

# PRACTICE AND ATTITUDE TOWARDS ORTHODONTIC SERVICES BY PEDODONTISTS

**Running Title: Practice of orthodontic services by Pedodontists**

**Keerthana Balaji**

Undergraduate student  
Saveetha Dental College  
Saveetha Institute of Medical and Technical Sciences  
Chennai-600077  
Tamilnadu, India.

**Dr.Kanthaswamy.A.C**

Senior lecturer  
Department of Pedodontics  
Saveetha Dental College  
Saveetha Institute of Medical and Technical Sciences  
Chennai-600077  
Tamilnadu, India

**Corresponding Author**

**Dr.Kanthaswamy.A.C**

Senior lecturer  
Department of Pedodontics  
Saveetha Dental College  
Saveetha Institute of Medical and Technical Sciences  
Chennai-600077  
Tamilnadu, India  
Total number of words: 1,987

**ABSTRACT:**

**Introduction:**

Malocclusion is the second most commonly detected dental diseases among children next to dental caries. Malocclusion has shown its role in affecting periodontal health, dental caries and temporomandibular joint problems. Hence, the orthodontic treatment is necessary for correction of malocclusion in the population. On the other hand, the number of pediatric dentists who afford orthodontic services is increasing. It is perhaps due to the increase in the need of orthodontic treatments among the children. The present study targets to assess the practice and Attitude of Pedodontists towards the provision of Orthodontic services.

**Materials and Methods:**

A questionnaire survey was designed. The questionnaire had 15 questions about orthodontic service provided by the Pedodontists and their attitude towards it. The subjects involved were Pediatric dentists (n=50).Data analysis was done using SPSS software.

**Result:**

The provision of offering orthodontic services was concurrently increasing with the experience of the study participants. This could be due to the gradually increasing number of patients with years of practice and more practical knowledge with time.

**Keywords:** Malocclusion, orthodontic treatment, Pediatric dentists, Dental caries, Children

**INTRODUCTION:**

Significant changes have occurred in the practice of orthodontics during the last 20 years, with many practitioners being concerned about the "busyness factor." It often is assumed that one of the major reasons behind the observed changes in practice trends is the increasing number of non- orthodontists who provide orthodontic service; however, few studies have addressed the issues surrounding nonspecialist orthodontic treatment. Similarly, although there has been much speculation about the percentage of orthodontic patients treated by nonorthodontists, studies considering this issue also are few and often are found in what might be termed nontraditional literature source(1). The high prevalence of malocclusion has made it a public health problem in the world; it is now considered as the third highest oral health priority."A malocclusion is defined as an irregularity of the teeth or a malrelationship between the dental arches beyond the range of what is accepted as normal."Malocclusion is one of the most common dental problems as well as dental caries, periodontal disease, and dental fluorosis. In addition, maloccluded dentition can cause disturbances in oral function and psychosocial problems due to impaired dentofacial esthetics. The etiology of malocclusion is multifactorial and can be a combination of hereditary factors including some stimulus during the formation and development of orofacial structures and environmental factors such as oral habits, social characteristics, and diet. Malocclusion is the second most

commonly detected dental diseases among children and young adults, next to dental caries(2). The prevalence of malocclusion differs from place to place and among different ages, gender and location. Its incidence has been reported to vary from 11% to 93% (3). Malocclusion has shown its role in affecting periodontal health, dental caries and temporomandibular joint (TMJ) problems(4). Hence, the orthodontic treatment is necessary for correction of malocclusion in the population. Also the demand for orthodontic therapy is increasing(5), yet the basic orthodontic services provided by the dentists are not fulfilling the requirements; mainly in the rural areas(6). On the other hand, the number of general and pediatric dentists who afford orthodontic services is increasing. It is perhaps due to the increase in the need of orthodontics among the children (7). Orthodontic procedure done by pedodontics and general dentists has been reported in many studies, but the results are contradictory(8). Further, there are also cases of referrals to orthodontic clinics from pediatric and general dentists (9). General dental practitioners are in fact considered to be gatekeepers for specialist orthodontic care (10). Unfortunately, very few studies have mentioned about the orthodontic treatment provided by them. Hence, the present study was carried out to assess the practice and attitude of pediatric dentists towards orthodontic services.

## MATERIALS AND METHODS:

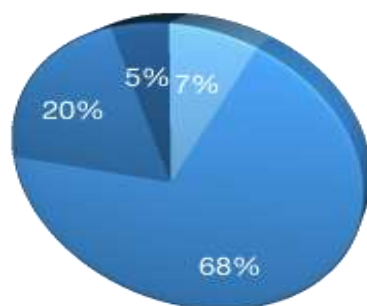
A questionnaire survey was designed. The questionnaire had 15 questions about orthodontic service provided by the Pedodontists and their attitude towards it (Table:1). The subjects involved were Pediatric dentists (n=50). Data analysis was done using SPSS software.

**TABLE:1 PRACTICE AND ATTITUDE TOWARDS ORTHODONTIC SERVICES BY PEDODONTISTS - QUESTIONNAIRE**

|   |   |
|---|---|
| How many years have you been a pediatric dentist?   | 1)3-5 years 2)6-10 years 3) >10 years   |
| Which describes your current involvement in pediatric dentistry?  | 1)Academic 2)Private practice 3) Academic and private practice 4)Hospital and community health  |
| According to you, which one of these is the best way to gain orthodontic knowledge?   | 1)Orthodontics 2)Study curriculum 3)senior dentists 4)Diploma courses   |
| What is the annual frequency of orthodontic patients in your practice?  | 1)10-20% 2)20-40% 3)40-60% 4)>60%   |
| Which of the following conditions you treat on your day to day practice?  | 1)Space maintenance and space regaining 2)Crossbite 3)Habits 4)Deepbite 5)Openbite 6)Malocclusion 7)Eruption guidance 8)All the above |
| Which type of orthodontic therapy do you use in your practice?  | 1)Removable appliance 2)Fixed appliance 3)Both  |
| Over the past year, how many orthodontic appointments do you average per week?  | 1)<5 2)5-10 3)>10 4)None/seldom refer   |
| Do you think the demand for orthodontic treatment has been increased among the pediatric patients over the past 5 years? If Yes, why? | 1) Yes 2) No. 3) Maybe  |

## RESULTS:

The data obtained from the survey states that 68% of paediatric dentists suggest study curriculum, 20% suggested diploma courses, 7% suggested advice from senior practitioners and 5% stated to take up orthodontic course to gain orthodontic knowledge. And 77% of the Pedodontists stated that space maintenance and space regaining are the most common condition that they treat on regular basis followed by eruption guidance which is 13%, habits which is 7% followed by deepbite and open bite which is 3%. And 78% of Pedodontists stated that their annual frequency of orthodontic patients ranges between 20-40%, 20% of pediatric dentists stated the range between 10-20% and 2% stated above 40%. And 94% of Pedodontists mentioned that the referrals to orthodontic specialists is less than 5% and 3% Pedodontists mentioned they seldom refer the patients to the specialists. And 91% stated that the demand for orthodontic treatment among children has been increased in the past five years and they mentioned that, it is mostly due to arch length tooth size discrepancy.



68%-Study curriculum  
20%- Diploma courses  
7%-Advice from senior practitioners  
5%-Orthodontics

**Fig: 1-The most common way to gain knowledge**

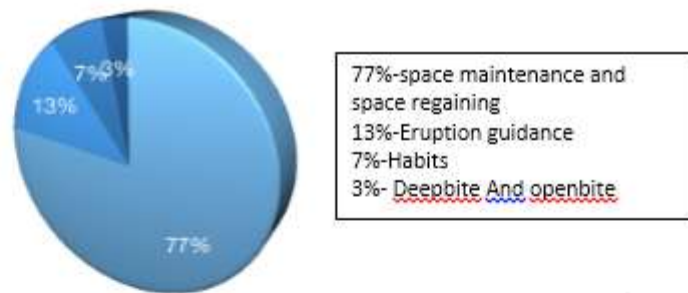


Fig: 2-The most common orthodontic condition that treat on your day to day practice

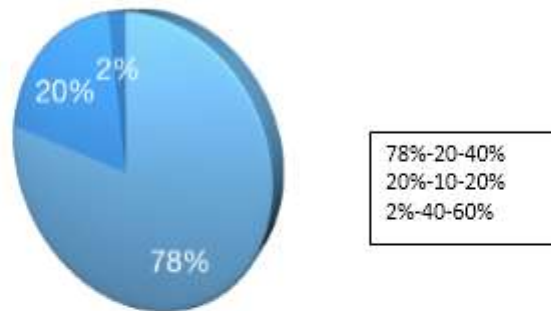


Fig: 3-Annual frequency of orthodontic patients

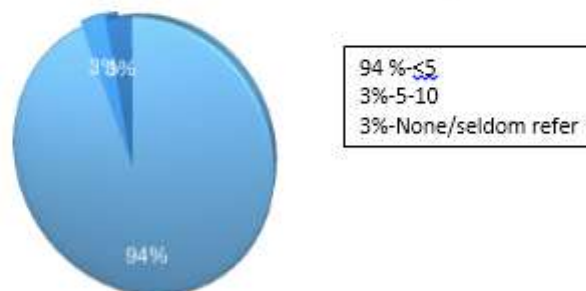
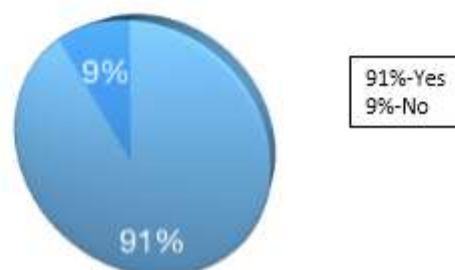


Fig: 4-Referrals per month



## DISCUSSION:

We observed that the overall provision of orthodontic appliances was higher by pedodontists compared to general practitioners. Galbreath et al. found that about 1/3rd of the pediatric dentists and fewer than 10% of the general dental practitioners were providing orthodontic treatment in their study [14]. Koroluk et al. also showed that 62% of pediatric dentists and 17.9% of general dentists offer complete orthodontic treatment [9]. Similarly, Gorczyca et al. observed that pedodontists were significantly more involved in serving the patients with braces than general practitioners [15]. Most pediatric dentists provided orthodontic treatment in the primary or early mixed dentition stages. The most common conditions treated were anterior crossbite, ectopic eruption, habits, posterior crossbite, and space maintenance. The most common orthodontic appliances used were fixed rapid palatal expanders and removable Hawley appliances with finger springs. Orthodontic treatment provided by pediatric dentists has decreased since it was last surveyed in 1983 and is not expected to change in the next 5 years. Malocclusion is the second most basic dental illness after dental caries in kids and youthful grown-ups. For the change of the facial presentation, amelioration of malocclusion is an imperative component, which is the primary point of the orthodontic therapy. The basic components having sway on choosing orthodontic therapy are improvement of facial looks and psychological bearing [7]. The status of oral health knowledge, demeanor and the conduct are altogether interlinked, and this basically relies upon the level of information and uplifting disposition of the

dental practitioners (8-10). Desire for treatment was more frequent than dissatisfaction with children's occlusion. The patients' orthodontic concern correlated significantly with dental health component. For children with very great need, high self-esteem was related to orthodontic concern. The parents (90.8%) perceived dental esthetics to be equally important for girls and boys. Most parents (93.0%) thought the results of orthodontic treatment were good (16,20). The results indicate meaningful association between orthodontic concern and orthodontic treatment need. However, some patients with great need do not express orthodontic concern, whereas others with near ideal occlusion express concern.

## CONCLUSION:

In conclusion, the present study revealed that the pediatric dentists were frequently dealing with the cases like Angle's Class I molar relationship, deep bite, open bite, spacing and habit breaking. The provision of offering orthodontic services was concurrently increasing with the experience of the study participants. This could be due to the gradually increasing number of patients with years of practice and more practical knowledge with time.

## REFERENCES:

1. Patil PD, Katge AF, Rusawat DB. Knowledge and attitude of pediatric dentists, general dentists, postgraduates of pediatric dentistry, and dentists of other specialties toward the endodontic treatment of primary teeth. *Journal of Orofacial Sciences*. 2016 Jul 1;8(2):96.
2. Mathews S, Abraham K, Khosla E, James AR, Thenumkal E. Attitude of General Dental Practitioners Towards Child Patients.
3. Bhullar MK, Nirola A. Malocclusion Pattern In Orthodontic Patients. *Indian Journal of Dental Sciences*. 2012 Oct 2;4.
4. Dhanyasi AK, Mahobia Y, Agarwal AP, Gupta A, Quaraishi D, Khan KZ, Agrawal A. Orthodontic treatment provided by general dentists with different types of appliances in Chattishgarh, India. *Journal of clinical and diagnostic research: JCDR*. 2015 Jun;9(6):ZC20.
5. Aldrees AM, Tashkandi NE, AlWanis AA, AlSanouni MS, Al-Hamlan NH. Orthodontic treatment and referral patterns: A survey of pediatric dentists, general practitioners, and orthodontists. *The Saudi dental journal*. 2015 Jan 1;27(1):30-9.
6. Akshay G, Anur G, Singh K, Singh T. Practice and Attitude towards Orthodontic Services by Pedodontists and General Practitioners. *J Interdiscipl Med Dent Sci*. 2017;5(211):2.
7. Alnusayri MO, KuraymAlenazi KK, Patil SR, Aileni KR, Rao KA. Knowledge and attitude regarding principles and practices of orthodontic treatment among general dental practitioners and non-orthodontic specialists of Saudi Arabia: A preliminary study. *Journal of Research in Medical and Dental Science*. 2017 Sep 30;5(3):59-62.
8. Purmal K, Alam MK, Syazana N, Mohd Nor M, Zakaria N. Orthodontic treatment by the general dental practitioners and their opinion about orthodontics. *International Medical Journal*. 2013 Apr 1;20(2):243-6.
9. Hilgers KK, Redford-Badwal D, Reisine S, Mathieu GP, Silveira AM. Do pediatric dentists practice the orthodontics they are taught?. *Pediatric dentistry*. 2004 May 1;26(3):221-4.
10. 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. *Journal of international oral health: JIOH*. 2015 Mar;7(3):44.
11. Hilgers KK, Redford-Badwal D, Reisine S. Orthodontic treatment provided by pediatric dentists. *American journal of orthodontics and dentofacial orthopedics*. 2003 Nov 1;124(5):551-60.
12. DeLuke M. Orthodontic Treatment Provided by General Dentists and Pedodontists: A National Survey.
13. Oshagh M, Ghaderi F, Pakshir HR, Baghmollai AM. Prevalence of malocclusions in school-age children attending the orthodontics department of Shiraz University of Medical Sciences/Prévalence des malocclusions chez les enfants d'âge scolaire en consultation dans le service d'orthodontie de l'Université des Sciences médicales de Shiraz (République islamique d'Iran). *Eastern Mediterranean Health Journal*. 2010 Dec 1;16(12):1245.
14. Rich JP, Straffon L, Inglehart MR. General dentists and pediatric dental patients: the role of dental education. *Journal of dental education*. 2006 Dec 1;70(12):1308-15.
15. McKnight-Hanes C, Myers DR, Dushku JC, Barenie JT. A comparison of general dentists' and pediatric dentists' treatment recommendations for primary teeth. *Pediatr Dent*. 1991 Nov 1;13(6):344-8.
16. Halawany HS, Al-Fadda SA, Al-Saeed BH, Al-Homaied MA. The attitude of private dental practitioners towards treatment and management of children in Riyadh, Saudi Arabia. *Director*. 2011;5(8):9.
17. Koroluk LD, Jones JE, Avery DR. Analysis of orthodontic treatment by pediatric dentists and general practitioners in Indiana. *ASDC journal of dentistry for children*. 1988;55(2):97-101.
18. Jacobs RM, Bishara SE, Jakobsen JR. Profiling providers of orthodontic services in general dental practice. *American Journal of Orthodontics and Dentofacial Orthopedics*. 1991 Mar 1;99(3):269-75.
19. Premnath P, John J. Knowledge attitude and practice toward preventive dental care among dental professionals in Chennai. *Journal of Education and Ethics in Dentistry*. 2015 Jan 1;5(1):20.
20. Gorczyca AM, Jones JE, Douglass CW. Orthodontic treatment provided by general practitioners and pedodontists in Massachusetts. *Journal of clinical orthodontics: JCO*. 1989 May;23(5):346-52.