

## The Views and Attitudes of Adolescent Students towards Orthodontic Care

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### Abstract

### Original Research Article

**Background:** It has been stated that malocclusion is the third most common oral health problem, which is caused due to various environmental and genetic factors. The lifestyle of a person is adversely impacted by malocclusion due to its psychological as well as other disturbances in eating, talking, and aesthetics. **Aim:** The study aims to assess the awareness towards malocclusion and orthodontic treatment among adolescent school going students. **Methodology:** A total of 700 students (350 male and 350 female school Students) of age group between 15-18 years were included in the study. A pre-structured self-administered questionnaire consisting of 12 questions were given to the school students to assess their knowledge and attitude towards malocclusion and Orthodontic treatment. **Results:** The survey data was collected and organized into Microsoft Excel spreadsheets (Microsoft Inc., USA), and the data was tabulated and computed in percentage using SPSS version 21.0 software. The data obtained from adolescent student population suggests that there is significant difference between the awareness of malocclusion and orthodontic treatment in males and females. **Conclusion:** The results suggest that there is a fair amount of awareness towards orthodontic treatment among Adolescent School Students, but specific misconceptions and barrier exist. The Female students showed a more positive awareness towards Orthodontic treatment when compared to male patients. **Clinical significance:** The survey helped to assess the knowledge and awareness towards malocclusion and orthodontic treatment among adolescent school students.

**Keywords:** Awareness, Adolescents, Etiology, Malocclusion, Orthodontic Treatment.

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## INTRODUCTION

Malocclusion is regarded as a third most common oral health problem next to dental caries and periodontal diseases [1]. It is caused due to various environmental and genetic factors. Prevalence of malocclusion is considerably high in Europe (nearly 80%) among the Caucasian population and in African countries like Kenya, Nigeria and Tanzania it is ranging from 72 to 86% [2].

India being a large populated country with its multiracial and multiethnic inhabitants shows a definite variation in the prevalence of malocclusion. The prevalence of malocclusion from north to south has reported wide variation from as low as 19.6% to as high as 96.05% [3].

Esthetic appearance plays an important role in social interactions and psychological well-being. Facial attraction is judged with the appearance of mouth and Smile. Thus, malocclusion may adversely

affect social interactions and psychological well-being [4, 5].

Dissatisfaction with the alignment of the teeth, missing teeth, and peer-based teasing due to the appearance of the teeth are factors that influence self-perceptions regarding the need for orthodontic treatment among adolescent School children [6].

So the present study was conducted to assess the knowledge and attitude of school going Indian adolescent students towards malocclusion and Orthodontic care.

## MATERIAL AND METHODS

A total of 700 Adolescent School Students (350 males and 350 females) of age group between 15-18 years from Tiruvannamalai District of Tamil Nadu (India) were included in the study. Permission was attained from the institutional authorities, and students who were willing to participate from classes 9 to 12

were selected for the study. All the students involved in the study belong to the same institution.

**Inclusion Criteria:** Students in the age group of 15–18 years

**Exclusion Criteria:** Students not fitting in the desired age group

A pre-structured self-administered questionnaire consisting of 12 questions were given to the students to assess their knowledge and attitude towards orthodontic treatment. The questionnaire was formulated which comprised of three parts: The First portion included 3 questions related to the demographic information of participants, such as name, age and gender. The second part of the questionnaire comprised 6 closed-ended questions regarding malocclusion and its effects and the third part comprised 6 closed-ended questions regarding orthodontic treatment. The questionnaire was prepared based on other studies [7, 8]. Some were related to the attitude, while others were related to knowledge towards orthodontic treatment.

#### Validity and Reliability of the Questionnaire

A self-administered organized questionnaire was created and tried among a convenience sample of 12 volunteer students from the regular schools whose reactions were rejected from the results of the investigation. Afterward, the students were interviewed to gain feedback on the overall acceptability of the questionnaire in terms as far as length and language clearness, as per their criticism the inquiries were remedied. Cronbach's alpha was utilized to quantify unwavering quality and gave a score of 0.828, which demonstrated good reliability.

### STATISTICAL ANALYSIS

The survey data was collected and organized into Microsoft Excel spreadsheets (Microsoft Inc., USA), and the data was tabulated and computed in percentage using SPSS version 21.0 software. Chi-Square test was performed to calculate the frequency and percentage of awareness towards malocclusion and orthodontic treatment among male and female adolescent students.

### RESULTS

The view and attitude among adolescent Students towards malocclusion and orthodontic treatment were calculated and expressed in percentage.

#### The view and attitude towards malocclusion and its effects (Table 1) (Graph 1)

A total of 361(51.5%) of Adolescent Students have heard of the term Malalignment of teeth, and 326(46.5%) of the Students perceive that Malalignment is caused due to Genetic/Hereditary

reasons, 329(47%) Students perceive that Malalignment is due to external habits (Thumb sucking/Tongue thrusting, lip biting). In regard to the ill-effects of malocclusion, 299(42.7%) of students malocclusion perceive improper alignment of teeth would affect mastication (Chewing problem), 278(39.7%) perceive that malalignment would lead to Mouth breathing. In regard to orthodontic treatment, 377(53.8%) perceive that proper orthodontic treatment would improve facial appearance.

#### The view and attitude towards orthodontic treatment (Table 2) (Graph 2)

Among the Adolescent Students 293(41.8%) are aware that few teeth may have to be removed for proper positioning of irregular teeth and 169(24.1%) students were aware that the improper teeth can be corrected even after 40 yrs of age. 452(64.5%) perceive orthodontic procedures are expensive, 439(62.7%) perceive that orthodontic treatment is a stressful procedure. When questioned about time frame of orthodontic treatment, 244(34.8%) students were not willing to undergo orthodontic treatment if it takes more than 2 years. Among 700 participants only 56(8%) of students have already underwent orthodontic treatment.

#### Percentage of Gender based Awareness among Adolescent students

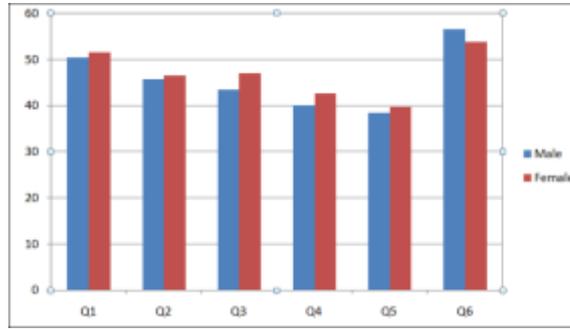
A total of 177(50.5%) out of 350 male, 184(52.5%) out of 350 female Adolescent Students have heard of the term Malalignment of teeth. In regard to etiology of malocclusion 160(45.7%) of male, 166 (47.4%) of female students consider Malalignment to be caused due to Genetic/Hereditary reason, and 152 (43.4%) male, 177 (50.5%) of female students consider Malalignment is caused due external habits (Thumb sucking/Tongue thrusting, lip biting).

When questioned in regard to ill-effects of malocclusion 140(40%) male, 159 (45.4%) of female adolescent Students perceive that improper alignment of teeth would affect mastication (chewing problem), 135(38.5%) male, 159(45.4%) female believe that malalignment would lead to Mouth breathing.

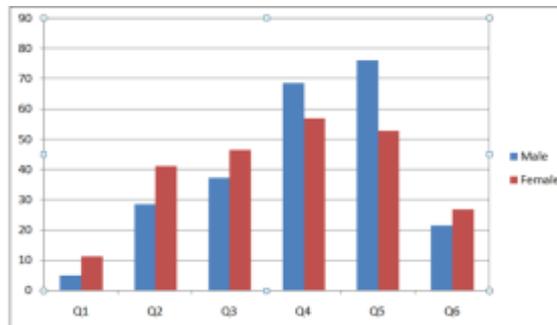
Among 350 male students 170(56.6%) and 207(59.1%) out of 350 female Adolescent Students perceive that proper orthodontic treatment would improve their facial esthetics. 130(37.1%) male and 163(46.5%) female were aware that few teeth may have to be removed for proper positioning of irregular teeth. And only 75 (21.4%) male, 94 (26.8%) female students were aware that the improper teeth can be corrected even after 40 yrs of age.

In regard to expense towards orthodontic procedures 267(76.2%) out of 350 male and 185(52.8%) out of 350 of female students think orthodontic procedures are expensive and among the participants 240(68.7%) male, 199(56.8%) female think orthodontic treatment is a stressful procedure. When questioned

about time frame of orthodontic treatment, 250(71.4%) male, 206(58.8%) female students were not willing to undergo orthodontic treatment if it takes more than 2 years. Among 700 participants only 17(4.8%) male and 39(11.1%) female students have already underwent orthodontic-treatment.



Graph-1: Bar Diagram of the attitude, knowledge among Adolescent students towards malocclusion and its effects



Graph-2: Bar Diagram of the attitude, knowledge among Adolescent students towards Orthodontic treatment

Table-1: The percentage of Awareness about malocclusion and its effects

		Male (350)		Female (350)		Overall (700)	
		Yes	%	Yes	%	Yes	%
1	Have you heard of the term Malalignment of teeth?	177	50.5	184	52.5	361	51.5
2	Do you think this Malalignment is caused due to Genetic/Hereditary reason?	160	45.7	166	47.4	326	46.5
3	Do you think this Malalignment is due to external habits (Thumb sucking/Tongue thrusting, lip biting)?	152	43.4	177	50.5	329	47
4	Do you think improper alignment of teeth would affect mastication (Chewing problem)?	140	40	159	45.4	299	42.7
5	Do you think improper alignment of teeth could lead to alteration in breathing (Mouth breathing habit)?	135	38.5	143	40.8	278	39.7
6	Do you know that taking proper orthodontic treatment would improve your facial appearance?	170	56.6	207	59.1	377	53.8

Note: Data are represented frequency and percentage. Used Chi-Square test. \*p-value <0.05 is statistically significant.

Table-2: The percentage of Awareness about Orthodontic Treatment

		Male (350)		Female (350)		Overall (700)	
		Yes	%	Yes	%	Yes	%
1	Have you undergone orthodontic treatment?	17	4.8	39	11.1	56	8
2	Would you be willing to undergo orthodontic procedure if it take more than 2 years?	100	28.5	144	41.1	244	34.8
3	Are you aware that few teeth may have to be removed for proper positioning of irregular teeth?	130	37.1	163	46.5	293	41.8
4	Do you think orthodontic treatment is a stressful procedure?	240	68.5	199	56.8	439	62.7
5	Do you think orthodontic procedures are expensive?	267	76.2	185	52.8	452	64.5
6	Are you aware that the improper teeth can be corrected even after 40 yrs of age?	75	21.4	94	26.8	169	24.1

Note: Data are represented frequency and percentage. Used Chi-Square test. \*p-value <0.05 is statistically significant.

## DISCUSSION

The oral-facial region plays a very important role in interpersonal interactions, as it draws the most attention from other people cause it is the primary source of vocal, physical and emotional communication. Adolescent with significant dentofacial discordance suffer from negative self-esteem and social maladjustments [9, 10]. The need for orthodontic treatment mainly depends on the positive or negative attitude of the patients [11]. So the present study was conducted to assess the knowledge and attitude of school going Indian adolescent students towards malocclusion and Orthodontic care.

Orthodontic procedure aims to improve dental occlusion, which results in better esthetic and good functioning in harmony with the face. The present study among Indian adolescent students revealed that 40% male, 45.4% of female adolescent Students think improper alignment of teeth would affect mastication (Chewing problem) and 38.5% of male and 45.4% of female students perceive that malalignment would lead to Mouth breathing. In a similar study done by Zakirulla *et al.*, among Saudi school children revealed that 83% male, 59% female children were aware that irregular teeth can affect chewing ability and speech respectively. In his study majority of the children were aware that taking braces treatment at an earlier age would improve facial appearance whereas in the present study more than 50% among male and female Adolescent Students believe that proper orthodontic treatment would improve your facial appearance, the variation in result can be attributed to the fact that the students in study belonged to different socioeconomic background, lack of awareness and literacy rate [12].

In the present study 68.7% males, 56.8% females think orthodontic treatment is a stressful procedure and 37.1% male, 46.5% female were aware that few teeth may have to be removed for proper positioning of irregular teeth. Zakirulla *et al* study also revealed that 45% and 65% of males and females respectively are aware that few teeth needed to be removed for aligning irregular teeth. In his study 58% of males and 47% of females knew that orthodontic treatment is longer than other dental procedures. In the present study in regard to duration 71.4% males, 58.8% females were not willing to undergo orthodontic procedure if it takes more than 2 years. The female students had a better percentage of knowledge and awareness towards orthodontic treatment compared to male students, which were in agreement with other studies [12, 13].

The study revealed that a majority of students 76.2% of male, 52.8% of female students think orthodontic procedures are expensive; it was similar to the result of Zakirulla *et al* where 88.5% of respondents in his study felt that orthodontic treatment was an expensive procedure. These results were similar to the

earlier studies wherein the financial restriction was found to be one of the barriers for the patients to undergo orthodontic procedure and it is believed that socioeconomic factor has a high impact in regard to uptake on orthodontic treatment [14].

The limitation of the present study is that, it was performed in a limited number of students pertaining to a single institution future studies are needed to take place among large sample group.

## CONCLUSION

The study revealed that the students had a fair amount of awareness towards malocclusion and Orthodontic treatment. The students were significantly more concerned about the cost and duration of orthodontic treatment and more than half of the adolescent students lack awareness towards the etiology and effect of malocclusion.

Majority of the adolescent students were aware that orthodontic treatment would improve the facial aesthetics.

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