Maternal Awareness of Early Orthodontic Consultation for their Children with Malocclusion: A Cross-Sectional Study

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ABSTRACT

Study Design: Cross-sectional

Aim: This study aimed to assess maternal awareness of maternal awareness of early orthodontic consultation for their children with malocclusion in Saudi Arabia.

Methods: A cross-sectional study was carried out on the sample size of 300 mothers' along with children attending outpatient pediatric dental clinics in Female College of Dentistry King Khalid University, Abha, Saudi Arabia. Written informed consent was be obtained from the participants after explaining them the purpose of the study. The questionnaire was formulated and given and data was collected from mothers. The data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS 20). A P-value of less than 0.05 was considered to be statistically significant.

Results: A total of 300 dentists responded to the questionnaire. 42% were of 18-25 years, 38% were of 40-50 years and 20% of study subjects were of >50 years [Table. 1]. Mother's knowledge about Early Orthodontic Consultation for their children with malocclusion were shown in Table. 2. The majority of participants, 195(65%) were said that they know the irregular teeth can be aligned. Majority of participants 155(52%) said that heredity can influence the occurrence of malalignment of teeth.

Conclusions: Mothers had a modest level of awareness and knowledge regarding their children's early orthodontic treatment. Increased socioeconomic and educational status has a substantial influence on mothers' awareness and knowledge.

Keywords: Knowledge, Malocclusion, Mother, Early orthodontic consultation, Saudi Arabia.

INTRODUCTION

Occlusal development starts in the sixth week of intrauterine life and concludes around 24 years of age. It consists of a sequence of events that occur in an orderly and timely manner, genetics and environment being important controlling factors. As per Bahreman A, "the most important stage of the dental occlusion is the transitional dentition.[1] Problems that can occur in either the primary or mixed dentitions are essentially anomalies in the developmental process, functional problems or early presentation of an underlying malocclusion all of which may warrant early treatment. Therefore, early detection of the problem and proper intervention can guide the abnormality toward normality and under some conditions, can prevent or at least reduce the severity of the problems.[1] However, lack of awareness among school children and parents may result in patients not being referred for timely interceptive intervention. This study has been conducted in a developing country where economic pressures, being a major part of an average person's life prevent people from taking their child to an Orthodontist.

Malocclusion is defined as the malposition of the teeth and/or the dental arches beyond the range of what is accepted as normal. According to the World Health Organization (WHO), malocclusion is the third most prevalent abnormal dental condition after caries and gingival disease.[2] The prevalence of children under 16 years old with malocclusion ranged between 75 and 60% in British and North American populations. In Saudi Arabia, 88% of children had one or more malocclusion features. Primary or deciduous dentition is an integral part of an individual's growth and development, and many dentofacial abnormalities, whether genetic or environmental, are the prime causes of malocclusion.[2] Guidance on primary and permanent eruptions is essential in achieving occlusal harmony and function. Malocclusions can be perceived as an oral problem that can interfere with normal oral operations such as mastication and esthetics and could significantly impact the individual's quality of life.[3] Usually, the public correlates a good dental appearance with success in many aspects, and society generally decides the rules for being acceptable and attractive.

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Numerous previous studies comply with the fact that malocclusion has a significant impact on the quality of life.[4] Therefore, this study aims to assess maternal awareness of maternal awareness of early orthodontic consultation for their children with malocclusion in Saudi Arabia.

METHODS

A cross-sectional study was carried out on the sample size of 300 mothers' along with children attending outpatient pediatric dental clinics in Female College of Dentistry King Khalid University, Abha, Saudi Arabia. Written informed consent was be obtained from the participants after explaining them the purpose of the study. Sampling method included in the study was a simple random sampling method. The questionnaire was designed to evaluate the knowledge, attitudes, and practices of the mother's awareness toward early orthodontic treatment for their children, who are having malocclusion. The questionnaire was tested for face validity and reliability. Ethical approval [IRB/KKUCOD/ETH/2023-24/016] for performing the survey was obtained from the Scientific Research Committee of King Khalid University, College of Dentistry.

Questionnaires was translated into the local language (Arabic) and then back to English in order to ensure that the translated version gives the proper meaning. The questionnaire was formulated, which comprised of two parts: The first portion included the questions related to the demographic information of participants, such as age and educational qualification. The other part of the questionnaire comprised 10 questions were prepared based on other studies [3,5], A 3-point Likert scale were used to assess the attitude of the respondents, which included three responses (agree, disagree, and neutral). Questionnaire was tested for reliability and validity.

A self-administered structured questionnaire originated and was tested among a comfort sample of 20 mothers. These were interviewed to get feedback on the entire acceptability of the study when it comes to length and language clearness; in accordance with their feedback, the queries were corrected. Encounter validity was furthermore assessed before the start of research. Both descriptive and analytical statistical dimensions were used to describe the primary variables by SPSS 18 (IBM Corporation, Armonk, NY, USA) software.

RESULTS

A total of 300 dentists responded to the questionnaire. 42% were of 18-25 years, 38% were of 40-50 years and 20% of study subjects were of >50 years [Table. 1]. Mother's knowledge about Early Orthodontic Consultation for their children with malocclusion were shown in Table. 2. The majority of participants, 195(65%) were said that they know the irregular teeth can be aligned. Majority of participants 155(52%) said that heredity can influence the occurrence of malalignment of teeth.

Participants 114 (38%), stated they know that oral habits have ill effects on teeth. Majority of the dentists 126 (42%) agreed that if child's primary teeth has pain or caries, I remove it because it is primary and transient. As many as 255 (85%) of mothers said that If their child's primary tooth becomes mobile, the permanent teeth would erupt more irregular. When question was asked regarding the duration for braces treatment they said 219 (73%) agreed for longer duration of braces treatment. Only 126 (42%) of mothers said that they take their child to visit the dentist to check the need for orthodontic care at age 7 or 8. Majority of mothers 126(42%) disagreed regarding the reason for avoiding orthodontic treatment is that orthodontic braces are difficult to wear

Table 1. Demographic data includes Age and Level of education of mothers

AGE	n (300)	%
30 to 39 years	126	42%
40 to 50 years	114	38%
>50 years	50	20%
Educational Level		
Less than high school	246	82%
High School	33	11%
University	21	7%

Table 2: Response of mothers towards knowledge about Early Orthodontic Consultation for their children with malocclusion

QUESTIONS	n (300)	%
Q1. Do you know that irregular teeth can be aligned?		
Agree	195	65%
Disagree	69	23%
Neutral	36	12%
Q2. Do you think heredity can influence the occurrence of malalignment of teeth?		
Agree	155	52%
Disagree	64	21%
Neutral	81	27%
Q3. Do you know that oral habits have ill effects on teeth?		
Agree	114	38%
Disagree	126	42%
Neutral	60	20%
Q4. If any of my child's primary teeth has pain or caries, I remove it because it is primary and transient.		
Agree	126	42%
Disagree	96	32%
Neutral	78	26%
Q5. If I remove my child's primary tooth before it becomes mobile, the permanent teeth would erupt more irregular.		
Agree	255	85%
Disagree	24	8%
Neutral	21	7%
Q6. Do you know that taking proper orthodontic treatment at an early age would improve your facial appearance?		
Agree	195	65%
Disagree	69	23%
Neutral	36	12%
Q7. Do you know the duration for braces treatment is longer than other dental procedures?		
Agree	219	73%
Disagree	66	22%
Neutral	15	5%

Q8. To begin orthodontic treatment for our children, we wait till their wisdom teeth erupt.		
Agree	36	12%
Disagree	195	65%
Neutral	69	23%
Q9. I take my child to visit the dentist to check the need for orthodontic care at age 7 or 8.		
Agree	126	42%
Disagree	78	26%
Neutral	96	32%
Q10. One of the reason for avoiding orthodontic treatment is that orthodontic braces are difficult to wear it?		
Agree	114	38%
Disagree	126	42%
Neutral	60	20%

n = Number; % = Percentage.

DISCUSSION

The Saudi parent awareness of guiding their children to orthodontist diagnosis in young age play a major role in reducing the propagation of malocclusion in early stage while delaying the treatment to an old age can increase the complexity of the malocclusion treatment which can lead in some cases to a surgical intervention without ignoring the self-esteem of the child during development. Early diagnosis of alleviating occlusal problems during the transition from primary to permanent dentition is crucial in preventing malocclusion. Thus, early detection and timely referral to dentists are necessary requiring preventive and interceptive orthodontic interventions.[6] The findings of this study show that majority of the mothers had satisfactory knowledge regarding the importance and role of early orthodontic interventions in a child's life. These findings are not in accordance with previous studies conducted by Alshammari et al.[7] and Alduraihim et al.,[8] which reported limited knowledge regarding the role of interceptive orthodontics. Early correction of many occlusal problems may not completely solve malocclusion in the future. Still, it could positively affect the child's quality of life and could reduce the risk of dental trauma.[9]

Our study found that majority of the participants believed that oral habits have ill effects on teeth. It is reported that most parents are more concerned about managing dental caries and associated problems than occlusal problems in children.[10] When planning interceptive orthodontic interventions, maintenance and appropriate treatment for problematic primary teeth are important as permanent teeth for proper masticatory functions. Also, the space generated due to early extraction or shedding of deciduous teeth must be maintained to prevent the improper eruptions of permanent teeth; failing to do so can lead to malocclusion problems such as crowding and impaction. Appliances such as space maintainers prevent the movement of the erupting permanent teeth from their normal positions into empty spaces created due to missing primary teeth.[11] Proper maintenance of deciduous teeth has a crucial role in a child's oral and general development.[12]

Children are recommended to visit an orthodontist for a consultation by age 7or 8. About 65% of parents in the current study reported that they would consult an orthodontist regarding orthodontic treatment for their children, and only 42% were aware that it is advisable for a child to get an orthodontic consultation by age 7. These findings agree with findings from Alnafaa et al. who indicated that 72.6% of parents would consult an orthodontist for their child's need for orthodontic intervention. Their results also showed that 42% of mothers thought the best time for an orthodontic consultation was at age 7.[13] Basri et al. also reported that 65% of parents would take their children to the orthodontist for orthodontic treatment; however, in their study, a bigger percentage of parents (48.2%) agreed that a child's first orthodontic screening should start at age 7.[15] Zakirulla et al., reported that 83% of participants agreed that orthodontic treatment is costly. Which is supportive with one study shows that a bulk of respondents (81.2%) Only 7.4 percent of respondents disputed that orthodontic treatment is costly.[14] These findings were comparable to those of other research in which financial constraints were identified as one of the factors preventing patients from receiving orthodontic treatment. They discovered that the majority of people who chose orthodontic treatment were from a high socioeconomic background (Awaisi & Mahmood, 2012).[2]

This study showed significant impacts of higher socioeconomic and educational status on parents' attitude and substantial effect of higher socioeconomic status on parents' knowledge. The parents with previous orthodontic treatment for themselves demonstrated noticeably higher level of acceptable attitude about their children's orthodontic need. There were no significant associations of parent's age and gender with their knowledge and attitude about this issues. As the main shortcoming, this survey was performed in a limited group of selected mothers; future surveys are needed to take place in large. Also, long-term retention of information was not assessed. Future studies are needed to develop valid questionnaires to investigate concerns about orthodontic treatment in a more unbiased manner. The strengths of the study were that we used simple language in the leaflets and the questionnaire was formulated to be understood by a range of education abilities.

CONCLUSION

The findings of this study highlight that there is still a need to raise the awareness of Saudi parents about malocclusion and orthodontic consultations for their children. Orthodontic awareness-raising campaigns should be designed to include fathers and parents with low socioeconomic status. The findings also suggest that orthodontists can enhance their patient's awareness of orthodontic treatment of their children. Although parents' awareness regarding their children's orthodontic treatment is important, other factors, such as the age of the child, the severity of the malocclusion and the consulted dentist, play a role in initiating orthodontic treatment.

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Competing Interest: None

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