

Evaluation of knowledge and attitude of parents about the importance of maintaining primary dentition - A cross-sectional study

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ABSTRACT

Introduction: Dental caries is very common in primary dentition because of improper oral hygiene and increased intake of sucrose. Grossly decayed primary teeth require extraction. The space created by extracted teeth should be replaced by primary dentition to avoid migration of adjacent teeth into the space and to prevent the eruption of permanent tooth. Different appliances are used to maintain the space post extraction of the primary tooth to preserve the space for the eruption of the permanent tooth in a sequential manner. **Aim:** Evaluate the attitude and knowledge of parents toward the importance of maintaining primary dentition in their children. **Methods:** A survey was conducted among randomly selected 100 parents having children between the ages of 2 and 16 years from the general population of Chennai, India. A questionnaire was created was distributed. The data were later collected and statistical analysis was performed. **Results:** Hundred percent awareness was seen among parents regarding maintenance of oral hygiene in children. Only 65% parents reported visiting dentists only when the child complains of pain. Eighty-nine percent of the parents were aware of the harmful effects of thumb sucking habits. However, only a minimum percent parents thought that treating primary teeth was not very important as it would shed off. **Conclusion:** Even though parents were aware that primary teeth have to be managed properly, they were not aware of the various treatment modalities available for treating spaces after extraction of primary teeth and caries management. An increase in the knowledge will encourage parents to provide better oral health to their children.

Keywords: Dental caries, oral habits, primary teeth, thumb sucking

Introduction

Primary or deciduous teeth play an important role in basic life functions such as speech, phonetics, and eating. Primary teeth are useful to fulfil these basic needs in children. The management of deciduous teeth is not considered a primary concern in most of the population. The most increasing problem nowadays is the increase in caries risk referred to as early childhood caries. Further, the treatment of primary teeth is not considered important as it is

believed that primary teeth will shed as the child grows, without having an effect on permanent dentition. Dental caries in children is rapidly increasing compared to that seen in permanent teeth. In early childhood caries, there is an aggressive spread of dental caries most commonly affecting the upper anterior teeth as they are the first teeth to erupt, and hence, compromising aesthetics. An increase in dental caries increases the pain experienced by the child, and eventually decreases the intake of food, thereby decreasing the essential minerals and vitamins leading to malnutrition.^[1]

Early childhood caries is commonly seen in bottle-feeding children overnight because of the increase in sucrose content

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attacking the tooth surface, thereby increasing caries incidence. Loss of anterior teeth in children eventually results in speech development and lack of confidence due to peer influence. Certain appliances are used to replace early loss of anterior teeth. The appliances used for maintaining early childhood caries include Groppers appliance and Grasse appliance. Posts and crown restorations are also used for the treatment of early childhood caries. Permanent teeth management is often considered of utmost importance when compared to that of primary teeth. The dental health of children is compromised as it depends on the knowledge, awareness, and attitude of the parents.^[2,3] Children from low-income families were found to have a high prevalence of caries and poor oral hygiene and health.^[4] Low economic background children are usually neglected by their parents regarding dental treatment with the thought of primary teeth being temporary that will shed later to give a new set of teeth.

Primary teeth maintenance is as important as permanent teeth for proper eating and speech. Primary teeth aesthetics build up the child's confidence, thereby encouraging them to be more social and active. The health of the permanent dentition depends on the hygiene maintained in the primary dentition. Increase in the number of dental caries in primary dentition will eventually increase the risk of caries in permanent dentition as well. The space present in the primary dentition due to early extraction must be maintained to prevent unorganized eruption of the permanent teeth. Improper maintenance of space in primary dentition leads to lack of space for eruption of the permanent teeth, leading to crowding and impaction. Appliances such as space maintainers are used to maintain space in primary dentition post early extraction due to grossly decayed teeth. These appliances prevent the movement of the teeth into the empty space, and thereby do not hinder the eruption of the permanent teeth.

There have been incidences of early eruption of primary teeth at birth termed natal and neonatal teeth. The most common teeth to erupt are the mandibular incisors causing ulcer in the ventral surface of the tongue or on the lower lip called Riga fede disease (RFD). RFD is most commonly seen in infants but has also been observed in older patients with acquired immunodeficiency syndrome.^[5,6] It is a very uncommon and benign disorder of the mucosa.^[7] These teeth require extraction as they can cause disturbance in the ventral surface of the tongue because of continuous tongue movement in infants.

Another common problem encountered in children is the practice of deleterious oral habits such as thumb sucking, tongue thrusting, lip biting, bruxism, mouth breathing, nail biting, and cheek biting. Thumb sucking is the first reflex developed in an infant and is considered to be normal in children aged 2 years. Thumb sucking leads to narrowing of the palatal arch and can also influence permanent dentition. The effect that thumb sucking can have on the dentition depends on the frequency, duration, and intensity of the habit. Lip sucking or lip biting can also have effects on the upper anterior causing proclination.

Bruxism is a sleep disorder wherein the child bites his teeth during sleep. Habitual mouth breathing is when the child has a habit of breathing from the mouth instead of the nose. This could be because of three reasons – obstruction in the nasal passage, habitual, or anatomical. These habits require an orthodontic treatment approach, with the use of habit breaking appliances. Thus, the aim of the study is to evaluate the knowledge and attitude of parents regarding the management of common oral conditions at the primary dentition stage.

Methods

A survey was conducted among 100 individuals of a South Indian population. A set of 15 questions were formulated, and the questionnaire was distributed. The confidence level was set at 95%, with a confidence interval of 8. The expected margin of error was 8.5%. Because the total population of parents coming to the college was estimated at 400, the sample size was calculated to be 109. The questionnaire was distributed to 100 respondents.

The survey questionnaire was filled online. The questionnaire was distributed among parents having children between the age group of 2 and 16 years. The age group was chosen according to the children having primary teeth and those who recently lost primary teeth. The questionnaire consisted of questions regarding the knowledge of maintaining primary teeth and the maintenance of space present in primary dentition after extraction. The information was collected and recorded. A comparison of the answers from the collected data was made.

Results

There was 100% awareness among parents regarding the maintenance of oral hygiene among children. Approximately 53% of the parents thought it was important to treat primary teeth, whereas 30% thought it would depend on conditions. Only 16% of the parents thought that it was not important to treat primary teeth. Eighty-three percent of the population were aware that primary teeth hygiene affects permanent teeth as well. Nearly 64% of the parents thought that it was important to replace the missing space in the primary teeth whereas only 35% thought that it was necessary to replace the missing space in primary dentition. However, only around 27% of parents had knowledge about the appliances used for maintaining the missing space in primary dentition, and the remaining 73% of the parents had no knowledge regarding the use of appliances for maintaining the missing space. Almost 89% of the parents had knowledge about the harmful effect of thumb sucking and other such habits on permanent teeth [Graph 1].

Approximately 68% of the parents thought that treatment of primary teeth was not necessary as it would eventually shed, whereas around 71% of parents thought not treating primary teeth will affect the permanent teeth, and 63% of the parents were of the view that permanent teeth will replace the primary missing space. Around 56% of the parents were aware that

treating primary teeth will prevent further caries. Nearly 43% of the parents thought that the missing space can be left to allow permanent teeth to erupt.

Awareness was seen in 42% of the parents regarding missing space in primary teeth to be maintained for preventing the movement of other teeth into the space. Approximately 22% answered that eating habits would be better in children on replacing the primary teeth, whereas 19% of the parents thought that the primary teeth are required to prevent mobility of other teeth [Graph 2].

However, 55% of the parents were aware that avoiding treatment in primary teeth will cause further caries, whereas 19% of the parents thought that it was not necessary to treat the primary teeth. Only 10% of the parents thought that treatment of primary teeth were required for eating properly and 12% thought it was to build the child's confidence, whereas only 4% of the parents thought treatment of primary teeth had aesthetic importance [Graph 3].

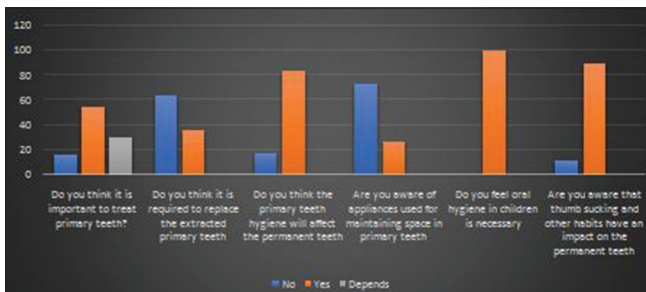
A maximum of 65% of the parents thought that children required treatment of teeth only when they experience pain, and 32% of the parents thought that a child requires dental treatment only after all the permanent teeth erupt, with only 5% being of the view that dental treatment is not required for children [Graph 4].

Majority of the parents took their child to the dentist only if the child experienced or complained of any pain, and only 18% took their child to a dentist regularly whereas 19% had never taken their child to a dentist [Graph 5].

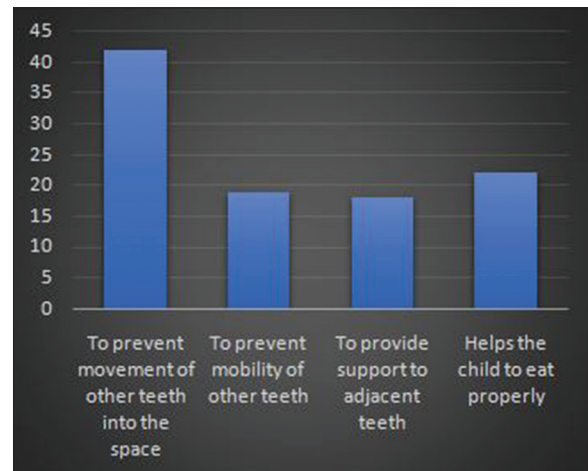
Discussion

The oral and general development of a child depends on the proper maintenance of primary teeth.^[8] Untreated primary teeth can also cause various complications such as pain, infections, alterations in growth and development, problems in eating and sleeping, and malnutrition.^[1,9-11] Early loss of teeth leads to short-term problems, such as speaking and eating difficulties, and long-term difficulties such as malalignment of permanent teeth and malocclusion.^[12]

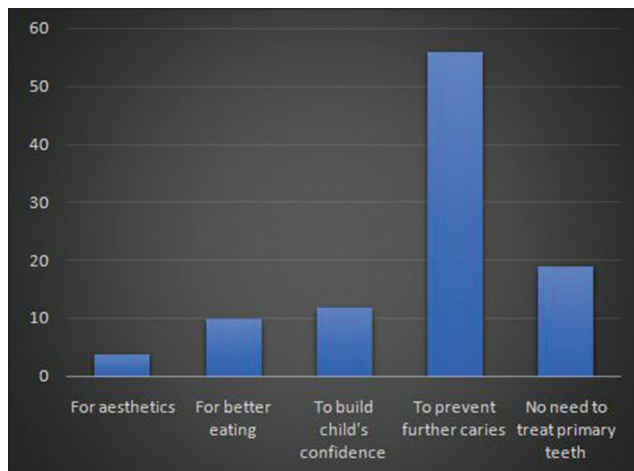
In our study, 100% awareness was seen regarding maintenance of oral hygiene in children, but approximately 65% of the parents took their child to a dentist only when the child complains of any toothache. Only 5% of the parents thought that dental treatment for children is not required whereas 32% thought that dental treatment in children was necessary only after the permanent



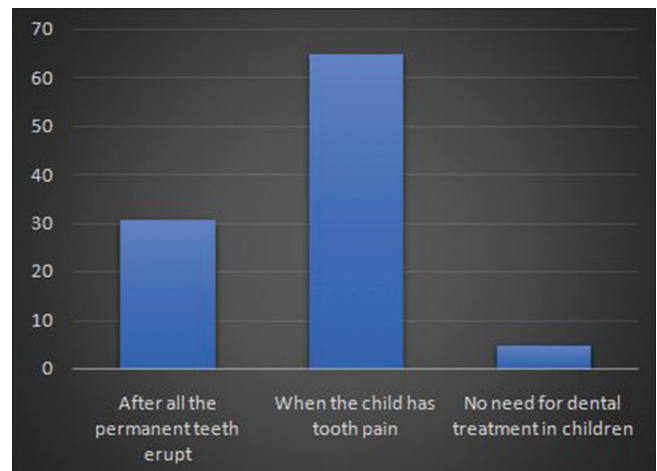
Graph 1: Response to questionnaire



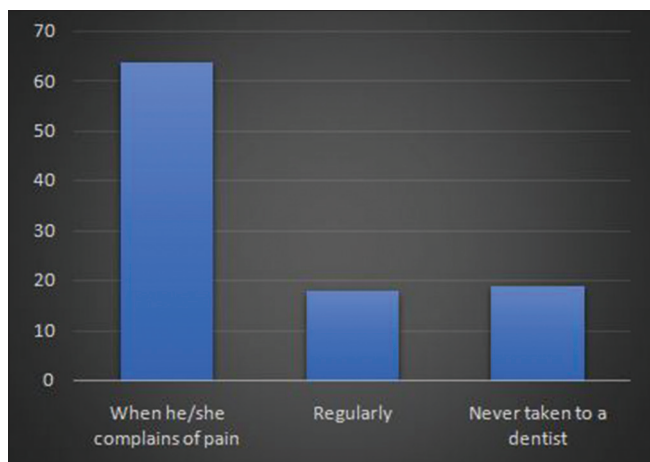
Graph 2: Response to replacement of missing teeth



Graph 3: Response to treatment of primary teeth



Graph 4: Response on taking child to dentist



Graph 5: How often parents take their child to dentist

teeth erupt. On the other hand, 68% of the parents were of the view that primary teeth treatment was not very important as they would shed giving a new set of permanent teeth. However, 71% of the parents thought that treatment of primary teeth will have an effect on the permanent teeth as well. Approximately 43% believed that the missing space in primary dentition can be left as it is for the permanent teeth to erupt. Nearly 32% of the parents thought that a child requires dental treatment only after eruption of the permanent teeth and 65% were of the view that the child required dental treatment only they experience any pain, and only 5% thought dental treatment was not required for a child.

Most parents took their child to the dentist only if the child complains of any pain; only 18% of the parents took their child to a dentist regularly and 19% had never taken their child to a dentist.

Early childhood caries is the most common among the population today due to night time bottle feeding, improper oral hygiene, and nutritional deficiencies. Improving the awareness of parents and their attitude towards dental health can result in better management of early childhood caries.^[13]

In a similar study conducted in Chennai, it was found that neglecting dental health is more prevalent in urban populations.^[14] Some authors have reported that the treatment of primary teeth was considered very low in some cultures, and not much importance was given to caries and missing spaces in primary dentition.^[15] A study by Lathi *et al.* stated that among preschool children very less importance was given to oral health when compared to general health.^[16] In another study by Scroth *et al.*, it was found that the oral health of children was dependant on the attitude of parents towards oral health.^[17] Janhvi *et al.* stated that parents of high socioeconomic status had more knowledge regarding the oral health of their children compared to those of middle socioeconomic status.^[18] The parent's attitude, knowledge, support, and involvement in the child's oral health are important for maintaining the dental health and general health of the child.^[19,20]

This manuscript is of importance to primary care physicians because they are the first health care providers for young children. In countries like India where there is a lacuna in dental treatment in rural areas, general physicians with adequate knowledge regarding oral conditions can guide parents towards delivering good oral hygiene to their children.^[21-24]

Conclusion

From our study, it can be concluded that parents had a good knowledge regarding the maintenance of oral health and hygiene in children but were not aware of the various treatment modalities available for treatment. Not many parents found it necessary to replace missing teeth in the primary dentition, and only a few percentage of parents knew about the appliances being used for maintaining space in primary teeth. An increase in the knowledge of parents can have a direct impact on the oral health of the child and hence should be encouraged. More importance on the maintenance of primary teeth and management of dental caries in children should be brought to the notice of public along with the treatment methods. However, an increase in knowledge will encourage parents to provide even better oral health to their children.

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Conflicts of interest

There are no conflicts of interest.

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