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ORIGINAL ARTICLE

Mandibular Third Molars and Lower Anterior Crowding: Comparison of Opinions of Oral-Maxillofacial Surgeons and Orthodontists

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ABSTRACT

Objective: To compare the opinion of orthodontists and oral-maxillofacial surgeons on relation between erupting mandibular third molars and lower incisal crowding.

Patients and Methods: This descriptive study involved 100 Pakistani clinicians (50 orthodontists, 50 oral-maxillofacial surgeons) to answer online questionnaire regarding their opinions on link between erupting Mandibular Third Molars along with their extraction opinion with reference to development and prevention of lower incisal crowding. Data was analyzed using SPSS version 21.0. Pearson's chi-square test was applied and statistical significance was defined at <=0.05.

Results: Statistically insignificant differences were found between oral-maxillofacial surgeons and orthodontists regarding question of erupting mandibular third molars in causing lower incisal crowding. Similarly, statistically insignificant differences between oral-maxillofacial surgeons and orthodontists were found regarding question of recommending preventive extraction of mandibular third molars for developing lower incisal crowding.

Conclusion: No opinion differences were observed between Pakistani oral surgeons and orthodontists, regarding the link of lower third molar as a cause of lower incisal crowding.

Key words: Crowding; Orthodontists; Third molars

Author`s Contribution
[1,2] Conception, synthesis, planning of research and manuscript writing Interpretation and discussion
[3-6] Data analysis, interpretation and manuscript writing, Active participation in data collection.

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Introduction

In orthodontics, one of the most explored topics is the role of dentofacial development and mandibular third molars (M3M) in lower incisal dental crowding.[1,2] The proposed theory behind this association is, transmission of anterior component of force from erupting M3M to lower incisal region resulting in irregularity of lower anterior teeth.[3] Niedzielska,[4] Bergstrom[5] and Vego et al,[3] concluded that when retro molar space is deficient, M3M exert anteriorly directed force from behind the arch. More recently, Lindqvist also showed that M3M eruption would create anterior component of force toward the lower incisal teeth.[6] However, evidence on the role of M3M as cause of lower anterior crowding is still lacking.[7,8] A recently conducted randomized control trial (RCT) by Harradine et

al. concluded that the extraction of M3M to treat or prevent lower incisal crowding could not be justified.[9] They calculated lower incisal crowding, mandibular 33-43 width, and arch perimeter following orthodontic treatment randomly administered to M3M removal.[9]

As literature evidence on relation between M3M and lower incisal crowding has not yet been clarified,[7,8] dental practitioners have always been divided in opinion on lower incisal crowding caused by erupting M3M. Lindauer et al. in a survey found significant differences in the opinion of oral-maxillofacial surgeons (OMFSs) and orthodontists.[10] Laskin found that 65% of both orthodontists and OMFSs supported the idea that M3M do transmit an anteriorly directed pressure and should be extracted as prophylaxis management of developing lower incisal crowding.[11] In view of the fact that opinion is divided among orthodontists and OMFSs, this study was designed with aim to compare the present opinion of Pakistani orthodontists and OMFSs regarding the relation between erupting mandibular third molars and lower incisal crowding.

Patients and Methods

This descriptive study was conducted after approval from institutional ethical committee and informed consent from the participants. In total 100 Clinicians (50 orthodontists, 50 OMFS), having at least 1-year experience as postgraduate student of orthodontics or oral surgery were involved to answer online questionnaire regarding their opinions on link between erupting mandibular third molars along with their extraction opinion in reference to development and prevention of lower incisal crowding. An electronic questionnaire was developed and was floated in social media groups of Orthodontists and OMFSs. The key questions were:1. Do you believe that the erupting M3M can cause lower incisal crowding, and No 2. Do you recommend extraction of the M3M to prevent lower incisal crowding? Pearson's chi-square test was applied to find out the opinion differences and to analyze whether there was link between opinions and clinicians' experience.

Results

A total of 100 Pakistani clinicians (50 orthodontists, 50 OMFS) completed the online survey. Statistically insignificant difference was found between OMFSs and orthodontists regarding question of erupting mandibular third molar in causing lower incisal crowding. (P >0.21). Similarly, statistically insignificant differences were found regarding question of recommending preventive extraction of mandibular third molar for developing lower incisal crowding. (P >0.22) (Table 1). Opinions were also analyzed according to clinicians' experience. A total of 70 clinicians were postgraduate students, while 30 were postgraduate fellows having completed their postgraduate diplomas or degrees in respective fields. Out of 50 OMFSs, 40 (80%) were postgraduate students and 10 (20%) were experienced fellows, while out of 50 orthodontists, 30 (60%) were students and 20 (40%) were experienced fellows. There were no statistically significant differences between the groups (P > 0.11) regarding influence of experience.

Discussion

It is generally advocated that mandibular wisdoms should be extracted when symptomatic because of any pathology,[10] but in the absence of pathology reviewers suggest monitoring over time,.[12,13] The suggestion of removal of asymptomatic wisdom teeth has been controversial for years.[14-19] Without proper scientific evidence for suggesting wisdom molar extraction,[12,13] OMFSs might be more likely to recommend removal of erupting mandibular wisdoms.[10] In the present study statistically insignificant differences were found between OMFSs (36%) and orthodontists (30%) in their opinion, that erupting mandibular third molar do cause lower incisal crowding. It is interesting to find such a consistent opinion matching on this wisdom molar topic, between the two specialist groups.

Table 1: Opinion of Orthodontists and Oral-Maxillofacial Surgeons

	OMFSs (n=50) No (%)	Orthodontists (n=50) No (%)	P-value
Erupting mandibular third molar can cause lower incisal crowding			
Yes	18 (36)	15 (30)	0.21
No	32 (64)	35 (70)	
Do you recommend extraction of the mandibular wisdoms to prevent lower incisal crowding			
Yes	17(34)	15(30)	0.22
No	33(66)	35(70)	

Results are not in accordance to a previously conducted study where percentages were 64% for OMFSs and 39% for orthodontists,[10] but in agreement with study on Italian clinicians where percentages were 36% for OMFSs but 47% for orthodontists, for the same question.[20] Similarly, statistically insignificant differences between OMFSs (34%) and orthodontists (30%) were found regarding opinion that preventive extraction of mandibular third molar should be recommended for developing lower incisal crowding, where oral surgeons were not more inclined towards suggesting removal of 3rd molars. Results are in contrast to a previously conducted study where 65% of oral surgeons and orthodontists suggested extraction of lower wisdom molars to prevent anterior mandibular crowding.[11] Results are also in contrast to a previously conducted study where percentages were 57% for OMFSs and 35% for orthodontists,[10] but in accordance with study on Italian clinicians where percentages were 37% for OMFSs and 41% for orthodontists, for same question.[20]

There were no statistically significant differences between the two specialist's groups regarding influence of experience. Results are in contrast with study where fresh graduates suggested wisdom molar extraction to prevent lower incisal crowding.[10] Results are similar to study findings of Italian clinicians where younger orthodontists do not differ from those of the older orthodontists; however, in contrast a significant difference between younger and older Italian surgeons' opinion has been reported in one study.[20] There are certain limitations to our study, such as small sample size but still the findings of present study are valid and generalizable to some extent for OMFs and orthodontists of Pakistan.

Conclusion

There were no statistical differences in the opinion of Pakistani oral surgeons and orthodontists, regarding the link of lower third molar as a cause of lower incisal crowding. Similar to Oral surgeons, orthodontists, did not recommend the mandibular wisdom extraction to prevent developing lower incisal crowding.

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