

**Original Article****Third molar cause for dental crowding : Opinion among dentist of all specialties – A questionnaire survey**

*Shruthi R, Deepak C*

*Department of Oral Surgery, Sri Ramachandra Dental College and Hospital, Chennai, India.*

**How to cite:** *Shruthi R and Deepak C. third molar cause for dental crowding: Opinion among dentist of all specialties- A questionnaire survey. .Int J Soc Rehab 2023; 8 (2) :17-25 . doi: <https://doi.org/10.56501/intjsocrehab.v8i2.1021>*

*Received: 05-11-2023*

*Accepted: 15-11-2023*

*Web Published:28-11-2023*

**Abstract**

**Background:** The role of third molar as a cause for incisor crowding has been controversial. There are different viewpoints which exist among clinicians in the management of third molars in these scenarios. Hence, this study intends to evaluate the opinion of dentists of various specialties and to understand their viewpoint in managing the same. **Materials and Methods:** A questionnaire with 12 relevant questions was distributed among dentists of various specialties, data were collected and analyzed. **Results:** The majority of the professionals opined that the upper third molar eruption will not result in crowding and various other factors are associated with it. On the other hand, contrasting percentages are reported for the lower third molar can cause anterior crowding. **Conclusion:** The majority of dentists of various specialties 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. This study also points toward the need for further clinical research in this field to throw a better insight and to help in establishment of a definitive clinical management protocol.

**Keywords:** Crowding, Extraction, Impaction, Specialties of dentistry, third molar

---

*Address for Correspondence:*

Dr. Shruthi R

Department of Oral Surgery,

Sri Ramachandra Dental College and Hospital, Chennai, India

E-mail: [ruthir2851994@gmail.com](mailto:ruthir2851994@gmail.com)

## INTRODUCTION

The relation between third molars and dental crowding has not been clarified in the literature. Clinicians have always been divided between supporters and opponents of the anterior dental crowding produced by the force generated by the third molar eruption. For the similar reason, the surgical prophylactic extraction for the third molar has always been seen as the cure and a “placebo” by the latter.

Many articles are available about this topic in the literature. Bergstrom and Jensen,<sup>[1]</sup> in 1961, were 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<sup>[2]</sup> a year later concluded that the eruption of lower third molars could exert a force on the neighboring teeth. More recently, Lindqvist and Thilander<sup>[3]</sup> stated that the eruption would create a pressure toward the anterior teeth.

On the contrary, Broadbent<sup>[4]</sup> 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 concluded no correlation between third molars and anterior crowding. Sidlauskas and Trakiniene<sup>[5]</sup> and Richardson<sup>[6]</sup> did not consider the force exerted by the wisdom tooth is capable of causing crowding. Southard *et al.*<sup>[7]</sup> analyzed the eruption process and came to a conclusion that there is no force generated, and even if there is a force, it would be insufficient to significantly affect the anterior crowding. Karasawa *et al.*<sup>[8]</sup> stated the presence of wisdom tooth had no influence on the anterior teeth. Mettes *et al.*<sup>[9]</sup> in a systematic review showed that there was no sufficient evidence to support the prophylactic extraction theory. Bishara<sup>[10]</sup> from his review stated 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 which are the only important etiologic factor in the changes posttreatment in incisor alignment. Blake and Bibby<sup>[11]</sup> from their review concluded that “if third molars are a contributing factor in the development of the lower incisor crowding, their role is only to be one of minor importance.”

A randomized controlled trial was conducted by Harradine *et al.*<sup>[12]</sup> on 77 patients. The Little’s index of irregularity, intercanine width, and arch length in patients after the orthodontic treatment was randomly submitted to third molar extraction.

Lindauer *et al.*<sup>[15]</sup> in a survey between the United States practitioners identified significant differences in the mindset of oral surgeons and orthodontists. Lindauer states surgeons and orthodontists believe that eruption of the third molars produces an anterior force and causes crowding of the anterior dentition, and so they are more likely to recommend prophylactic removal of third molars to prevent crowding.

The aim of this work is to compare the current opinion of dentists of various specialties in Saveetha Dental College, Chennai, Tamil Nadu, on the third molar as a cause for the anterior dental crowding.

## MATERIALS AND METHODS

A 12-question questionnaire was created and distributed to the dentists of various specialties in Private Dental College. Institutional approval for the questionnaire was granted. Based on the previous study,<sup>[3]</sup> the sample size was calculated to be 100 and the study was conducted. A convenient sample is taken. Two hundred questionnaires were distributed among dentists of various specialties. The postgraduates were also included in the study. Twenty-six questionnaires were filled by the orthodontists, 25 questionnaires were filled by the oral surgeons, 22 questionnaires were filled by the pedodontists, 24 questionnaires were filled by the periodontists, 20 by the public health dentists, 25 by the conservative dentists, and 30 questionnaires were filled by the prosthodontists. Members were asked to mark 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 maxillae. They also had to report their viewpoint on the effectiveness of third molar extraction to prevent dental crowding. The data were collected and the graph was done in a Microsoft Excel document

## RESULTS

A total of 200 members of all the departments completed the research survey. The dentists were from the age group of 25–48 years. The response to various questions is depicted graphically after analyzing the data collected.

About 75% of the dentists do not agree to the fact that the eruption of the upper third molar can cause anterior dental crowding. Sixty-two percent of the orthodontists and the majority of the oral surgeons believe that the upper third molars are a cause for the upper anterior dental crowding [Graph 1].

About 96% of the dentists of all the specialties agree to that the eruption of the lower third molars can cause anterior dental crowding. Eight percent of the prosthodontists, conservative dentists, and public health dentists disagree that the eruption of the lower third molar is a cause for anterior dental crowding [Graph 2].

About 76% of the dentists disagree that extraction of the upper third molar will prevent the upper anterior crowding. About 86% of the oral surgeons prefer the extraction of the upper third molars can prevent the anterior dental crowding [Graph 3].

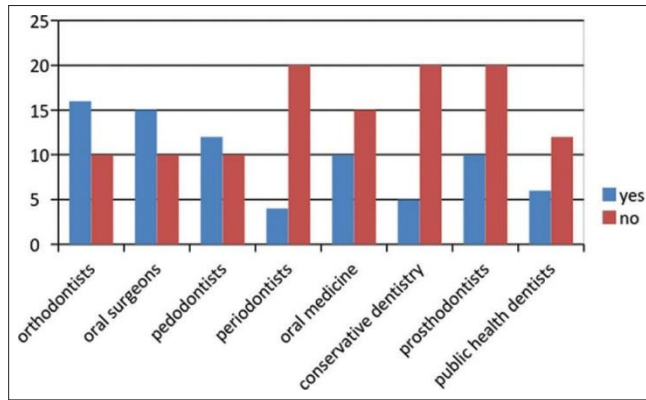
About 73% of the dentists agree that the extraction of the lower third molar is useful in preventing the lower anterior dental crowding. Twenty-eight percent of the dentists disagree that extraction of the lower third molars can prevent the anterior dental crowding [Graph 4].

Unerupted lower third molar being a cause for the lower anterior crowding is a controversy among the dentists of various specialties. The majority of orthodontists, prosthodontists, and periodontists do not agree that the unerupted lower third molars can cause anterior dental crowding. While the majority of the dentists of oral medicine, oral surgeons, conservative dentists, and public health dentists agree to the fact that unerupted third molars can be a cause of the lower anterior crowding [Graph 5].

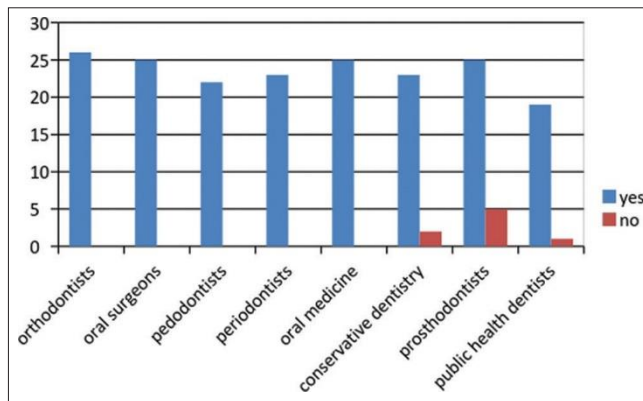
About 77% of the dentists think that unerupted third molars cannot be a cause for the upper anterior dental crowding. About 23% of the dentists agree to the fact that the unerupted upper third molar can be a cause for the anterior dental crowding [Graph 6].

About 88% of the dentists believe that impacted lower third molars can cause the lower anterior dental crowding [Graph 7]. About 79% of the dentists think that the impacted upper third molars cannot be a cause of the upper anterior dental crowding. Twenty-one percent think that the impacted upper third molars can cause the upper anterior dental crowding [Graph 8].

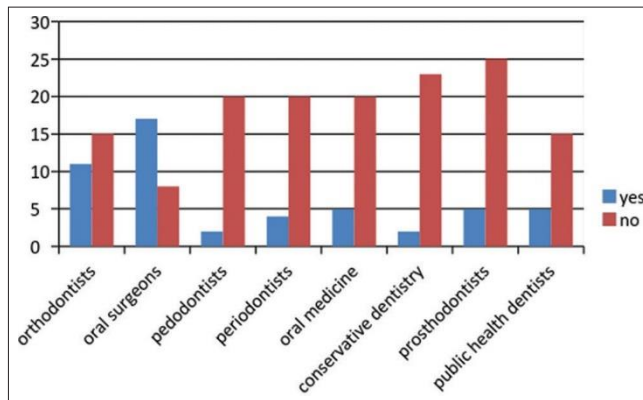
The 12<sup>th</sup> question in the questionnaire that was put forth for the dentists of various specialties were the other causes that can cause the anterior crowding. The options that were given to the orthodontists and the oral surgeons were supernumerary teeth, variation in size or shape teeth, abnormal oral habits, improper crowns, filling, heredity, all of the above, none of the above, and any other cause. The majority of the dentists of all the specialties think that all the above mentioned causes are responsible for the anterior dental crowding [Graph 9].



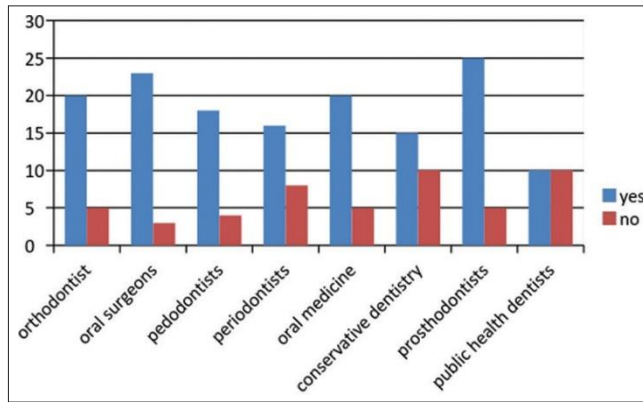
**Graph 1:** Do you think that the eruption of the upper third molar is able to create anterior dental crowding?



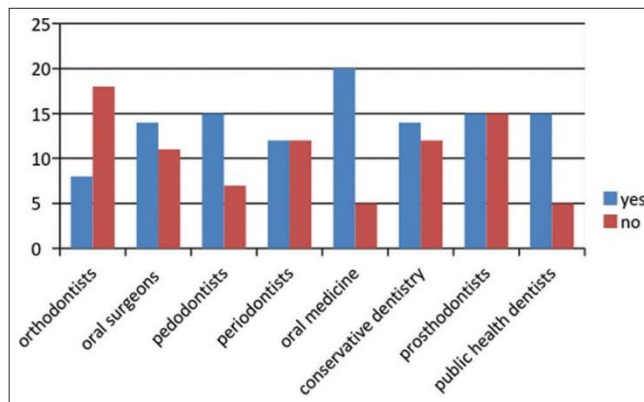
**Graph 2:** Do you think that the eruption of the lower third molar can cause anterior dental crowding?



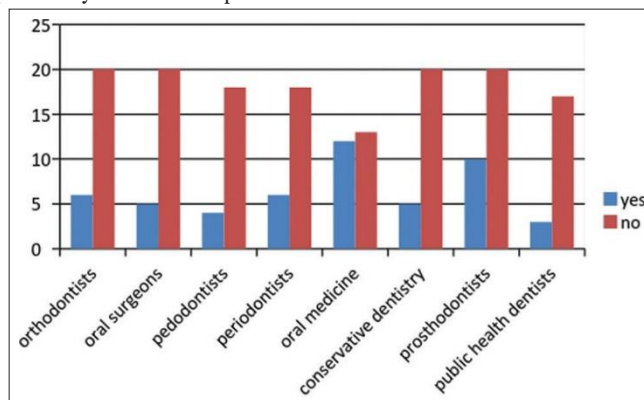
**Graph 3:** Do you consider the prophylactic extraction of the upper third molar is useful to prevent the anterior crowding?



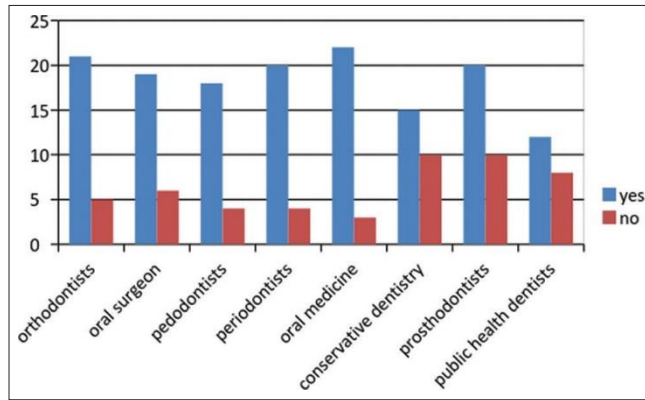
**Graph 4:** Do you consider prophylactic extraction of the lower third molar useful to prevent the anterior dental crowding?



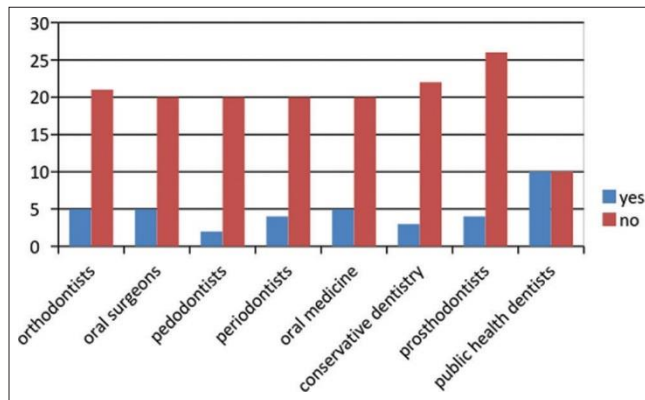
**Graph 5:** Do you think unerupted lower third molars can cause anterior crowding?



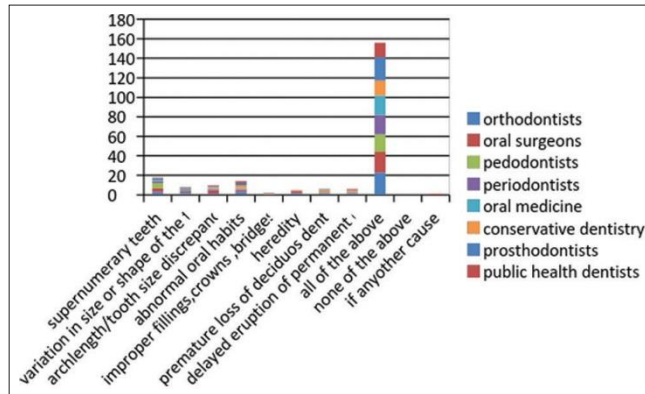
**Graph 6:** Do you think unerupted upper third molars can cause anterior crowding?



**Graph 7:** Do you think impacted lower third molar can cause anterior crowding?



**Graph 8:** Do you think impacted upper third molar can cause anterior crowding?



**Graph 9:** If the anterior crowding is not because of impacted, unerupted, or erupting third molar, what will be the other causes for anterior crowding?

## DISCUSSION

Public health dentists, pedodontists, and conservative dentists generally are more conservative and want to retain healthy wisdom teeth and not considering them a cause of incisor crowding; oral surgeons, orthodontists, on the other hand, usually have a more interventionist approach leading to the extraction of all the four wisdom teeth even if asymptomatic.<sup>[16]</sup> In our study, 94% of the dentists do not agree to the fact that the eruption of the upper third molar can cause anterior dental crowding. Sixty-two percent of orthodontists and the majority of oral surgeons believe that upper third molars are a cause for the upper anterior dental crowding. About 96% of the dentists of all the specialties agree to that the eruption of the lower third molars can cause anterior dental crowding. Eight percent of the prosthodontists, conservative dentists, and public health dentists disagree that the eruption of the lower third molar causes anterior dental crowding. About 76% of the dentists disagree that extraction of the upper third molar will prevent the upper anterior crowding. About 86% of the oral surgeons prefer the extraction of the upper third molars can prevent the anterior dental crowding. About 73% of the dentists agree that the extraction of the lower third molar is useful in preventing the lower anterior dental crowding. Twenty-seven percent of the dentists disagree that extraction of the lower third molars can prevent the anterior dental crowding.

Even if the recent literature has concluded the marginal role of third molar eruption a cause for the anterior crowding, this topic continues to be controversial among clinicians.

The set of questions was about the extraction of healthy third molar teeth as a prophylactic treatment to prevent the anterior crowding. It is important to underline that neither the National Institute of Clinical Excellence in 2000<sup>[17]</sup> nor the Scottish Intercollegiate Guidelines Network in 1999 reviewed in 2005<sup>[18]</sup> considered potential tertiary crowding as a reason to justify the prophylactic extraction of third molars. They came to the conclusion that given risks that are associated with third molar extractions, there was no evidence to support the prophylactic removal of (asymptomatic) third molars.<sup>[19]</sup> 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.<sup>[20]</sup>

In contrast, the American Association of Oral and Maxillofacial Surgeons has been conducting a series of longitudinal studies for almost 30 years, since the 1979 National Institutes for Health (NIH) conference for the removal of third molars. The NIH study failed to demonstrate a definitive consensus with respect to definitive indications for prophylactic removal of wisdom teeth.<sup>[22]</sup>

The influence of third molars on incisor crowding remains controversy between clinicians has been reported earlier in many studies,<sup>[13-15,21]</sup> our results also shows the same. The majority of the dentists of various specialties consider the upper third molar not able to cause dental crowding. On the other hand, varying percentages are reported for the lower third molar that can cause anterior crowding. All groups do not recommend the upper third molar extraction to prevent the anterior crowding but are more likely to suggest lower third molar extraction.

## CONCLUSION

The majority of the dentists of various specialties 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, but still their approach in management varies among specialties. Due to these reasons, this study points toward the need for further clinical research in this field to throw a better insight and to help in establishment of a definitive clinical management protocol.

### Financial support and sponsorship

Nil.

### **Conflicts of interest**

There are no conflicts of interest.

### **REFERENCES**

1. Bergstrom K, Jensen R. Responsibility of the third molar for secondary crowding. *Dent Abstr* 1961;6:544-9.
2. Vego L. A longitudinal study of mandibular arch perimeter. *Angle Orthod* 1962;32:187-92.
3. Lindqvist B, Thilander B. Extraction of third molars in cases of anticipated crowding in the lower jaw. *Am J Orthod* 1982;81:130-9.
4. Broadbent BH. Ontogenetic development of occlusion. *Angle Orthod* 1941;11:223-41.
5. Sidlauskas A, Trakiniene G. Effect of the lower third molars on the lower dental arch crowding. *Stomatologija* 2006;8:80-4.
6. Richardson ME. Late lower arch crowding in relation to primary crowding. *Angle Orthod* 1982;52:300-12.
7. Southard TE, Southard KA, Weeda LW. Mesial force from unerupted third molars. *Am J Orthod Dentofacial Orthop* 1991;99:220-5.
8. Karasawa LH, Rossi AC, Groppo FC, Prado FB, Caria PH. Cross-sectional study of correlation between mandibular incisor crowding and third molars in young Brazilians. *Med Oral Patol Oral Cir Bucal* 2013;18:e505-9.
9. Mettes TD, Ghaemina H, Nienhuijs ME, Perry J, van der Sanden WJ, Plasschaert A. Surgical removal versus retention for the management of asymptomatic impacted wisdom teeth. *Cochrane Database Syst Rev* 2012;6:CD003879.
10. Bishara SE. Third molars: A dilemma! Or is it? *Am J Orthod Dentofacial Orthop* 1999;115:628-33.
11. Blake M, Bibby K. Retention and stability: A review of the literature. *Am J Orthod Dentofacial Orthop* 1998;114:299-306.
12. Harradine NW, Pearson MH, Toth B. The effect of extraction of third molars on late lower incisor crowding: A randomized controlled trial. *Br J Orthod* 1998;25:117-22.
13. Zachrisson BU. Mandibular third molars and late lower arch crowding – The evidence base. *World J Orthod* 2005;6:180-6.
14. Hasegawa Y, Terada K, Kageyama I, Tsuchimochi T, Ishikawa F, Nakahara S. Influence of third molar space on angulation and dental arch crowding. *Odontology* 2013;101:22-8.
15. Lindauer SJ, Laskin DM, Tüfekçi E, Taylor RS, Cushing BJ, Best AM. Orthodontists' and surgeons' opinions on the role of third molars as a cause of dental crowding. *Am J Orthod Dentofacial Orthop* 2007;132:43-8.
16. Tüfekçi E, Svensk D, Kallunki J, Huggare J, Lindauer SJ, Laskin DM. Opinions of American and Swedish orthodontists about the role of erupting third molars as a cause of dental crowding. *Angle Orthod* 2009;79:1139-42.
17. Nice M. Guidance on the Extraction of Wisdom Teeth. Vol. 56. London: National Institute for Clinical Excellence; 2000. p. 456-60.
18. Silon P. Management of Unerupted and Impacted Third Molar Teeth. Vol. 34. Edinburgh: Scottish Intercollegiate Guidelines Network; 1999. p. 234-41.
19. Kandasamy S, Rinchuse DJ, Rinchuse DJ. The wisdom behind third molar extractions. *Aust Dent J* 2009;54:284-92.



20. Mettes TG, Nienhuijs ME, van der Sanden WJ, Verdonshot EH, Plasschaert AJ. Interventions for treating asymptomatic impacted wisdom teeth in adolescents and adults. *Cochrane Database Syst Rev* 2005;2:CD003879.
21. Boopana K, Pandian S. Third molar a cause of anterior dental crowding-opinion among oral surgeons and orthodontists. *IOSR J DentMed Sci* 2017;16:114-21.
22. Pillai S. Incidence of agenesis, impactions, angular positions and pathologies related to third molar teeth. *J Pharm Sci Res* 2015;7:1039.



Published by MM Publishers  
<https://www.mmpubl.com/ijsr>

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

Copyright © 2023 Shruthi R and Deepak C