

# Awareness of orthodontic treatment among parents of children 5-17 years of age in Kanchipuram district – A survey

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## Abstract

**Aim:** To assess the awareness of Orthodontic treatment among parents of children 5-17 years of age in Kanchipuram District.

**Materials and Methods:** A cross sectional survey was conducted in randomly selected five private schools in Kanchipuram district. Nearly 2000 parents of children 5-17 years of age among the five selected schools were participated in the survey. A self-administered structured questionnaire was given to the children to be filled by their parents. The parent's awareness and knowledge were assessed after the data were analyzed with chi-square test. **Results:** About 90% parents are aware of the specialty Orthodontics. To achieve good set of dentitions 76.5% parents, consider orthodontic treatment is essential. 51.2% parents consider oral habits like thumb sucking has one of the reasons for malocclusion. 57.6% parents did not know that the orthodontic treatment can be started even during the growth period of their children.

**Conclusion:** The study showed presence of average awareness and knowledge among parents towards orthodontic problems and its treatment.

## Introduction

Awareness is a state or quality of being aware of something [1]. Children and Adolescents are the major category of target group for seeking orthodontic treatment. Parents and guardians are the most important motivating factors to influence the need of orthodontic treatment among children and adolescents. School teachers are another group with a close relationship with children and adolescents, and students are widely influenced by them [2]. Majority of the parents still do not considered malocclusion as a dental problem [3]. The funding of orthodontic treatment, socioeconomic status, ethnic origin, availability of limited resources, literacy rate, lack of knowledge on malocclusion plays a major role in determining the parent's perception and attitude to seek orthodontic care for their children. Parents noticing that their children being teased by their peers, realize the need of orthodontic treatment. Psychosocial attractiveness research has demonstrated that persons with increased public self-consciousness are rated as more attractive by others [4]. The parents of girl child are slightly aware and are concerned more about their appearance. The objectives of the study are:

1. To evaluate the awareness among parents towards orthodontic treatment.
2. To determine whether there is an association between parental perceptions towards their child's orthodontic care.
3. To explore the knowledge of parents regarding the orthodontic problems and its treatment.

## Materials and methods

A Cross-sectional study was conducted among parents of the school children aged 5 to 17 years to assess the knowledge and awareness

about orthodontic treatment. Ethical clearance was obtained from the ethical committee of Karpaga Vinayaga Institute of Medical Sciences to conduct the survey. From the list of schools in Kanchipuram district, five private schools were randomly selected after obtaining permission from the DEO of Kanchipuram district. The school authorities were approached and explained about the nature of the study and permission was obtained. Written informed consent was obtained from the participants. Out of 2000 parents, only 1951 parents of the children among the five selected schools participated in the survey. 49 parents were not willing to participate in the survey. The survey was conducted from January 2019 to March 2019. A self-administered structured questionnaire consisting of two segments was presented to the parents by their children. First segment consists of six multiple choice questions related to parents awareness on orthodontic treatment. Second segment of six multiple choice questions aimed to assess the knowledge of orthodontic treatment. The data collected were tabulated on a Microsoft Excel computer program and descriptive statistics using chi-square test was carried out. The statistical analysis was performed using SPSS software V.16.0.

## Demographic data:

Name: Place:

Age and Sex: Date:

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**Key words:** awareness, knowledge, parents, orthodontic treatment

**Received:** July 02, 2019; **Accepted:** July 18, 2019; **Published:** July 22, 2019

Monthly income:

### Questionnaire:

1. Do you know there is a specialty in dentistry called ORTHODONTICS? (Y/N/Don't know)
2. Why do you think you need to put braces (orthodontic treatment)?  
(A. Good set of teeth B. Beautification C. Other reasons D. Don't know)
3. Who will you first go to consult regarding braces (orthodontic treatment)?  
(A. General physician/pediatrician B. General dentist C. Orthodontist D. Don't know)
4. In which situation you think braces (orthodontic treatment) is necessary?  
(A. To avoid your child being teased B. Marriage C. Job D. Others E. Don't know)
5. Do you know the duration of braces treatment? (Y/N/Don't know)
6. Do you know the cost of braces treatment? (Y/N/Don't know)
7. Which age should you consult regarding wearing braces (orthodontic) treatment?  
(A. immediately after milk tooth eruption B. After completion of permanent teeth eruption C. Only after permanent tooth starts erupting D. Don't know)
8. What is the reason for malposed teeth?  
(A. Hereditary B. Oral Habits C. Growth deficiency D. Other reasons E. Don't know)
9. Of the following condition which do you think needs braces treatment?  
(A. Smile problem B. Irregularly arranged teeth C. Gap between teeth D. Jaw mismatch E. Other reasons F. Don't know)
10. Do you know, there is an option to treat children with during their growth period? (Y/N/Don't know)
11. Are you aware of need for extraction during braces treatment? (Y/N/Don't know)
12. Do you know, for some conditions surgery is needed to correct the teeth? (Y/N/Don't know)

### Results

#### Age and gender wise distribution of parents:

Of 1951 participants, majority of parents belongs to age group of 33-40 years (52.7%) followed by 24-32 years (31.58%). Among them, 52.12% were female participants and 47.8% were male participants.

**Distribution of parents based on Socio-economic status of parents** can be identified by their monthly income and they are grouped based on Modified Kuppusamy Scaling Criteria [5]. Above 90% parents were categorized under upper and lower middle class.

Among 1951 participants, 89.4% were aware of Orthodontics as a branch in dentistry. To achieve good set of dentition 76.5% parents consider orthodontic treatment is essential. 48% of parents preferred to consult their general dentist whether orthodontic treatment is needed

for their children. Children's are being teased is the main reason for opting an orthodontic treatment by 73.09% of parents. Nearly 75% of parents were unaware of the cost and duration of orthodontic treatment.

62.4% parents thought that to undergo orthodontic treatment the eruption of permanent teeth is necessary. About 51.2% parents consider oral habits like thumb sucking will also be a reason for malocclusion. Other reasons like hereditary, growth deficiency were also considered as one of the etiology for malocclusion by the parents. 57.6% parents did not know that the orthodontic treatment can be started even during the growth period of their children. For orthodontic treatment, 47.3% parents are aware that extraction will be required and 55.9% parents felt that surgery is also one of the treatment options. Table 1 shows the distribution of answers based on age and sex of parents.

### Discussion

#### Response of parents regarding awareness and knowledge of orthodontic treatment:

According to Oshagh, *et al.* parents awareness of children's orthodontic problems can be increased by means of information leaflets [6]. In our study, half of the parents don't have aware towards orthodontics and they consult their general dental first for the orthodontic problems. This could be due to the lack of information about orthodontics in the media or any other type of it, which did not differ much between the genders and other differences, might be attributed to lack of knowledge about orthodontics among the parents. Similar results have been reported by the household study conducted by Dr. Rajvinder Singh, *et al.* where majority of male (146) and female (136) participant had responded that they did not have any knowledge about orthodontist [7]. The importance of an orthodontic information package towards the awareness was emphasized by Anderson, *et al.* [8]

According to American Association of Orthodontists, early orthodontic correction can be started as early as 7 yrs. of age. Most of growth correction is done using myofunctional appliance during mixed dentition period. Similar results reported in our study, as more than half of the parents wants to consult their dentist/orthodontist regarding the first orthodontic visit of their children only after the permanent tooth starts erupting. In our study, 51.6% of parents have no idea that orthodontic treatment carried out during growth period will be faster and easier to achieve esthetically pleasing profile.

Pabari, *et al.* stated that improving smile esthetic found to be the prime motivating factor for the patient [9]. Parents who noticed the irregular teeth and its consequences in others children are more aware to motivate their children to undergo orthodontic treatment to achieve good dentition and esthetics. Tung, *et al.* reported in their study that 75% of the parents were dissatisfied with their children's appearance of teeth and 54% of the parents wanted their children to look pretty [10]. This is similar to our study where 76.5% parents concerned about the good set of dentition and only 18.75% parents were concerned about esthetics as a need to undergo orthodontic treatment.

In general, the public equates good dental appearance with success in a variety of pursuits [11]. 73.1% Parents who are more concerned about their children's self-esteem realizes the need for orthodontic treatment so that their children won't be get teased by their peers. Better dental and facial esthetics play an essential role in finding better jobs and social contacts [12]. The duration of orthodontic treatment may vary according to the type of malocclusion of the children. Thus, it is not very strange that the parents may not know about the duration of

**Table 1.** showing results of Questions from 1-12

<b>Q1. Criteria (100%)</b>	<b>Yes (89.4%)</b>	<b>No (98.4%)</b>	<b>Don't know (0.6%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:						
Male	838	89	7	0.4	0.8	NS (p>0.05)
Female	907	104	6			
Age:						
24-32 years	551	60	5	0.7	0.9	NS (p>0.05)
33-40 years	919	102	7			
41-48 years	275	31	1			

  

<b>Q2. Criteria (100%)</b>	<b>Option A (73.07%)</b>	<b>Option B (5.1%)</b>	<b>OptionC (5.4%)</b>	<b>Option D (16.1%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex: Male	42	451	425	16	2.1	0.4	NS (p>0.05)
Female	56	487	450	24			
Age:							
24-32 years	34	305	263	14	5.6	0.7	NS (p>0.05)
33-40 years	45	479	484	20			
41-48 years	19	154	128	6			

  

<b>Q3. Criteria (100%)</b>	<b>Option A (76.5%)</b>	<b>Option B (18.75%)</b>	<b>OptionC (4.8%)</b>	<b>Option D (1.8%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:							
Male	726	166	23	19	2.3	0.8	NS (p>0.05)
Female	768	200	32	17			
Age:							
24-32 years	474	110	19	13	3.2	0.6	NS (p>0.05)
33-40 years	793	194	25	16			
41-48 years	227	62	11	7			

  

<b>Q4. Criteria (100%)</b>	<b>Yes (23.6%)</b>	<b>No (75.5%)</b>	<b>Don't know (1.8%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:						
Male	218	701	15	0.6	0.7	NS (p>0.05)
Female	243	753	21			
Age:						
24-32 years	139	465	12	7.6	0.4	NS (p>0.05)
33-40 years	232	775	21			
41-48 years	90	214	3			

  

<b>Q5. Criteria (100%)</b>	<b>Option A (7.1%)</b>	<b>Option B (28.5%)</b>	<b>OptionC (62.4%)</b>	<b>Option D (2.4%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:							
Male	68	263	583	20	0.6	0.3	NS (p>0.05)
Female	70	284	636	27			
Age:							
24-32 years	43	188	370	15	4.3	0.05	S (p=0.05)
33-40 years	78	275	651	24			
41-48 years	17	84	198	8			

  

<b>Q6. Criteria (100%)</b>	<b>Option A (27.3%)</b>	<b>Option B (51.2%)</b>	<b>OptionC (14.8%)</b>	<b>OptionD (8.4%)</b>	<b>Option E (4.1%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:								
Male	199	493	129	75	38	2.3	0.7	NS (p>0.05)
Female	218	507	160	89	43			
Age:								
24-32 years	121	324	94	49	28	4.8	0.1	NS (p>0.05)
33-40 years	236	515	152	87	38			
41-48 years	60	161	43	28	15			

  

<b>Q7. Criteria (100%)</b>	<b>Yes (22.1%)</b>	<b>No (75.9%)</b>	<b>Don't Know (1.8%)</b>	<b>X<sup>2</sup></b>	<b>p value</b>	<b>Significance</b>
Sex:						
Male	213	705	16	0.6	0.7	NS (p>0.05)
Female	220	776	21			
Age:						
24-32 years	135	469	12	3.9	0.4	NS (p>0.05)
33-40 years	217	791	20			
41-48 years	81	221	5			

Q8. Criteria (100%)	Option A (5.5%)	Option B (48%)	Option C (44.8%)	Option D (3.9%)	X <sup>2</sup>	p value	Significance
Sex:							
Male	42	451	425	16	2.1	0.6	NS (p>0.05)
Female	56	487	450	24			
Age:							
24-32 years	34	305	263	14	5.6	0.7	NS (p>0.05)
33-40 years	45	479	484	20			
41-48 years	19	154	128	6			

  

Q9. Criteria (100%)	Option A (21.7%)	Option B (25.6%)	Option C (21.9%)	Option D (9.5%)	Option E (4%)	Option F (17.3%)	X <sup>2</sup>	p value	Significance
Sex:									
Male	201	245	197	88	145	58	1.3	0.9	NS (p>0.05)
Female	223	255	231	98	150	60			
Age:									
24-32 years	141	158	127	49	104	37	12.2	0.4	NS (p>0.05)
33-40 years	216	266	243	102	140	61			
41-48 years	67	76	58	35	51	21			

  

Q10. Criteria (100%)	Yes (40.3%)	No (57.6%)	Don't know (1.7%)	X <sup>2</sup>	p value	Significance
Sex:						
Male	287	526	21	3.2	0.1	NS (p>0.05)
Female	401	601	14			
Age:						
24-32 years	240	363	13	1.2	0.8	NS (p>0.05)
33-40 years	420	591	17			
41-48 years	128	174	5			

  

Q11. Criteria (100%)	Yes (47.3%)	No (50.4%)	Don't know (2.3%)	X <sup>2</sup>	p value	Significance
Sex:						
Male	438	479	17	1.8	0.4	NS (p>0.05)
Female	485	505	27			
Age:						
24-32 years	287	314	15	0.3	0.9	NS (p>0.05)
33-40 years	491	515	22			
41-48 years	145	155	7			

  

Q12. Criteria (100%)	Yes (55.9%)	No (42.5%)	Don't know (1.4%)	X <sup>2</sup>	p value	Significance
Sex:						
Male	507	414	13	2.3	0.3	NS (p>0.05)
Female	585	416	16			
Age:						
24-32 years	340	263	13	3.2	0.5	NS (p>0.05)
33-40 years	578	436	14			
41-48 years	174	174	2			

the treatment. Only 22.1% parents are aware of duration of orthodontic treatment. 75.5% of parents had no idea on cost of orthodontic treatment. The socio-economic situation also plays a major role as parents financial situation also determine the need for treatment of malocclusion and at times irregularities of teeth is also not considered abnormal [4].

Harris and Smith found that genetic contribution to occlusal variation is quite low [13]. 51.2% parents believed that oral habits of their children like thumb sucking will results in malocclusion. Parents according to their child's malocclusion consider various conditions like irregularly arranged teeth, gap between the teeth, jaw mismatch, smile problems, proclined teeth etc., to require orthodontic treatment.

The anxious level of parents seeking orthodontic treatment for their children is being described that as 55.9% parents thought that there may be need for major surgeries which they cannot afford and also not willing to do. Whereas only 50.4% parents are aware that extraction of teeth is indicated for correction of teeth. The difference in this percentage shows that the parents themselves consider that to correct

the teeth major surgeries may be required which also be a cause for postponing the treatment.

### Conclusion

Our study concludes that,

1. The awareness among parents towards orthodontic treatment is found to be average.
2. Parental perception towards their child's orthodontic care is more positive.
3. More than half of the parents are knowledgeable regarding orthodontic problems and its treatments.

### Conflicts of interest

There is no conflict of interest for this manuscript submitted.

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