Research Article

JRAD Journal of Research and Advancement in Dentistry

J Res Adv Dent 2020;10:2s:33-40.

Awareness of Orthodontic Treatment Needs among general Dentists and Non-Orthodontic Speciality Practitioners

G Chandrasekhar[1] Swaroopa Rani Ponnada[2*] Hanish Anand[3] Shristy Jain[4]

[1]Professor and Head, Department of Orthodontics, Panineeya Mahavidyalaya Institute of Dental Sciences & Research Centre, Hyderabad, Telangana, India.

[2]Associate Professor, Department of Orthodontics, Panineeya Mahavidyalaya Institute of Dental Sciences & Research Centre, Hyderabad, Telangana, India.

[3]Associate Professor, Department of Orthodontics, Panineeya Mahavidyalaya Institute of Dental Sciences & Research Centre, Hyderabad, Telangana, India.

[4]PG Student, Department of Orthodontics, Panineeya Mahavidyalaya Institute of Dental Sciences & Research Centre, Hyderabad, Telangana, India.

ABSTRACT

Background: General dental practitioners and non-orthodontic specialities play an essential role in the education and motivation of patients about the principles and practice of orthodontic treatment. A decent level of awareness about orthodontic principles and techniques amongst other dental practitioners is important as they can impact the patient turnover rate for orthodontic treatment and its success. Hence the present survey is undertaken. **Objectives:** To evaluate the knowledge and awareness in the field of Orthodontics among practitioners from other disciplines of Dentistry and to evaluate the understanding and ability to correlate concepts in Orthodontics and other disciplines of Dentistry.

Materials and methods: A survey was conducted (from October 2018 - December 2018) among general dentists and non-orthodontic specialists about their opinion regarding orthodontic treatment. A questionnaire containing 20 questions was sent out via e-mail to the members registered under IDA. The total number of responses recorded was 862. The data was collected and analysed.

Results and conclusion: Descriptive statistics were carried out and depicted in the form of pie charts. It was observed that most of the participants were aware of the basic concepts of Orthodontics and it is encouraging to know that majority of the practitioners believe that it is important to involve Orthodontist for the management of patients with orthodontic issues. Conduct of CDE programs to update the general/ other speciality practitioners about Orthodontics might be productive in providing meticulous care to the patients.

Keywords: Survey, Questionnaire, Orthodontic treatment needs.

INTRODUCTION

Oral health generally has an effect on the general health of the individual and ultimately affects well-being, education, and development.[1] A standout amongst the most widely recognized etiologies for the advancement of dental caries, fluorosis, temporomandibular dysfunctions, gingival and periodontal pathologies is malocclusion. Malpositioning of the tooth in the oral cavity may likewise prompt trouble in utilitarian developments of the mandible, hindrances in chewing, deglutition, articulation and susceptibleness to injury or periodontal pathologies.[2]

The outcomes of the orthodontic treatment are prevention of tissue damage, improvement in physical function and esthetics. The other

Received: Oct. 22, 2019**: Accepted**: Dec. 30, 2019

***Correspondence Dr. Swaroopa Rani Ponnada.**

Department of Orthodontics, Panineeya Mahavidyalaya Institute of Dental Sciences & Research Centre, Hyderabad, Telangana, India.

Email: swaroopaponnada@gmail.com

Copyright ©2020

pISSN 2278-0076

eISSN 2321-9270

significant benefits are improving quality of life, development of self-confidence; and physical, psychological and social changes.[2-5]

Given possible differences in educational training, perception of orthodontic treatment need may differ by dentist group or speciality affiliation. Although the gold standard for assessment of orthodontic treatment need is an assessment by an orthodontic specialist, it is essential to understand the perceptions of other dental professionals as they can impact, directly and indirectly, the utilization and success of orthodontic treatment. [6]

Therefore, there is a need to identify the knowledge levels of dental practitioners with respect to the orthodontic treatment as they play an essential role in teaching healthy lifestyle practices to their patients. This study was formulated for the comparative evaluation of the knowledge and attitude of the general dental practitioners and non-orthodontic specialities about the orthodontic treatment.[1]

OBJECTIVES

- To evaluate the knowledge and awareness in the field of Orthodontics among practitioners from other disciplines of Dentistry.
- To evaluate the understanding and ability to correlate concepts in Orthodontics and other disciplines of Dentistry.
- To assess the approach of general dental practitioners and non-orthodontic specialists towards orthodontic treatment.

MATERIALS AND METHODS

A survey was conducted amongst general dentists and non-orthodontic specialists about Orthodontics, their opinion regarding orthodontic treatment planning from several parts of India. A structured questionnaire containing 20 questions was framed and sent out via social networking (email) to 1000 members registered under IDA. The questions were framed to assess the knowledge and attitude toward orthodontic therapy like, orthodontic diagnostic protocol, opinion of the orthodontist, providing information to the patient regarding malocclusion when patient visits to them with other complaints, orthodontic treatment in patients having periodontal pathologies and orthodontic surgical treatment. The participants ranged from freshly passed out general dentists/non-orthodontic specialists to the experienced practitioners.

QUESTIONNAIRE

1. How many years are you into clinical practice?
   A. 5-10 Years.
   B. Less than 5 Years.
   C. More than 10 Years.
2. Do you look for malocclusion/ advice Orthodontic treatment on clinical examination when patients report with general complaints?
   A. Yes.
   B. No.
   C. Only when the patient complains about the unsightly appearance of teeth.
3. Do you motivate the patient for orthodontic treatment when required?
   A. Yes.
   B. No.
   C. Sometimes.
4. Do you carry out routine diagnostic orthodontic procedures?
   A. Yes.
   B. No.
   C. Only a few.
5. According to you, what is the right age to start the orthodontic treatment?
   A. Early mixed dentition.
   B. Late mixed dentition.
   C. Permanent dentition.
6. Do you think Orthodontic treatment always require extractions?
   A. Yes.
   B. No.
   C. Depends on the case.
7. What do you normally suggest for a patient when he/she complains of minor spaces in the teeth?
   A. Restorative procedures.
   B. Use removable appliances to close the gaps.
   C. Refer to an Orthodontist.
8. According to you, what is the time duration required for Orthodontic treatment?
   A. Less than 1 Year.
   B. 1-2 Years.
   C. More than 2 Years.
9. Do you recommend Orthodontic treatment for patients with periodontal problems?
   A. Yes.

B. No.
C. Sometimes.

10. Do you deny Orthodontic treatment for patients with missing molars?
A. Yes
B. No
C. Always take an Orthodontists opinion.

11. Are you aware that Temporomandibular Joint disorders (TMDs) can be addressed by an Orthodontist?
A. Yes.
B. No.
C. Maybe.

12. Till what age can you attempt Orthodontic treatment?
A. Less than 25 Years of age.
B. Any age.
C. Not sure.

13. Are you aware of the drugs that can affect Orthodontic tooth movement?
A. Yes.
B. No.
C. I know a few.

14. What do you do when a patient reports with poking wire/ bracket?
A. Remove the wire/bracket.
B. Provide temporary relief.
C. Refer to an orthodontist.

15. Do you provide any kind of Orthodontic treatment/appliances to correct malocclusion? (Without Orthodontists opinion)
A. Yes.
B. No.
C. Sometimes.

16. Do you consider skeletal discrepancies/patient's profile along with dental malocclusion when advising orthodontic treatment?
A. Yes.
B. No.
C. Sometimes.

17. Are you aware of Orthognathic surgeries/ Distraction Osteogenesis?
A. Yes.
B. No.
C. Have a little idea.

18. Do you debond any case if the patient insists without consent from his/her Orthodontist?
A. Yes.
B. No.
C. Only if it's an emergency.

19. How long should the retainers be worn after fixed appliance therapy?
A. 1 year.
B. 2 years.
C. Varies with type of case.

20. Are you aware of all the invisible treatment modalities available in Orthodontics?
A. Yes.
B. No.
C. I know a few.

RESULTS

The total number of responses recorded was 862. The data was collected and analysed. Descriptive statistics were carried out and depicted in the form of pie charts. The survey revealed some interesting findings that reflected the existing scenario of orthodontic practice in India as perceived by dentists from other specialties.

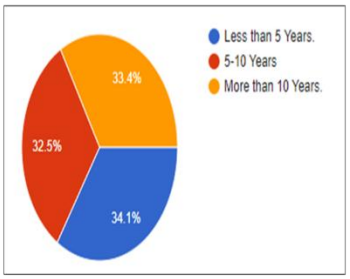

Fig 1: Q 1: How many years are you into clinical practice?

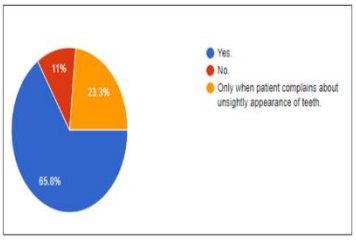

Fig 2: Q 2: Do you look for malocclusion/ advice Orthodontic treatment on clinical examination when patients report with general complaints?

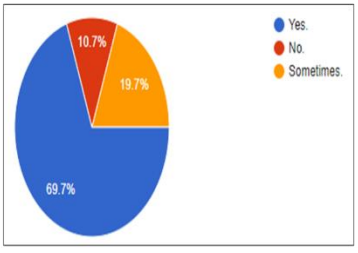

Fig 3: Q3: Do you motivate the patient for orthodontic treatment when required?

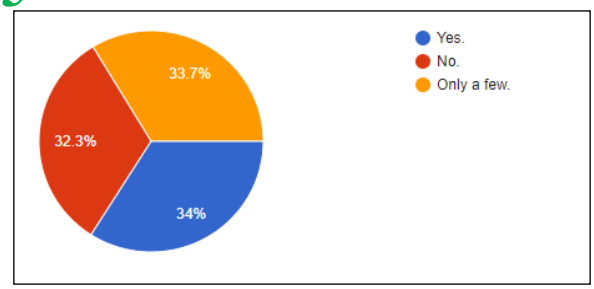

Fig 4: Q4: Do you carry out routine diagnostic orthodontic procedures?

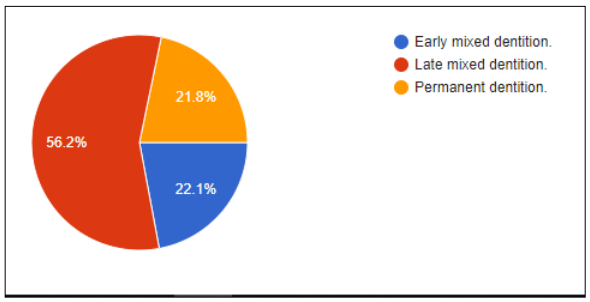

Fig 5: Q5: According to you what is the right age to start the orthodontic treatment?

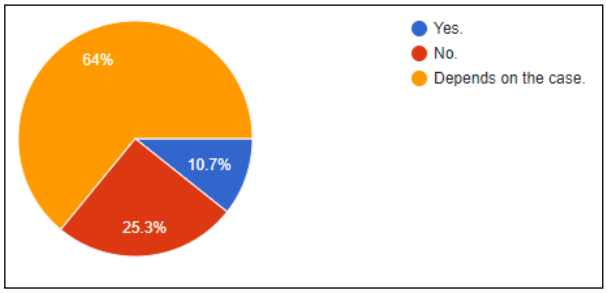

Fig 6: Q6: Do you think Orthodontic treatment always require extractions?

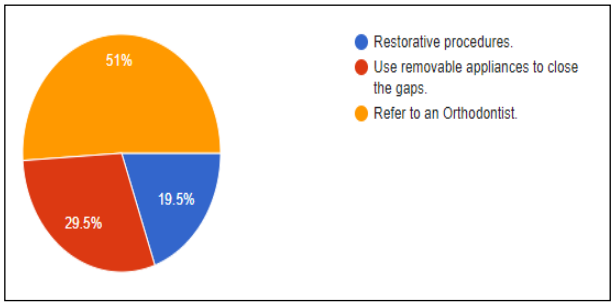

Fig 7: Q7: What do you normally suggest for a patient when he/she complains of minor spaces in the teeth?

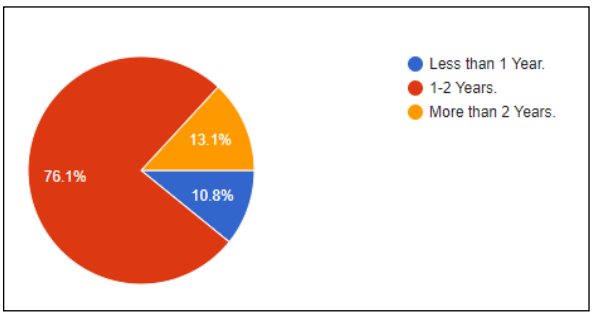

Fig 8: Q8: According to you what is the time duration required for Orthodontic treatment?

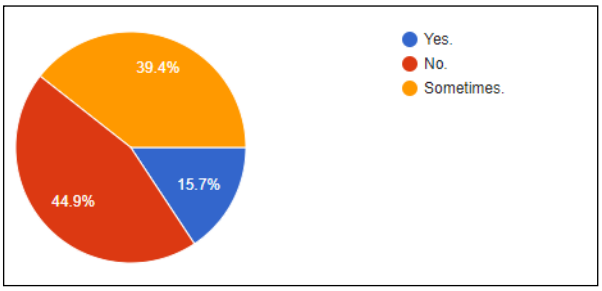

Fig 9: Q9: Do you recommend Orthodontic treatment for patients with periodontal problems?

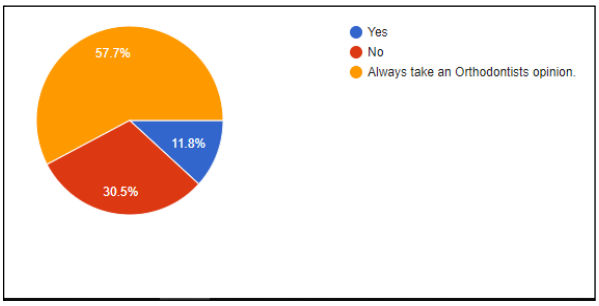

Fig 10:Q 10: Do you deny Orthodontic treatment for patients with missing molars?

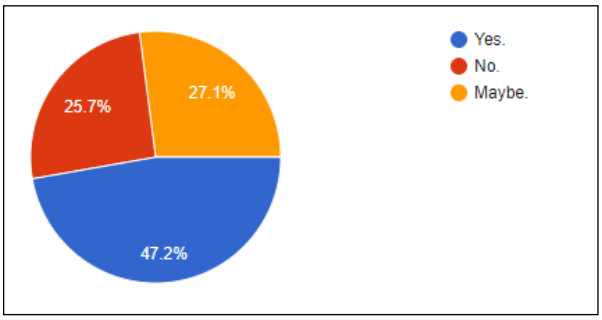

Fig 11: Q11: Are you aware that Temporo mandibular Joint disorders (TMDs) can be addressed by an Orthodontist?

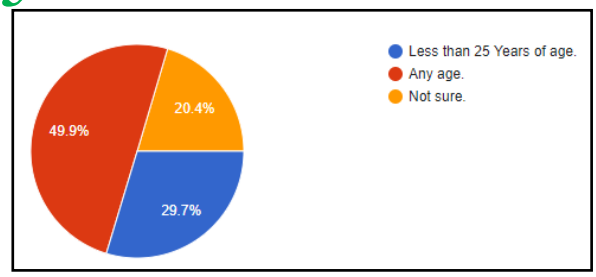

Fig 12: Q12: Till what age can you attempt Orthodontic treatment?

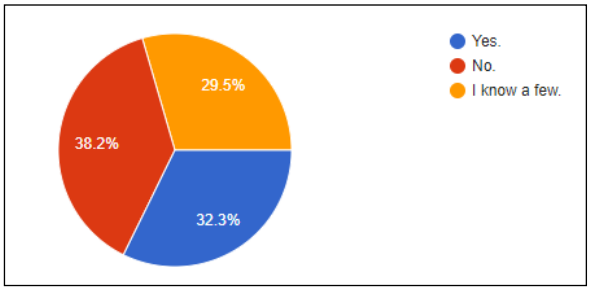

Fig 13: Q 13: Are you aware of the drugs that can affect Orthodontic tooth movement?

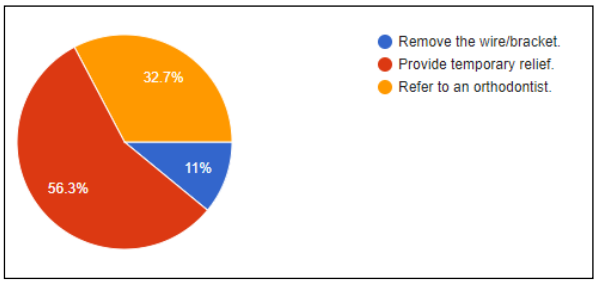

Fig 14: Q 14: What do you do when a patient reports with poking wire/ bracket?

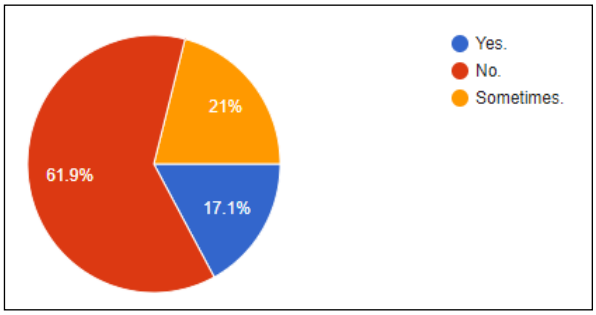

Fig 15: Q 15: Do you provide any kind of Orthodontic treatment/appliances to correct malocclusion? (Without Orthodontists opinion)

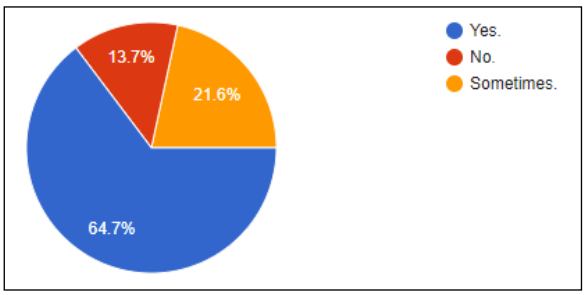

Fig 16: Q16: Do you consider skeletal discrepancies/patient's profile along with dental malocclusion when advising orthodontic treatment?

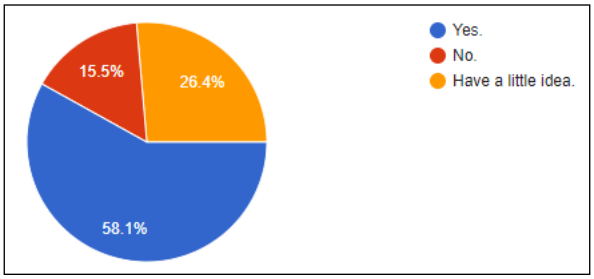

Fig 17: Q17: Are you aware of Orthognathic surgeries/ Distraction Osteogenesis?

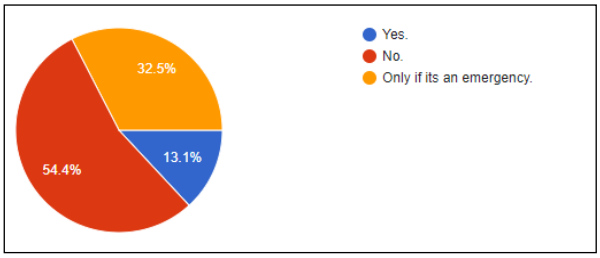

Fig 18: Q18: Do you debond any case if the patient insists without consent from his/her Orthodontist?

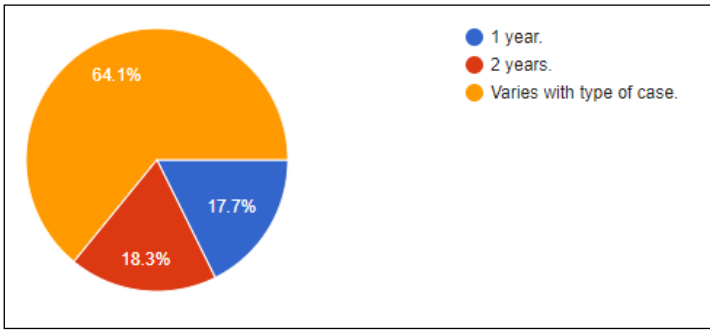

Fig 19:Q19: How long should the retainers be worn after fixed appliance therapy?

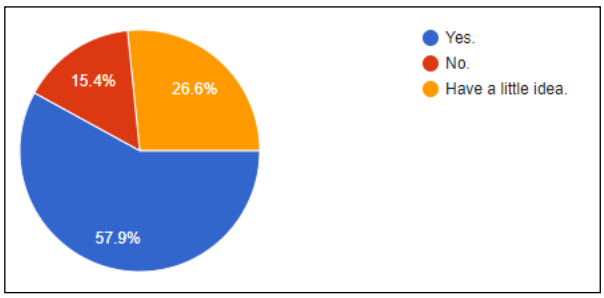

Fig 20: Q20: Are you aware of all the invisible treatment modalities available in Orthodontics?

DISCUSSION

Malocclusion is a common dental problem running at the second number after dental caries worldwide.[7] Dental malocclusion can have a plethora of implications and the most common being on facial aesthetics. Many associated problems also include periodontal problems, difficulty in mastication, speech, swallowing, TMJ problems, associated habit development, etc.[8] Many times, patients come to the dentists with one of the associated problems as the chief complaint and at that time, it is imperative for the dentist to recognize the key cause and understand the need for orthodontic treatment.[6]

The present study focuses on the knowledge of dental practitioners both general and non-orthodontic specialities towards the basic principles and practices of orthodontic treatment. This study highlights a significant difference in the knowledge as well as the attitude of general dentists and the specialists towards the orthodontic treatment.

In the present survey, 34.1% responses were from practitioners with less than 5 years of experience, 32.5% from 5-10 years of experience and 34.1% from more than 10 years of experience (Fig 1). To start with a positive note, when patients reported with complaints other than orthodontic issues, 65.8% (Fig 2) of the dentists looked for malocclusions on clinical examination, whereas 23.3% looked for malocclusion only when the patient complained about the unsightly appearance of teeth. 69.7% (Fig 3) of dentists always motivate the patient for orthodontic treatment which is encouraging. When the dentists were questioned if they carry out routine Orthodontic diagnostic procedures, 34% (Fig 4) of them answered "Yes" affirmatively, 33.7% carried out only a few while 32.3% did not carry out routine Orthodontic diagnostic procedures. Hence, there was not much certainty with the diagnostic procedures. According to 56.2% (Fig 5) of practitioners, the right age to start orthodontic treatment was late mixed dentition. The general dentists and other specialists were questioned to find out if they thought that orthodontic treatment always required extraction to which a tiny percentage of dentists answered affirmatively (Yes = 10.7%). Majority of them (64%) were aware that it was not an absolute necessity (Fig 6). About 51% (Fig 7) of them refer the patients to an orthodontist when the patient complains of minor spaces in the teeth, 19.5% suggests restorative procedures to close the areas, while 29.5% use removable appliances to close the spaces. 76.1% (Fig 8) believed that the time duration for Orthodontic treatment is 1-2 years, 10.8% of them thought it takes less than 1 year and 13.1% hold the opinion that it takes more than 2 years. Around 55.9% (Fig 9) recommended orthodontic treatment for patients with periodontal problems while 44.1% did not. Orthodontic treatment was denied for patients with missing molars by only a small proportion of dentists (11.8%) (Fig 10). The influence of Orthodontic therapy on the cure of temporomandibular joint (TMJ) disorders when tested showed that 74.3% (Fig 11) believed that it could address TMJ disorders which are slightly higher when compared to the study conducted by S. Niveda[9] while 25.7% did not believe so. 50%(Fig 12) concluded that orthodontic treatment could be attempted at any age, while 29.7% of them thought that orthodontic treatment could be done only for patients below 25 years of age, and 20.4% were not sure about the same which implies about 50% of the clinicians do not counsel the adult patients for orthodontic treatment. 32.2% (Fig 13) was aware of the drugs that can affect orthodontic tooth movement, 29.5% knew only a few, and 38.2% were not aware of the drugs that can affect orthodontic tooth movement.

When a patient reports with poking wire / bracket, 56.3% (Fig 14) of them provide temporary relief, 32.7% refer the patient to an Orthodontist, and 11% of them remove the bracket/wire. When the practitioners were questioned if they provide any kind of orthodontic treatment to correct malocclusion without orthodontists opinion, it was

found that 61.9% (Fig 15) do not, 21% provide orthodontic treatment sometimes and 17.1% provide orthodontic treatment without an Orthodontists opinion which is quite disappointing. 54.4% (Fig 18) of dentists do not debond a case(without orthodontists consent) when a patient insists, while 32.5% of them debond only if it is an emergency and 13.1% of dentists debond without orthodontists consent which is slightly on the negative side. The responses for the above two questions showed that there are still around 45% of clinicians who are willing to debond a case/provide orthodontic treatment without an Orthodontists opinion/consent. When advising Orthodontic treatment, it was observed that 64.7% (Fig 16) of the dentists considered skeletal discrepancies/patient's profile while advising orthodontic treatment which is entirely satisfactory. The observations of the present study were in agreement with the results of previous similar studies by Sastri et al. Among all the study participants, 58.1% (Fig17) were aware of orthognathic surgeries/Distraction Osteogenesis, 26.4% had only a little idea, 15.5% were ignorant of this concept. Finally, their opinion as to how long the retainers should be worn after fixed appliance therapy was taken. 64.1% (Fig 19) of them agreed with the option "varies with the type of case." 57.9% (Fig 20) of dentists were aware of invisible treatment modalities in Orthodontics, while 48.9% did not have an idea about invisible treatment modalities in Orthodontics.

CONCLUSION

The present study supplements enhanced focus on the details of current status and situation regarding the knowledge and attitude of the general dental practitioners and other non-orthodontic specialities in terms of the principles and practice of the orthodontic therapy. Subsequently, the present study demonstrated the requirement for expanded clinically oriented training and ideas regarding orthodontic treatment. Conduct of Continuing Education programs/workshops to update the general/ other speciality practitioners regularly in the diagnosis of orthodontic problems, functional appliance therapy, management of periodontally compromised cases, retention protocol after orthodontic treatment might be productive in providing meticulous care to the patients.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

REFERENCES

1. Sastri MR, Tanpure VR, Palagi FB, Shinde SK, Ladhe K, Polepalle T. Study of the Knowledge and Attitude about Principles and Practices of Orthodontic Treatment among General Dental Practitioners and Non-orthodontic Specialties. J Int Oral Health. 2015;7(3):44–48.

2. Siddegowda R, Rani MS. An epidemiological survey on awareness of orthodontic treatment in South Indian school children. Open Journal of Dentistry and Oral Medicine Vol. 1(1), pp. 5 - 8

3. Rafighi A, Foroughi Moghaddam S, Alizadeh M, Sharifzadeh H. Awareness of orthodontic treatments among school teachers of two cities in Iran. J Dent Res Dent Clin Dent Prospects 2012;6(1):25-28.

4. Ajayi EO, Ajayi Y. Attitudes to malocclusion in a Nigerian school population. JMBR J Med Biomed Sci 2006;5(1):16-23.

5. Pandey M, Singh J, Mangal G, Yadav P. Evaluation of awareness regarding orthodontic procedures among a group of preadolescents in a cross-sectional study. J Int Soc Prev Community Dent 2014;4(1):44-47.

6. Berk NW, Bush HD, Cavalier J, Kapur R, Studen-Pavlovich D, Sciote J, et al. Perception of orthodontic treatment need opinion comparisons of orthodontists, pediatric dentists, and general practitioners. J Orthod. 2002;29(4):287-291

7. Aldrees AM, Tashkandi NE, Al Wanis AA, Al Sanouni MS, Al-Hamlan NH. Orthodontic treatment and referral patterns: A survey of pediatric dentists, general practitioners, and orthodontists. Saudi Dent J. 2015;27(1):30-39.

8. Dhanyasi AK, Mahobia Y, Agarwal APP, et al. Orthodontic Treatment Provided by General Dentists with Different Types of Appliances in Chattishgarh, India. J Clin Diagn Res. 2015;9(6): ZC 20– ZC 22.

9. Niveda S, Dinesh S. A survey of the knowledge, attitude and awareness of principles and practices in Orthodontics among general dentists and nonorthodontic specialists. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). Volume 13, Issue 1 Ver. II (Jan. 2014), PP 44-46.