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The age of first dental visit -A retrospective study

R.KEERTHANA[1], JESSY P[2]*, MANJARI CHAUDHARY[3]

[1]Saveetha dental college and hospitals, Saveetha Institute of medical and Technical Sciences, Saveetha University, Chennai, India
[2]Senior lecturer, Department of Pedodontics, Saveetha Dental College and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India
[3]Senior lecturer, Department of Oral Medicine, Saveetha Dental College and hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, India
*Corresponding Author
Email ID: 151501004.sdc@saveetha.com, jessyp.sdc@saveetha.com, manjaric.sdc@saveetha.com

Abstract: Early regular dental care is an important step that every parent should be aware.The first dental visit should be shortly after the child's first tooth erupts and not longer after one year. The study was aimed to assess the age of the first dental visit of a child. Data were collected retrospectively from the dental records of saveetha dental college in India. Only children attending their first dental visits with no previous dental experience were included in the study. Descriptive statistics, cross-tabulation analysis, and chi-squared tests were done.The results concluded that about 53% of the first dental visit was found to be 11-18 years of age with male children being addressed more. Parental compliance with the standard age for initial dental visitation recommended by the major dental academies is lacking.

Keywords: age; child; first dental visit; parental compliance

INTRODUCTION

Early regular dental care is an important step for teaching a child the healthy habit. [(And, COMMITTEE ON PRACTICE AND AMBULATORY MEDICINE and and Bright Futures Periodicity, 2016)][(Jeevanandan, 2017)].The first dental visit should be shortly after the child's first tooth erupts and not longer after one year.[('The American Academy of Pediatric Dentistry', 1995)][(Govindaraju, Jeevanandan and Subramanian, 2017a)]According to the American Academy of Pediatric Dentistry (AAPD) and the American Dental Association (ADA) establish among their recommendations that 'a child should visit the dentist within six months of eruption of the first primary tooth and no later than 12 months of age.[(*Website*, no date)][(Govindaraju, Jeevanandan and Subramanian, 2017b)]

These recommendations are aimed at detecting and controlling the different dental pathologies, particularly dental caries, the oral disease that is prevalent in children which may occur soon after the tooth eruption.[(Furze and Basso, 2003)][(Somasundaram, 2015)]Laying the foundation on a lifetime of preventive education and dental care can be built, in order to help assure optimal oral health into childhood'. Year one dental visit helps to give an anticipatory guidance and establishment of a dental home.[(Toth and Szabó, 1959)][(Jawdekar, 2010)] Detection of early lesions, evaluate craniofacial and dental development, provide anticipatory guidance, parent counselling, diet counselling and motivate parents towards prevention orientated intervention.[(Ghimire, Kayastha and Nepal, 2014)][(Jeevanandan and Govindaraju, 2018)]From several studies it is evident that the factors influencing early dental care are socioeconomic status, awareness and knowledge regarding infant oral health among general dentists and pediatricians, health insurance coverage,and parentsí attitude towards early dental care.[(Soxman, 2002)][(Govindaraju, 2017a)]

Pedodontists have the opportunity to supply parents with risk-based anticipatory guidance.[(Lakshmanan *et al.*, 2020)] These will also decrease the invasive restorative interventions when disease is already present and are a source of preventive care provided throughout childhood.[(Govindaraju, 2017b)] Information presented to parents at the first visit may stimulate greater interest in the child's dental health, and consequently may mitigate the course of caries.[(Subramanyam *et al.*, 2018)]Even after the first dental visit, the child should have regular dental check ups to check the oral conditions, implementation of preventive procedures, early detection of caries and preparation of the young patient for potential dental treatments. [(Grzesiak-Gasek and Kaczmarek, 2016)][(Soxman, 2002; Ravikumar, Jeevanandan and Subramanian, 2017)]It should be noted that the child's first dental visit has a huge impact on shaping a positive attitude towards further treatment. [(Kaczmarek, Czajczyńska-Waszkiewicz and Składnik-Jankowska, 2012)][(Veerale Panchal, Jeevanandan and Subramanian, 2019)]It has been reported that earlier dental visits have decreased incidence of dental caries which is followed by decreased dental expenditures. It was found that dmfs score was twice in the children who have had the first

dental visit above four years of age than the children who have visited in the much younger range. The need of the study was to find the age of the first dental visit of the child helps in determining the quality of the preventive dental care and to guide the future oral health of the child [(Olatosi *et al.*, 2019)][(Christabel and Linda Christabel, 2015)] In India there are several dental schools with a pediatric dental department offering oral care to children at affordable costs. In addition, there are exclusive private pediatric dental practices and a large number of general practitioners.[('Fluoride, Fluoridated Toothpaste Efficacy And Its Safety In Children - Review', 2018; Subramanyam *et al.*, 2018)]Dental care is more accessible to children living in urban and semi-urban areas. But most of the studies have reported that the first visit of Indian children was not before 6 years of age.[(Packiri, 2017)][(Gurunathan and Shanmugaavel, 2016)] Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J *et al.*, 2018; Menon *et al.*, 2018; Prabakar *et al.*, 2018; Rajeshkumar *et al.*, 2018, 2019; Vishnu Prasad *et al.*, 2018; Wahab *et al.*, 2018; Dua *et al.*, 2019; Duraisamy *et al.*, 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu *et al.*, 2019; Mehta *et al.*, 2019; Rajendran *et al.*, 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma *et al.*, 2019; Varghese, Ramesh and Veeraiyan, 2019; V. Panchal, Jeevanandan and Subramanian, 2019; Gomathi *et al.*, 2020; Samuel, Acharya and Rao, 2020) Therefore, this study was undertaken to know the age at which parents first seek dental care for their children.

MATERIALS AND METHOD

Study setting: The present study was conducted to evaluate the age of first dental visit in the patients reported to Saveetha dental college and hospitals. The pros of the study included the available data and similar ethnicity. Ethical clearance for this study was obtained from the Institutional Ethical Committee. The population included in the study are 500 children who had visited Saveetha dental college. Their case sheets were reviewed by two examiners.Children less than 18 years of age were included in the stduty .Children with past dental experience were excluded.

Sampling

It is a retrospective study. The data was collected from the patients' record of saveetha dental college. The data included in the study were from June 2019 to March 2020. 500 case sheets were reviewed who had fulfilled the inclusion and exclusion criteria. Telephonic cross verification was done to confirm the past dental history. Simple random sampling, collecting more data sources and including the data only from the institute were the measures taken to minimize the bias. The internal validity included randomization and blinding and defining the eligible criteria of the sample was the external validity.

Data collection

The age of first dental visit of the children was collected from patient's records and the results were tabulated as per the following age. The incomplete or censored data were verified and excluded from the study.

Infant- 15 months
Toddler- 15 months to 2 years
Preschoolers- 2 to 6 years
Middle years child- 6-11 years
Adolescent- 11-18 years

Data analysis

The data were entered and analyzed using IBM SPSS software version 20.0. Descriptive statistics (e.g., frequencies and percentages) were calculated to explore the general features of the data. A cross tabulation analysis was conducted to examine the categorical variables . Independent variables and dependent variables were set.Pearson chi-square test was applied and the level of significance was set at $p<0.05$.

RESULTS AND DISCUSSION

Figure 1 shows the frequency of children visiting the dentist for the first time. It is found that 53% were adolescents, 0.4% were toddlers, 0.4% were infants, 28.2% were middle years children, 18% were preschoolers. It is thus seen that most of the children have had the first dental visit from the age 11-18 years.(adolescents).Shows significance.(Table 3-p value 0.049)

According to Figure 3 it was found out of 500 children 245 were females and 254 were males. Among the female children, 134 were adolescents, 1 was infant , 72 were middle years children and 40 were preschoolers. Among the male children, 131 were adolescents, 2 were toddlers, 1 was infant , 68 were middle years children and 52 were preschoolers. It was found that more male children have reported between the age group (2-6 years) but equal numbers of male and female children have reported in the majority age group i.e11-18 years.

People believe that dental treatment is expensive, but rightly speaking it is not the dental treatment, but the neglect toward dentition accounting to the added expenditure. This dental neglect stems from lack of awareness among the population in developing as well as developed countries regarding the need for early dental visits and, thereafter, regular routine dental visits. Early dental visits aid in the early diagnosis of risk factors, provide

effective parental counseling, allay anxiety, instill a positive behavior toward dentistry, and provide anticipatory guidelines.

Age of first dental visit

In this study we observed that the age of first dental visit of a child was approximately between 11-18 years.The American Academy of Pediatric Dentistry (AAPD) recommends that "a child should visit a dentist within 6 months of eruption of the first primary tooth and no later than 12 months of age," whereas the American Academy of Pediatrics recommends oral health risk assessment by 6 months of age and establishment of dental home for all infants by 12 months of age.

Baliga et al [(Baliga, 2019)] concluded that the age of first dental visit to be more than 6 years, Ghimire[(Ghimire, Kayastha and Nepal, 2014)] found it to be in the age group of 7 to 11 years, and Atulkar et al[(Mittal *et al.*, 2016)] reported that most of the subjects enrolled in their study had not visited the dentist until 17 years of age which was not in accordance with our study.According to Norah et al [(AlSadhan *et al.*, 2017)] most of the participants in their study knew that the time of the child's first dental visit should be at 6 months of age, while about one-third of the sample declared that visiting the dentist should be only upon feeling pain. Mileva et al[(Mileva and Kondeva, 2010)] stated that the age of the first dental visit was after completion of 7 years with reasons being pain followed by dental caries.Priya subramaniam et al [(Subramaniam and Reghuvaran, 2019)]The maximum number of children reported for their first dental visit at age 6 years.

Association of gender and age of first dental visit

In this study more male children have reported at a younger age compared to the female children but on an average equal number of male and female children were reported between the age 11-18. Male children are addressed more maybe due to geographic location where some regions they concentrate only on male children . According to Murshid EZ [(Murshid, 2016)], male children have reported at an earlier age when compared to the female children. According to Atulkar et al [(Mittal *et al.*, 2016)], there was no gender significance.

According to Sanguida et al [(Vinothini *et al.*, 2019)] the proportion of parents who felt that treating milk teeth will cause damage to permanent teeth was more among the higher educational levels and upper-lower socioeconomic status, and this difference was statistically significant.Tickle et al.,[(Tickle *et al.*, 2003)] in their study conducted among UK parents, found that the majority of parents preferred to leave treatment decisions to the dentist, reflecting the imbalance in knowledge existing between parents and healthcare professionals. Parents may not have understanding about health problems and treatment modalities available and their effectiveness. Therefore, it is the responsibility of the dentist to educate the parents about importance of primary teeth and their treatments

Prevention and early dental examination give pedodontists the opportunity to educate parents with risk-based anticipatory guidance. These will also decrease the invasive restorative interventions when disease is already present.The longer a child's initial dental visit is prolonged, the more likely the children are to develop serious dental issues. The present study showed a low awareness level among parents, as the majority of children were brought for their first dental visit at 11 years of age and the reason for seeking dental care was pain. From this study, it was evident that parents bring their children for a dental visit only when the child has pain which is apparent and severe.

Limited number of children were involved ,Extensive study with larger sample size is required.

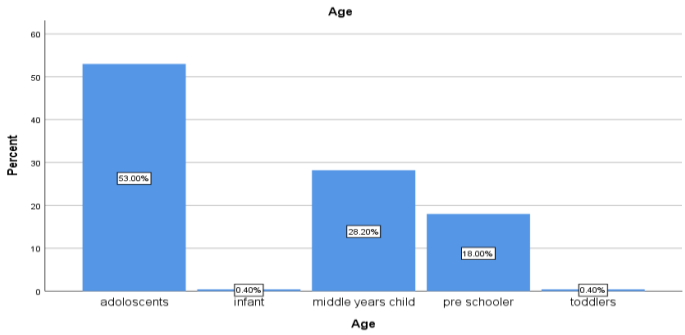

Fig.1: Percentage distribution of First Dental visit among Children based on age group .X axis represents the age of the child and Y axis represents the percentage of children in each age group. Blue bar denotes the age group. It was found that the first dental visit of the child was in the adolescent age(53%)

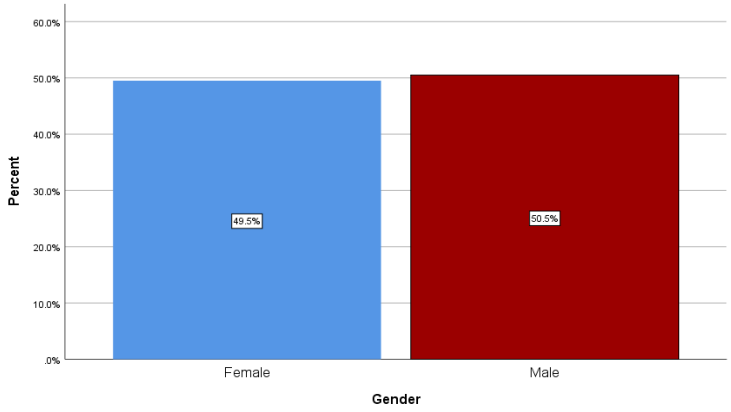

Fig.2: Percentage distribution of First Dental visit based on Gender. X axis represents the gender of the child and Y axis represents the percentage of children. Blue bar denotes the female children and red bar denotes the male children. It was found that almost equal numbers. of male(50.5%) and female children(49.5%) had their first dental visit.

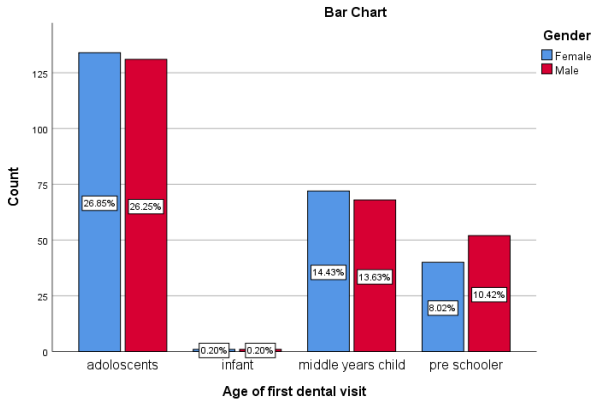

Fig.3: Bar diagram representing association between gender and age of first dental visit. X axis represents the age of the child and Y axis represents the number of male and female children in each age group. Blue bar denotes the female children and red bar denotes the female children. Chi square test was done to find the significance. Pearson chi square value=6.722, p value=0.049. A statistically significant association was present between gender and the first dental visit.($p<0.05$).It was found that most of the children's first dental visit is around the age of 11-18 years(adolescents).

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; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Mathew *et al.*, 2020)

CONCLUSION

Within the limits of the study, it was found that most of the children have had the first dental visit from the age 11-18 years(adolescents) and boys have reported earlier than the girls. Hence the study proves that the dental neglect among parents and lack of awareness regarding the importance of an early dental care leading majority of parents to seek dental care later and not as a routine visit, awareness should be created among the parents through dental camps and maternal education needs to be improved with the Dental home should be initiated.

AUTHORS CONTRIBUTIONS

First author (Keerthana. R) performed the analysis, and interpretation and wrote the manuscript. Second author (Dr.Jessy. P) contributed to conception, data design, analysis, interpretation and critically revised the manuscript. Third author(Dr.Manjari Chaudhary) participated in the study and revised the manuscript. All the three authors have discussed the results and contributed to the final manuscript.

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Conflict of interest
The authors declare that there is no conflict of interest.

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