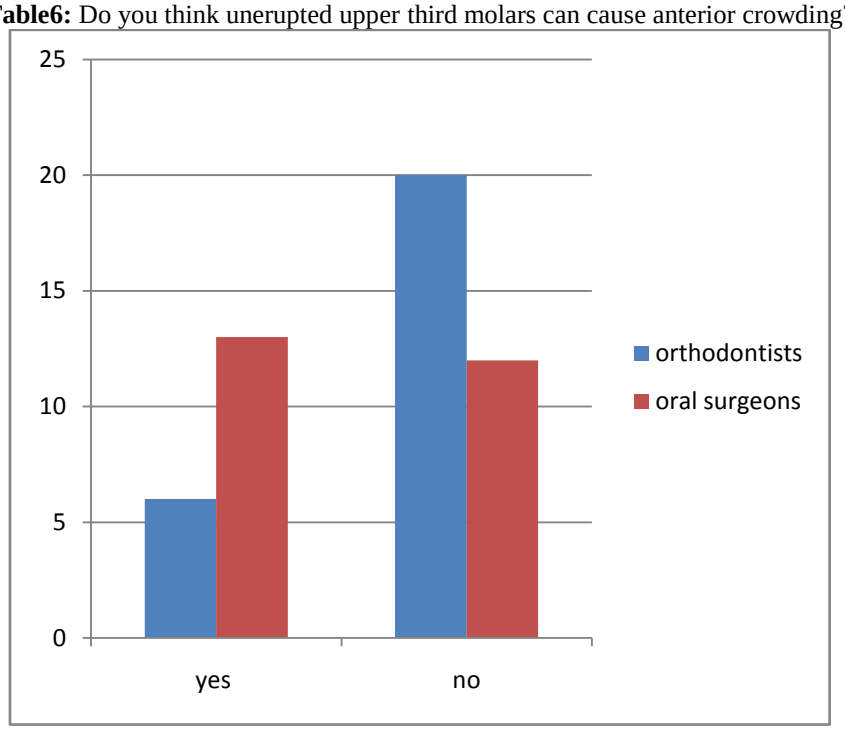
The 72%of the orthodontists and 68% of the oral surgeons agree that prophylactic extraction of the lower third molar is useful to prevent the anterior dental crowding. 33% of both the orthodontists and the oral surgeons disagree that extraction of the lower third molar is useful to prevent the lower anterior dental crowding.

Table5: Do you think unerupted lower third molars can cause anterior crowding?



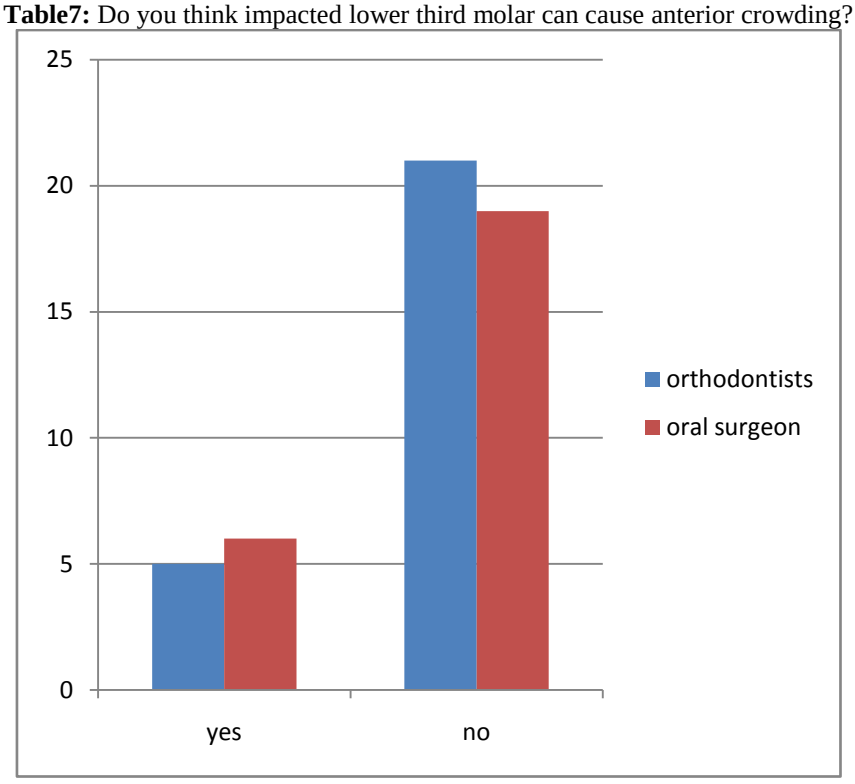
The 32% of the orthodontists and 56% of the oral surgeons agree that unerupted lower third molars can cause anterior dental crowding. Whereas, 72% of the orthodontists and 44% of the oral surgeons think uneruptedlower third molars are not a cause for the lower anterior crowding .

Table6: Do you think unerupted upper third molars can cause anterior crowding?



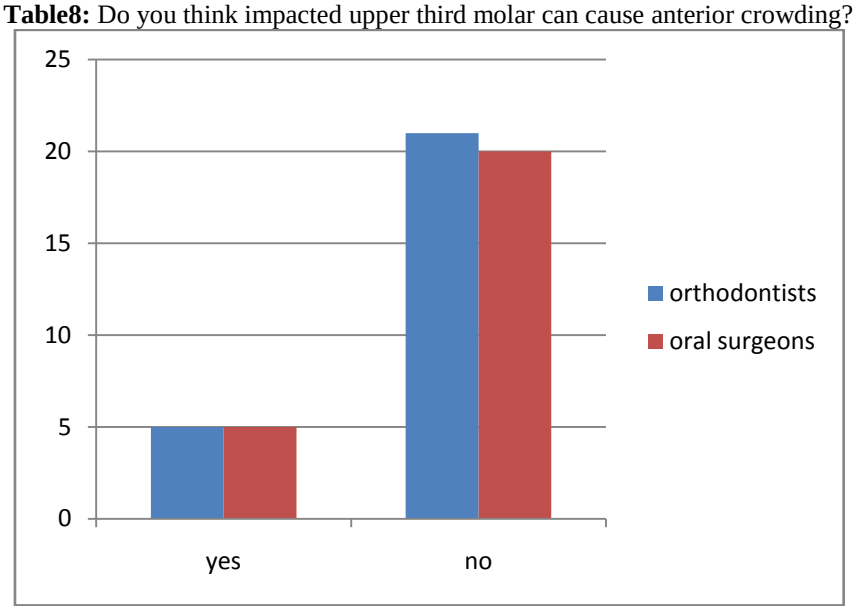
The 24% of the orthodontists and 52% of the oral surgeons think unerupted upper third molars can cause upper anterior crowding . 80% of the orthodontists and 48% of the oral surgeons think that unerupted third molars is not a cause for the upper anterior crowding.

Table7: Do you think impacted lower third molar can cause anterior crowding?



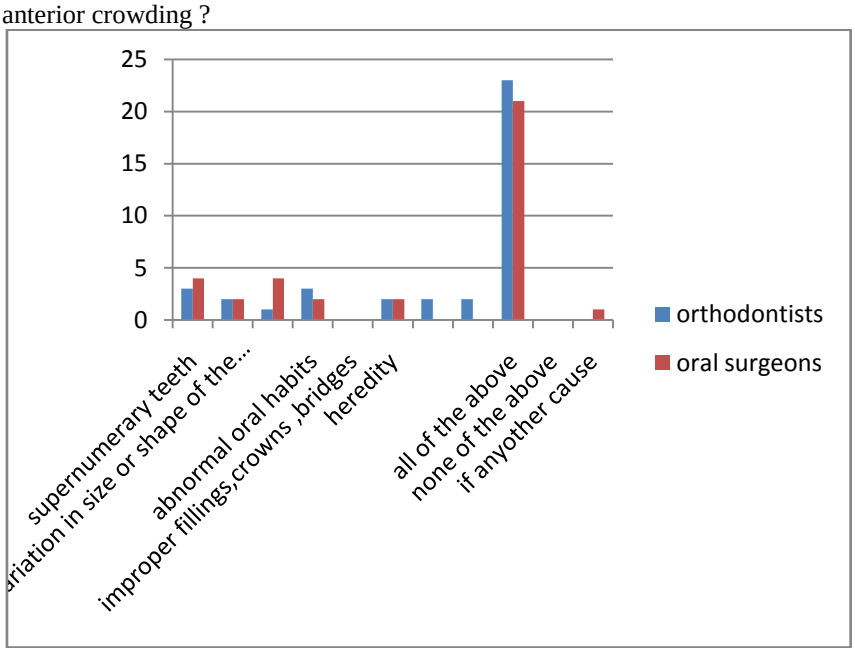
The 20% of the orthodontists and 24%of the oral surgeons think that impacted third molar can cause anterior dental crowding. Whereas, 80% of the orthodontists and 76% of the oral surgeons think that impacted lower third molar cannot cause lower anterior crowding .

Table8: Do you think impacted upper third molar can cause anterior crowding?



The 20% of the orthodontists and 20% of the oral surgeons agree that impacted upper third molar can cause anterior crowding. Whereas, majority 80% of the orthodontists and oral surgeons think impacted upper third molars is not a cause for the upper anterior crowding.

Table9: If the anterior crowding is not because of impacted ,unerupted or erupting third molar, what will be the other causes for anterior crowding ?



The 12th question in the questionnaire that was put forth for the orthodontists and the oral surgeons were the other causes that can cause anterior crowding. The options that were given to the orthodontists and the oral surgeons were supernumerary teeth, variation in size or shape teeth, abnormal oral habits , improper crowns, filling, heredity, all of the above, none of the above and any other cause. 8% of orthodontists and oral surgeons think that variation in the size and shape of the teeth can cause anterior dental crowding. 12% of orthodontists and 16% of oral surgeons think that supernumerary teeth can cause anterior dental crowding. 4% of orthodontists and 16% of oral surgeons think arch length discrepancies is a cause of anterior crowding. 12% of the orthodontists and 8% of the oral surgeons think that abnormal oral habits is a cause for anterior dental crowding. Majority 92% of the orthodontists and 84% of the oral surgeons think that all the above mentioned causes are responsible for the anterior dental crowding.

IV. Discussion

Even if the recent literature had clarified the marginal role of third molar eruption in the genesis of anterior crowding, this topic continues to be controversial among clinicians. Orthodontists are generally considered more conservative and more used to retain healthy wisdom teeth and not considering them a cause of incisor crowding; oral surgeons, on the other hand, usually have a more interventionist approach leading to the extraction of all the four wisdom teeth even if asymptomatic.

The set of questions was about the extraction of healthy third molar teeth as prophylactic treatment to prevent anterior crowding. It is important to underline that neither the National Institute of Clinical Excellence (NICE) in 2000 [17] nor the Scottish Intercollegiate Guidelines Network (SIGN) in 1999 reviewed in 2005 [18] considered potential tertiary crowding as a reason to justify the prophylactic extraction of third molars. They concluded that given the costs and risks associated with third molar extractions, there was no valid evidence to support the prophylactic removal of pathology-free (asymptomatic) third molars [19]. A recent review on asymptomatic third molars concluded that it could be more logical to just monitor these teeth over time rather than extract them [20].

It is seen that almost 99% of the orthodontists and the oral surgeons think that eruption of lower third third molars will be a sure cause for the lower anterior dental crowding .The 72%of the orthodontists and 68% of the oral surgeons agree that prophylactic extraction of the lower third molar is useful to prevent the anterior dental crowding. 33% of both the orthodontists and the oral surgeons disagree that extraction of the lower third molar is useful to prevent the lower anterior dental crowding.

The 32% of the orthodontists and 56% of the oral surgeons agree that unerupted lower third molars can cause anterior dental crowding. Whereas, 72% of the orthodontists and 44% of the oral surgeons think unerupted lower third molars are not a cause for the lower anterior crowding .The 20% of the orthodontists and 24%of the oral surgeons think that impacted third molar can cause anterior dental crowding. Whereas, 80% of the orthodontists and 76% of the oral surgeons think that impacted lower third molar cannot cause lower anterior crowding. Majority 92% of the orthodontists and 84% of the oral surgeons think that supernumerary teeth, variation in the size and shape of the teeth, arch length discrepancies , abnormal oral habits , heredity , premature loss of deciduous dentition and delayed eruption of permanent dentition are the causes of anterior crowding.

V. Conclusion

The influence of third molars on incisor crowding, remains controversial between clinicians. Considering the limits of the present survey, in particular the small size of the groups, no statistically significant differences were observed between oral surgeons and orthodontists. The majority of orthodontists and oral surgeons consider the upper third molar not able to cause dental crowding. On the other hand, contrasting percentages are reported for the lower third molar can cause anterior crowding. Both groups do not recommend the upper third molar extraction to prevent anterior crowding, but are more likely to suggest lower third molar extraction. Both the orthodontists and the surgeons think that the anterior crowding is due to the other causes and the third molars play a very less role in creating the anterior crowding.

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