

An Epidemiological Survey on Awareness towards Orthodontic Treatment in School Children

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Abstract

Introduction: Orthodontic treatment is an essential aspect of oral health care, especially for children. It helps in correcting misaligned teeth and jaws and improving their oral function and appearance. Despite its benefits, many children do not receive adequate orthodontic care, and it is crucial to understand the reasons behind this lack of awareness. This study aims to assess the awareness level of school children towards orthodontic treatment and identify the factors that influence it. **Material and methods:** A cross-sectional survey was conducted among a sample of school children in the age group of 10-16 years in Latur District. The study participants were administered a questionnaire that consisted of questions related to their knowledge, attitudes, and behaviors towards orthodontic treatment. The data collected was analyzed using descriptive and inferential statistics. **Results:** The results revealed that there is a moderate level of awareness regarding orthodontic treatment among school children. The study highlights the need for increased awareness about orthodontic treatment among school children and their families. **Conclusion:** The findings suggest that orthodontic education should be included in the school curriculum, and dental health professionals should actively engage in community outreach activities to educate children and parents about the importance of orthodontic treatment. This will help to overcome the barriers to treatment and improve access to care, ultimately benefiting the oral health and well-being of children.

Key words: Malocclusion, awareness, orthodontic treatment

Introduction

Oral health is a significant part of the general health, well-being, and development of children. Awareness among parents and children about the causes, occurrence and prevention of oral diseases is important for good oral health. Common oral health issues in children are dental caries, malocclusion, dental fluorosis and gingival diseases¹.

Malocclusion is defined as an irregularity concerning teeth alignment and/or their relationship during dental occlusion beyond the range of what is accepted as normal². Malocclusion is considered the third priority for oral health disease according to the World Health Organization³. It occurs due to poor oral habits like thumb sucking, mouth breathing, etc. and tooth anomalies like changes in position and the number of teeth, etc. It affects several oral functions such as chewing, swallowing, maintaining oral hygiene and speaking skills of the patient⁴. Moreover, malocclusion can also impact dentofacial aesthetics and psychosocial self-confidence with a negative impact on everyday life⁵. In every country, there is a need to identify awareness levels of children concerning oral health and orthodontic treatment as they play an important role in inculcating healthy lifestyle practices at a young age to last for a lifetime⁷. Orthodontic treatment aims at correcting a variety of problems including malocclusion, overbites, underbites, and misaligned jaws. The benefits of orthodontic treatment are the prevention of tissue damage, and improvement in aesthetics and physical function. The decision to take the orthodontic treatment is influenced by the desire to look attractive, self-esteem and self-perception of dental appearance, socioeconomic factors and availability of experts⁶. Orthodontic treatment typically involves the use of braces or clear aligners to gradually move the teeth into the correct position. Orthodontic treatment at an early age can prevent more severe orthodontic problems from developing, improve a child's self-esteem and confidence, reduce the length and complexity of treatment, and improve a child's oral hygiene. Furthermore, knowledge about age-related patient concerns may guide and assist the orthodontist in educating potential patients and their parents⁷.

Despite its benefits, many children do not receive adequate orthodontic care, and it is crucial to understand the level of knowledge and awareness. Therefore this study aims to assess the awareness level of school children towards orthodontic treatment in the Latur district.

Material and Methods

A cross-sectional questionnaire based study was carried out in randomly selected schools in the Latur district. This study was targeted to individuals within the age group of 10-16 years. A sample of 300 school children were considered for the survey. Only children who obtained written consent from parents to participate in the study were included. Ethical clearance to conduct the survey was obtained from the Maharashtra Institute of Dental Sciences & Research Dental College, Ethical Committee, Latur.

A close-ended questionnaire was formulated which consisted of two parts: First portion included the questions related to the demographic information of participants, such as name, age and gender. The other part of the questionnaire comprised 15 questions with multiple answers were given to the children to assess their knowledge and attitude towards Orthodontic treatment. The children had three options [a. YES, b. NO, c. DON'T KNOW] to answer the questions. The length of the questionnaire was restricted to 15 items only so that it is convenient for the respondents to answer the questions in less time without losing interest. A statement that mentioned about the confidentiality of the responses as well as of the identity of respondents was included on the top of the questionnaire.

Inclusion criteria: School children of age 10 to 16 years and consent form parents to participate in the survey.

Exclusion criteria: Exclusion criteria used were history of previous orthodontic treatment, rampant caries, multiple missing teeth, mutilated malocclusion and other craniofacial anomalies like cleft lip and palate, facial hemiatrophy, cleidocranial dysplasia etc.

Results

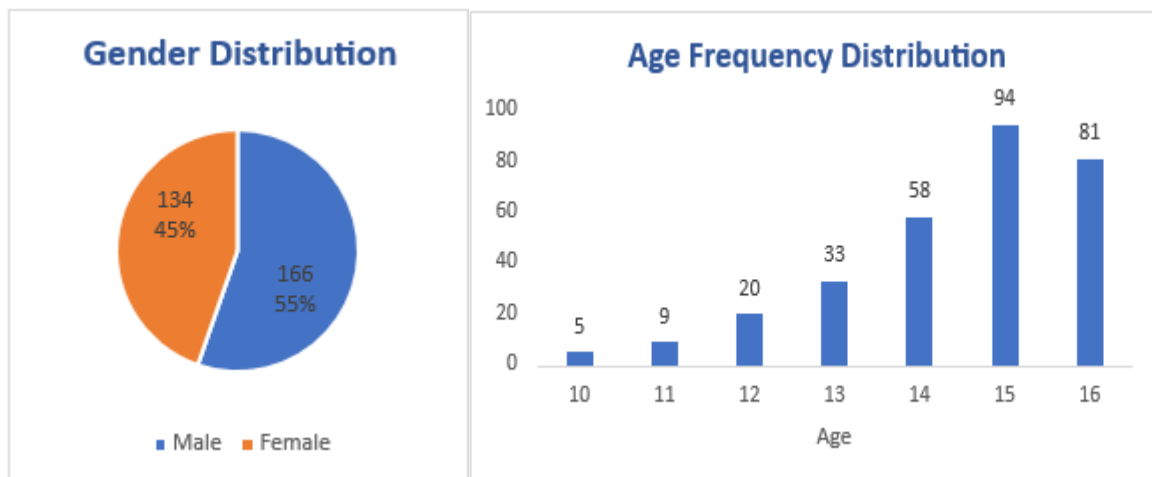


Fig.1. Gender distribution of the

Fig.2. Age distribution of the study participants

study participants

This survey recorded a total of 300 responses. The gender & Age distribution of the children participating in the study are represented in figures 1 and 2. About 77% of them belong to the 14 to 16 age group (233 of 300) and the remaining 23% of children were 10 to 13 years old. Gender-wise distribution of children, the majority of children 166 (55%) were male and 134 (45%) were female.

Table 1. Question-wise summary of survey responses

Section	Questions	Yes (with %)	No (with %)	Don't know (with %)
I. Awareness about Dentist/ Orthodontist	1. Are you aware of a dentist?	297 99%	3 1%	-
	2. Have you visited a dentist before?	193 64.3%	104 34.7%	3 1%
	3. Have you heard of an Orthodontist?	218 72.7%	70 23.3%	12 4%
	4. Are you aware that they align your teeth?	246 82%	36 12%	18 6%
II. Knowledge about irregular teeth	5. Have you noticed people having irregular teeth?	290 96.7%	4 1.3%	6 2%
	6. Do you believe teeth should be properly aligned for a better facial appearance?	262 87.3%	17 5.7%	21 7%
	7. Do you know crooked teeth have ill effects?	43 14.3%	138 46%	119 39.7%
	8. Are you aware that few teeth may have to be removed for aligning irregular teeth?	85 28.3%	126 42%	89 29.7%
	9. Does thumb sucking have an effect on the front teeth alignment?	55 18.3%	97 32.3%	148 49.3%
III. Knowledge about Orthodontic	10. Did you know taking braces treatment at an earlier age would improve facial appearance?	251 83.7%	17 5.7%	32 10.7%

treatment	11. Do you know the duration for braces treatment is longer than other dental procedures?	227 75.7%	37 12.3%	36 12%
	12. Do you know that orthodontic treatment is costly?	206 68.7%	46 15.3%	48 16%
IV. Awareness about braces/ Orthodontic treatment	13. Have you seen people wearing braces?	281 93.7%	12 4%	7 2.3%
	14. Have you ever felt the need to wear braces?	116 38.7%	160 53.3%	24 8%
	15. Has anyone advised you to get your teeth aligned?	88 29.3%	187 62.3%	25 8.3%

Table 2. Section-wise grouped summary of responses

Responses	Awareness about Dentist/ Orthodontist	Knowledge about irregular teeth	Knowledge about Orthodontic treatment	Awareness about Orthodontic treatment
Yes (in %)	79.50%	49.00%	76.00%	53.89%
No (in %)	17.75%	25.47%	11.11%	39.89%
Don't Know (in %)	2.75%	25.53%	12.89%	6.22%

Table 1 & Table 2 represent the responses given by the participants. The first section (Q1 to Q4) of the survey focused on awareness about Dentists/Orthodontists. According to the survey responses we found out that 99% of the children included in this study are aware of the dentist (Q1) and about 64% of children visited a dentist before (Q2). About 72% of the children have heard of an orthodontist (Q3) & 82% are aware that they align teeth (Q4).

The second section (Q5 to Q9) of the survey focused on knowledge about irregular teeth. About 97% of the children have noticed people with irregular teeth (Q5) and 87% of them believe that teeth should be properly aligned for better facial appearance (Q6). However, about 86% of children were not aware of the side effects of improperly positioned teeth (Q7) and about 72% were not aware that in some cases, few sound teeth need to be extracted for the alignment of the teeth (Q8). The survey also revealed that about 18% of the children knew habits like thumb sucking that lead to malocclusion (Q9).

The third survey section (Q10 to Q12) focused on knowledge about orthodontic treatment. About 84% of the children believed that this kind of treatment should start at an early age to improve their facial appearance (Q10). About 76% showed awareness that such treatment could take longer than other dental procedures (Q11), and 69% of children believe it would be costly (Q12).

The fourth section (Q13 to Q15) of the survey focused on awareness of braces and orthodontic treatment. About 94% of children had seen people wearing braces (Q13), and about 39% felt the need to wear braces (Q14). About 29% of these children were told about their malalignment of teeth by other people in society (Q15).

Discussion

This epidemiological survey was conducted to assess the awareness of orthodontic treatment among school children. The survey results indicate that a significant proportion of children are aware of orthodontic treatment, with over 73% of the participants having heard of an Orthodontist. However, the level of understanding of the treatment is low, with only 30% of the participants having a basic understanding of orthodontic treatment. This suggests that there is a need for educational initiatives to increase awareness and understanding of orthodontic treatment among school children.

It is also notable that a significant proportion of participants (24%) have never heard of orthodontic treatment. This highlights the need for further outreach programs to educate children and their families about the benefits of orthodontic treatment. The epidemiological survey provides valuable insights into the awareness and understanding of orthodontic treatment among school children.

Globally, there has been an increase in awareness of Orthodontics as a dental specialty in children as well as adults⁸. Roopa Siddegowda⁹ showed that students have similar levels of knowledge about orthodontic treatment compared to the result of this study. This might be because of similar sample characteristics in these studies.

Madhu Pandey¹⁰ concluded that there is a moderate awareness towards orthodontic treatment among school children. The result of the present study also showed a moderate level of awareness of school children towards orthodontic treatment.

In contrast to the result of the present study, study done by Dr. Piyush Khandelwal¹¹ showed a lower level of awareness about orthodontic treatment among students of Chhattisgarh. The survey results suggest that there is a significant gap in knowledge and awareness of orthodontic treatment among school children. Further research is needed to understand why this gap exists and how it can be addressed.

Conclusion

In conclusion, the results of this epidemiological survey demonstrate a moderate level of awareness regarding orthodontic treatment among school children. It highlights the need for educational initiatives to increase awareness and understanding of orthodontic treatment and promote oral health among school children. By educating children, parents, and teachers about orthodontics, the community can work together to promote good oral health and the benefits of early treatment.

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Annexure

Questionnaire format to analyze the awareness of children towards Orthodontic treatment:

Section	Questions	Options
I. Awareness about Dentist/ Orthodontist	1. Are you aware of a dentist? 2. Have you visited a dentist before? 3. Have you heard of an Orthodontist? 4. Are you aware that they align your teeth?	a. Yes b. No c. Don't know
II. Knowledge about irregular teeth	5. Have you noticed people having irregular teeth? 6. Do you believe teeth should be properly aligned for a better facial appearance? 7. Do you know crooked teeth have ill effects? 8. Are you aware that few teeth may have to be removed for aligning irregular teeth? 9. Does thumb sucking have an effect on the front teeth alignment?	a. Yes b. No c. Don't know
III. Knowledge about Orthodontic treatment	10. Did you know taking braces treatment at an earlier age would improve facial appearance? 11. Do you know the duration for braces treatment is longer than other dental procedures? 12. Do you know that orthodontic treatment is costly?	a. Yes b. No c. Don't know
IV. Awareness about braces/ Orthodontic treatment	13. Have you seen people wearing braces? 14. Have you ever felt the need to wear braces? 15. Has anyone advised you to get your teeth aligned?	a. Yes b. No c. Don't know