

## Perceived deterrents of treating dental ailments in children- A Survey

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### ABSTRACT:

Teeth are critical for the growth and development of a child. According to functional matrix theory, growth and development are directly proportional to the functional unit of the organism; similarly, function of the teeth play an important role in the growth and development of maxillofacial structures. As dental caries is the most common affliction of children, preserving teeth until their exfoliation is the need of the hour. The main aim of the survey was to determine the various barriers that stop the child from taking the dental treatment. The present survey was conducted among the parents who visited Saveetha Dental College and Hospitals, Chennai, Tamil Nadu, India, A total of 100 parents with 2-12 years children who visited for dental treatment of their children were involved in the survey with their consent. A structured questionnaire was used to collect data, and the collected data were computed and analyzed. The results were obtained by SPSS statistical software. It is important for a dentist to assess the anxiety level of children before starting any dental procedure. From the survey conducted, it was found that out of 100 parents, 47% of them responded that seeing a dentist is the main cause that prevents the child from taking the dental treatment, 28% of them responded that fear of injection was a cause, 12% responded that fear of pain was a cause, 8% responded sound of drill and the rest of 5% responded visiting a hospital was one of the causes that stands as a barrier that prevents the child from taking up the dental treatment. The reasons for delayed dental treatment on the parents side were asked. 47% of the parents responded that since it was milk tooth, treatment may not be necessary. 18% gave the reason for financial constraints.

**KEY WORDS:** Teeth, functional matrix theory, children, dental caries.

### INTRODUCTION

Teeth are critical for the growth and development of a child. According to functional matrix theory, growth and development are directly proportional to the functional unit of the organism; similarly, function of the teeth play an important role in the growth and development of maxillofacial structures (Davies, Spencer and Slade, 1997). As dental caries is the most common affliction of children, preserving them until their exact time of exfoliation is the need of the hour. Teeth, apart from their specific function of mastication, also have a principle function of phonation which aids in socialization of the child (Sanchez and Childers, 2000). Dentists' knowledge and attitude towards oral health care provide the framework for their professional work (Petersen and Razanamihaja, 1996). Since dentists are the people who convey evidence-based knowledge of oral health care to the public, they also influence their patients' oral health-related behaviour (Nithila *et al.*, 1998). With the exponential growth of dental science, dentists need to update

their practices according to the best available scientific evidence. Previous studies of dentists' knowledge of and attitude towards preventive dental care have not produced clear-cut results (Kelly *et al.*, 2005). The prevalence of Early Childhood Caries (ECC) is even increasing. Thus, a clear difference in the development of caries between the permanent and primary dentition can be observed in several countries (Esfandiari, Jamal and Feine, 2010). Even if the primary teeth comprise a transient dentition, healthy, or at least restored primary teeth are of great importance for the function of the permanent dentition and quality of life in children (Tuu *et al.*, 1999). Dental caries, orthodontic problems, and trauma in the child patient population might have a damaging effect on quality of life of the child (Paunio, 1994). Besides the patient parameters, the dentists' attitudes and skills as well as the health system vary considerably between countries and seem to play an important role in restorative treatment in kindergarten children (Petersen *et al.*, 1994). Knowledge and attitude of parents towards Pedodontic treatment and dental services determines whether they search for curative and preventive dental care (Källestål and Wall, 2002). Dental caries is the most common chronic childhood disease found in India. So, increasing caries risk in children is increasing the demand for pedodontic treatment (Flinck *et al.*, 1999). By using these social networking dental health care professionals create the awareness for treatment for their children (Monaghan and Heesterman, 1999). The barriers discovered were related to: difficulties in the (i) change of daily routines or (ii) booking time for care, (iii) poor coordination with other healthcare services, (iv) fear and negative image of oral care, and (v) inconsistent content of oral health information (Kinirons and McCabe, 1995). When parents replied to the externalized question about reasons for the non-attendance of some families, they most often mentioned difficulties in changing daily routines, laziness, lack of interest and fear (Wright and Kupietzky, 2014). Barriers to attending oral healthcare could be lowered by emphasizing the positive image of oral health services, by providing more effective coordination with mother and child health services, and by providing appointment times later in the day. Previously our team has a rich experience in working on various research projects across multiple disciplines (Somasundaram *et al.*, 2015; Hafeez and Others, 2016; Krishnan *et al.*, 2018) (Choudhari and Thenmozhi, 2016; Dhinesh *et al.*, 2016; Gurunathan and Shanmugaavel, 2016; Sneha and Others, 2016; GovinDaraju and Gurunathan, 2017; Kumar and Rahman, 2017; Felicita and Sumathi Felicita, 2018; Saravanan *et al.*, 2018; Vijayakumar Jain *et al.*, 2019; Wu *et al.*, 2019; Palati *et al.*, 2020; Paramasivam, Vijayashree Priyadharsini and Raghunandhakumar, 2020). Our aim was to determine the various barriers that stop the child from taking the dental treatment.

## MATERIALS AND METHODS

The present survey was conducted among the parents who visited Saveetha Dental College and Hospitals, Chennai, Tamil Nadu, India. The survey was done under convenient sampling. A total of 100 parents with 2-12 years children who visited for dental treatment of their children were involved in the study with their consent. A structured questionnaire was used to collect data, and the collected data were computed and analyzed and the results were analyzed using SPSS statistical software.

The questionnaire contained the followed questions:

1. Did your child have a previous dental visit?  
A. yes B. no
2. Reasons for your child's previous dental visit  
A. Treatment for sibling B. self treatment
3. Has the child been familiarised about the dental treatment before visiting the treatment?  
A. yes B. no
4. What is your child's state of mind before visiting dental clinic?  
A. Calm B. Scared C. anxious
5. What do you think could be the reason for your child's fear of taking dental treatment?  
A. Injection B. sound of drill C. fear of pain
6. Which dental treatment causes more anxiety for your child?  
A. scaling B. extraction C. restoration D. others
7. Generally what is your child's behaviour at home?  
A. quiet B. arrogant C. more interactive D. less interactive E. distracted
8. What do you think is the main cause for tooth decay?  
A. Improper brushing B. more intake of sugary food C. I don't know
9. What type of toothpaste do you use for your child?  
A. fluoridated toothpaste B. non fluoridated tooth paste

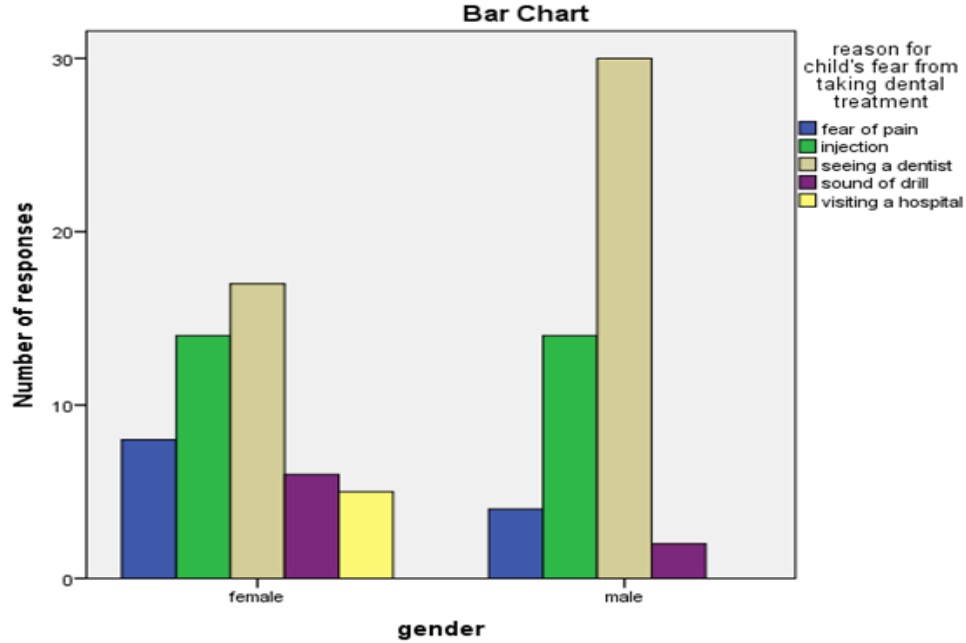
10.In your absence,who will look after your child?

A.grandparents B.guardian C. care takers

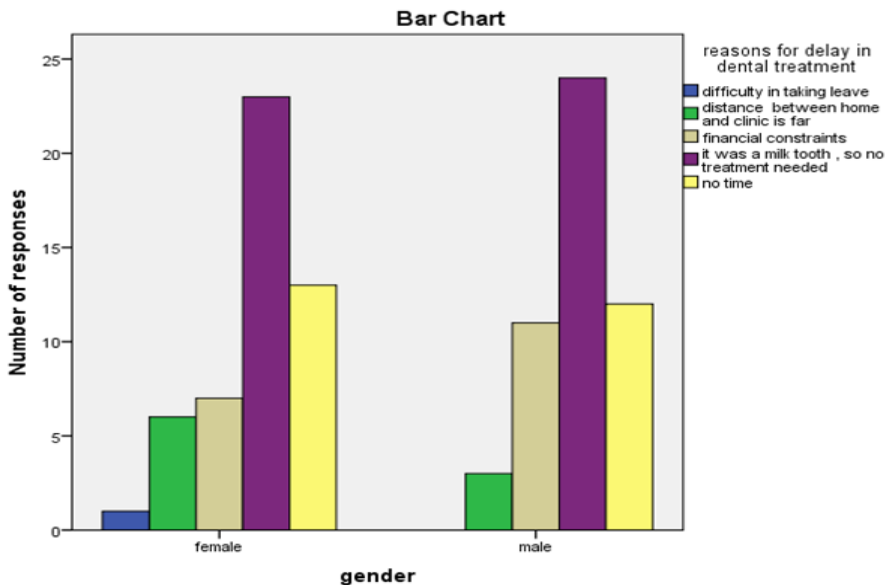
11.Are you aware that adverse oral habits will lead to poor oral hygiene?

A.yes B.no C. I don't know

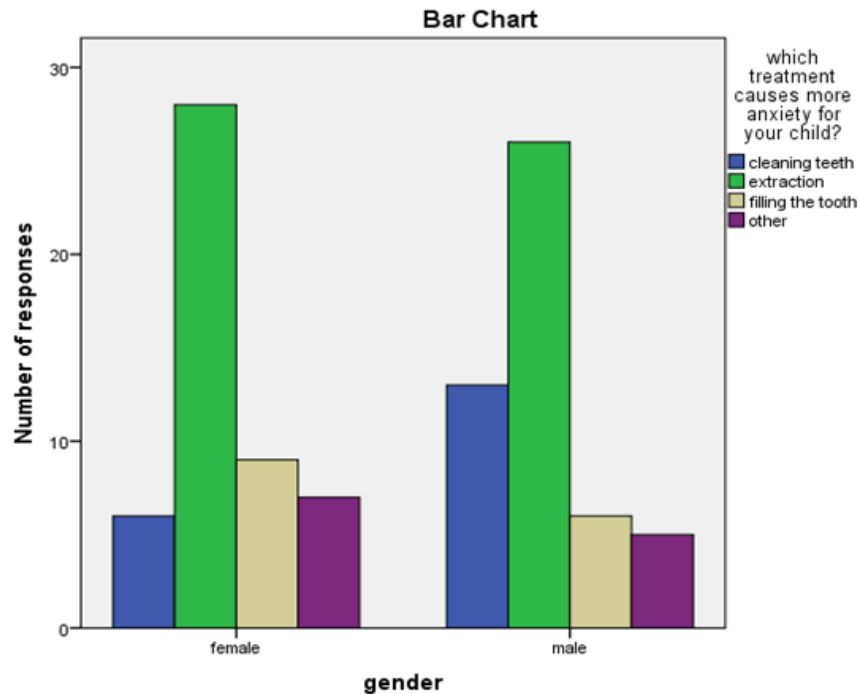
**RESULTS AND DISCUSSION**



Graph 1 shows the association of gender to the question 'Reasons for your child's fear from taking dental treatment.Y axis represents the number of responses and X axis represents the gender. 60% of the males responded that seeing the dentist is the main cause followed by fear of injections that prevents the child from taking the dental treatment. Association was done using Chi square test ( $p$  value= 0.018) ( $p <0.05$ ) which was found to be statistically significant.



Graph 2 showing the association between gender and the question “Reasons for delayed dental treatment”. X axis represents the gender and Y axis represents the number of responses . Both genders responded that dental treatment is not necessary for a milk tooth. The association was done using Chi square test ( $p$  value=0.566) ( $p>0.05$ ) which was found to be statistically insignificant.



Graph 3 showing the association between gender and the response and the treatments which causes more anxiety to the child. X axis represent the gender and Y axis represents the number of responses. Both genders have chosen extraction procedures that cause more anxiety to the child. The association was done using Chi square test ( $p$  value =0.310) ( $p>0.05$ ) and it was found to be statistically insignificant.

From the survey conducted , it was found that out of 100 parents , 47% of them responded that seeing a dentist is the main cause that prevents the child from taking the dental treatment, 28% of them responded that fear of injection was a cause, 12% responded that fear of pain was a cause, 8 % responded sound of drill and the rest of 5% responded visiting a hospital was on of the causes that stands as a barrier that prevents the child from taking up the dental treatment. The reasons for delayed dental treatment on the parents side were asked. 47% of the parents responded that since it was a milk tooth , treatment may not be necessary .18% gave the reason of financial constraints. Then the treatments that increase the anxiety level of the children were asked. 54% of them reported that extraction procedure causes more anxiety to children followed by cleaning the teeth (19%) and filling the teeth (15%). In the study conducted by Amit et al, Out of the 149 general practitioners to whom the questionnaire was administered, 126 returned the paper-based survey and 6 responded through the online version. Of the total 132 response forms received, 100 were deemed valid based on the completion of questions in the response sheets. Data revealed that 70% dentists encountered <3 special needs patients every month in their practice. Although 45% of the respondents claimed that the undergraduate training received in this particular field was good, 57% of them stated that they were not confident of managing children with special needs. Fifty-five percent of the auxiliaries in the dental office were found to be comfortable providing assistance for the dentist. Inaccessibility to the dental clinic (not being located on the ground floor, absence of ramp/lift facilities for wheelchair, etc.) was reported to be the main physical barrier to access to dental care in as high as 71% cases (Adyanthaya *et al.*, 2017; Vertel, Harrison and Campbell, 2017) . In the study conducted by Hollar et al, Several health conditions are encountered every day in routine dental practice; however, providing dental care for children with developmental disabilities becomes complicated as it is time-consuming and costly. However, it can be accomplished with increased awareness of the disability and its associated medical condition, knowledge of the disability, and incorporating flexibility and creativity in the office setting (Hollar, 2012) Bhavna Sabbarwal et al , did s cross-sectional, comparative study was conducted among DS and NDS children and

their parents/caregivers (study participants) from May to September 2016. Ethical clearance was obtained from the institutional ethical committee. Necessary permission was obtained from hospital, special, and regular school authorities. Informed consent was obtained from the parents of the study participants after explaining the purpose and procedure clearly. Principal investigator was trained and calibrated before the start of the study to ensure reliability ( $k = 0.80$ ). A 19-item questionnaire was developed based on previous literature. Cross-cultural validation of questionnaires was performed by means of back translation (English to Kannada) method. Readability and comprehension were assessed during the pilot study. Necessary corrections and modifications were made. Internal consistency of questionnaire was found to be good (Cronbach's  $\alpha = 0.89$ ). The sample size was calculated based on the prevalence of poor oral hygiene during the pilot study (Hollar, 2012; Sabbarwal, Puranik and Uma, 2018). Varshitha et al, conducted a study regarding parents attitude towards behaviour management. Total respondents were 100 parents. Among 100 parents, there were 52% mothers and 48% were fathers. Regarding parents visiting a pedodontist for their child, only 28% of the population did not visit even once and the rest 72% of the parent population have taken their child for dental treatment. In terms of experience about 21% population had a bad experience with pedodontist. Regarding TELL-SHOW-DO technique, 96% of parent population have accepted as top beneficial behavior management technique during dental treatment, and only 4% have unaccepted this technique. Nearly 55% of parent population have accepted for mild nitrous oxide sedation where the child is conscious and rest 45% of unaccepted this sedation technique. Subadharshini et al, conducted a cross sectional study where 100 participants took part and approximately one-third (18%) of the children had their first dental visits between the ages of 4 and 8 years. More than half (36%) of the group had their first dental visits between the ages of 9 and 12 years. A majority of the children (46%) had their first dental visits between the ages of 13 and 17 years. Pain was the main reason for visitation in almost 47% of children. Malocclusion was infrequently used as a main reason for 20% of children's first dental visit. Dental caries and deposits were the main reason for only 11% of all children's first dental visit. A total of 4% of children had their first dental visits due to trauma. A small percentage of children reported for regular dental checkup, and history of missing teeth and mobility in teeth (Dharsini, Ramakrishnan and Ganapathy, 2020). Chandrapooja et al, in her study, suggested that Behaviour management is widely agreed to be a key factor supplying dental care for children. Certainly, if a child's behaviour in the dental surgery/office cannot be managed then it is not easy to hold out any dental care that is needed. A wide variety of behavioural management techniques are available to paediatric dentists which must be used as appropriate taking into account cultural, philosophical and legal requirements in the country of dental practice of every dentist concerned with dental care of children, solely for the benefits of the child. This is also related to an important thing called treatment alliance, once if a child or parents are comfortable with the treatment of a clinician then they will keep on consulting the same clinician (Chandrapooja and Selvarasu, 2016). Our institution is passionate about high quality evidence based research and has excelled in various fields (Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021).

#### **CONCLUSION:**

From the survey, it can be concluded that the majority of parents assume that primary teeth need not be given much importance. It is important for a dentist to assess the anxiety level of children before starting any dental procedure. Some parents believe that their children were scared about visiting the hospital and even visiting a doctor. The reason could be because of previous dental experience or may be fear of injections. More anxiety leads to more aggressive behaviour of the child which may lead to inefficient dental treatment, which could affect the patient-doctor relationship also.

#### **AUTHORS CONTRIBUTION**

All authors have contributed equally in conducting the survey and bringing out the final manuscript.

#### **ACKNOWLEDGEMENT**

The authors would like to acknowledge the help and support rendered by the Research Department of SIMATS for their constant assistance with the research.

#### **CONFLICT OF INTEREST**

The authors declare no potential conflict of interest.

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