

Research Article

# Assessment of Attitude and Awareness Towards Preventive Dentistry among Parents of Anganwadi Children in Chennai - A Cross-Sectional Study

RK Swetha<sup>1</sup>, N Vignesh<sup>2</sup>, R Ganesh<sup>3</sup>, B Selvamani<sup>4</sup>, M Sasikala<sup>5</sup>

<sup>1,2</sup>Intern, Department of Public Health Dentistry, Priyadarshini Dental College and Hospital, Tamil Nadu, India.

<sup>3</sup>Professor and Head, <sup>4</sup>Senior Lecturer, Department of Public Health Dentistry, Priyadarshini Dental College and Hospital, Tamil Nadu, India.

<sup>5</sup>Senior Lecturer, Department of Public Health Dentistry, Priyadarshini Dental College and Hospital, Tamil Nadu, India.

DOI: <https://doi.org/10.24321/2278.2044.202347>

## I N F O

### Corresponding Author:

N Vignesh, Department of Public Health Dentistry, Priyadarshini Dental College and Hospital, Tamil Nadu, India.

### E-mail Id:

vignesh09@gmail.com

### Orcid Id:

<https://orcid.org/0009-0008-9540-5743>

### How to cite this article:

Swetha RK, Vignesh N, Ganesh R, Selvamani B, Sasikala M. Assessment of Attitude and Awareness Towards Preventive Dentistry among Parents of Anganwadi Children in Chennai - A Cross-Sectional Study. Chettinad Health City Med J. 2023;12(3):30-34.

Date of Submission: 2023-05-12

Date of Acceptance: 2023-08-17

## A B S T R A C T

**Background:** Usually, parents are less aware that preventive oral health and dental procedures may have an impact on the general health and well-being of the children. Parental negligence may result in unfavourable dental and general health consequences. Parental knowledge of preventive measures towards oral health is important for proper oral hygiene maintenance, control of caries, care of primary teeth in children.

**Aim:** To analyse the attitude and awareness towards preventive dentistry among parents of Anganwadi children in Chennai.

**Methodology:** This was a questionnaire-based cross-sectional study conducted among 316 participants. The study included the parents of Anganwadi children residing in Zone-4 Chennai. A questionnaire was prepared and distributed to seven Anganwadi centres which was then given to participants and responses were collected after two days. The data were collected systematically and analysed using the SPSS software version 20.

**Results:** 316 study subjects participated in the study. The study revealed a significant difference statistically in knowledge, attitude and awareness among parents in various categories. About 81% of the participants were aware that sugar and sugar-containing diet can cause dental decay whereas, only 25% of them had the understanding that fluorides can help prevent dental decay.

**Conclusion:** Awareness about preventive dental practices such as the appropriate duration of brushing, the influence of dietary sugars on dental decay, the impact of oral health on the general health of children existed among the parents. At the same instant, participants were found to be less aware of the role of fluorides in caries control, eruption time of permanent dentition, timely dental visits and trauma care.

**Keywords:** Preventive Dentistry, Parental Awareness, Anganwadi

## Introduction

Dental caries is a major disease of the oral cavity which results from the activity of oral microorganisms colonised on tooth surfaces.<sup>1</sup> Early childhood caries is a severe condition affecting the teeth of infants and toddlers.<sup>2</sup> For its prevention, the transmission of cariogenic bacteria to children and colonisation, especially *Streptococcus mutans* should be reduced.<sup>3</sup> The most common source of *Streptococcus mutans* that colonise in children is through the transmission of salivary bacteria from their mothers.<sup>4</sup> One of the main reasons for primary tooth loss is due to carious lesions.<sup>5</sup> The occurrence of dental caries increases due to changes in lifestyle, poor oral hygiene, consumption of a sugar-containing diet.<sup>6</sup> Most oral health conditions can be prevented or treated in their early stages.<sup>7</sup> Parents who make decisions about their child's health have a significant influence on the dental health of their offspring.

Following the discovery of the preventive effects of fluoride in water against dental caries, fluoride was added to milk, salt and toothpaste. The use of fluoridated toothpaste also reduces the incidence of dental decay. Toothpaste containing 850 ppm–1150 ppm of fluoride for children less than 6 years of age and up to 5000 ppm for children above 6 years of age and adults has proven to have a positive impact as a self-administered topical method for preventing dental decay.<sup>8</sup> Primary care providers should help the parents in choosing an appropriate fluoride-containing toothpaste. Apart from preventive procedures, interceptive care also plays a major role which is done best at an earlier stage. Knowledge about interceptive orthodontic procedures and appliances which aid in guided jaw growth helps in

the correction of malocclusions.<sup>9</sup> Dental visits at regular intervals help the parents in knowing their child's oral health such as the progression of dental caries or malocclusions. Dental visits before completion of 12 months of age have been suggested for kids in various studies.<sup>10-12</sup> A child's age at his first dental visit is a determining factor for the oral health of the child in the future.<sup>13</sup> Hence the present study was conducted to analyse the awareness and attitude towards preventive dentistry among parents of Anganwadi children in Chennai.

## Methodology

This was a questionnaire-based cross-sectional study conducted among 316 participants during March–April 2023. This study was approved by the Institutional Ethical Committee (IEC) of Priyadarshini Dental College & Hospital and informed consent was obtained from all participants. The study assessed the attitude towards preventive dentistry among parents of Anganwadi children residing in (Zone-4) Chennai. A structured self-administered parental questionnaire was prepared in both Tamil and English languages. There are about 45 Anganwadi centres located in Zone-4 Chennai among which questionnaire forms were distributed to seven Anganwadi centres and a total of 316 responses were collected after two days. The data were collected systematically and analysed using the SPSS software version 20.

## Results

There were 103 (32%) males and 213 (68%) females in the study. Table 1 denotes the responses of parents towards preventive oral health.

**Table 1. Responses of Participants Towards Preventive Oral Health**

S. No.	Questions	Responses	Percentages	p Value
1.	When should parents begin to clean their children's teeth?	By the time the first tooth erupts	32.6	0.274
		When all the teeth have erupted	37.3	
		When all the front teeth have erupted	30.1	
2.	At what age (in years) should tooth brushing be taught to children?	0–1	17.4	0.000
		2–3	74.4	
		5–6	8.2	
3.	How often will you replace your child's toothbrush?	Once a month	62.3	0.000
		Once in 6 months	35.4	
		Once a year	2.2	
4.	How long (in minutes) do you think one should brush his/ her teeth?	2	49.4	0.000
		5	44.6	
		7	6.0	

5.	What kind of toothpaste would you prefer for your children?	Fluoridated toothpaste	41.1	0.001
		Non-fluoridated toothpaste	23.7	
		Don't know	35.1	
6.	What does fluoride mainly do?	It makes teeth white	36.1	0.000
		It helps to prevent dental decay	24.7	
		It makes teeth grow	6.3	
		Don't know	32.9	
7.	Do you think sugar-containing drinks/ diets can cause dental decay in children?	Yes	81.6	0.000
		No	15.5	
		Don't know	2.8	
8.	Do you know that you can get a specialised diet plan according to your child's oral health?	Yes	55.7	0.000
		No	18.7	
		Don't know	24.7	
9.	Have you noticed your child having any of these habits?	Thumb sucking	19.9	0.000
		Lip biting	20.3	
		Mouth breathing	12.7	
		None of the above	47.2	
10.	Till what age (in years) can thumb sucking habit of your child be considered normal?	3	79.5	0.000
		6	18.0	
		9	2.5	
11.	What will you do when your child's healthy tooth breaks/ falls during a trauma?	Immediately take your child to a dentist	68.4	0.000
		Immediately take your child along with the broken tooth fragment to a dentist	20.5	
		Take home remedies	11.1	
12.	Are you aware of the eruption time of permanent teeth?	Yes	42.7	0.001
		No	25.6	
		Don't know	31.6	
13.	What does the early loss of a child's primary teeth cause?	Early eruption of permanent teeth	53.5	0.000
		Delayed eruption of permanent teeth	37.0	
		Missing permanent teeth	9.5	
14.	How often should you take your child to a dental visit?	Once every six months	29.7	0.009
		Once a year	28.8	
		When pain arises	41.5	
15.	Do you think the oral health of the child will have an effect on his/ her general health?	It will affect their general health	61.4	0.000
		Oral health has no effect on their general health	21.8	
		Don't know	16.8	

Approximately 75% of the study participants stated that their children should be taught to brush their teeth by 2–3 years of age and 62% reported that they would replace their toothbrushes once a month. These findings were statistically significant. About 81% of participants were aware that the presence of sugar or sweets in the diet consumed by children causes dental decay. Over 61% of the participants agreed that the child's oral health will have an effect on their general health.

When questioned about the frequency of dental visits, it was found that only 29% of them took their children for routine dental check-ups once in 6 months and only 25% had knowledge that fluorides can prevent dental decay. Also, only 20% of the parents stated that they would take their child along with a broken tooth fragment to a dentist after a trauma.

## Discussion

When it comes to preventing oral disorders and boosting children's dental health, parental education and attitude are crucial. Good dental health constitutes a vital parameter of good general health. Uncontrolled and active caries leads to inadequate oral as well as general health among various kids.<sup>14</sup>

In our study, the participants showed diverse responses on various aspects of preventive dentistry when questioned about the preferred type of toothpaste for their children. As per the results, 41% of the participants chose fluoridated toothpaste, 23% chose non-fluoridated toothpaste, 35% didn't know which should be chosen. These findings were in alignment with the findings of a study conducted by Almupairi.<sup>15</sup> When asked about the effect of early loss of a child's primary teeth, only 37% of participants said that it may lead to delayed eruption of a child's permanent teeth. This denotes that the majority of parents were unaware of the importance of deciduous teeth. These observations were in line with the study conducted by Lone et al. in 2016.<sup>16</sup> When questioned about when should a parent start cleaning their children's teeth, only 32% of the study participants stated correctly that they would clean when the first tooth erupted, which was in contradiction with the study conducted by Mustafa et al.<sup>17</sup> where 80% of the parents were aware that they should start cleaning their children's teeth as soon as the first one erupts. These results highlight the importance of health education to parents in concentrating on improved tooth brushing habits for their children.

When asked about the role of fluoride present in toothpaste, 36% of the participants stated that it makes teeth white whereas, only 25% of them correctly stated that it helps in the prevention of decay, 32% were unaware of its role. These results were less compared to the study conducted by

Sabbagh et al.<sup>18</sup> which revealed a higher parental knowledge mean score associated with topical fluoride usage.

Over 81% of the participants were aware that the presence of sugar in cold drinks consumed by children causes dental decay. Similar findings were seen in the study conducted by Marrs et al.<sup>19</sup> Another study conducted by Bamba et al.<sup>20</sup> also stated that 79% of parents were aware of the same. Over 40% of the study participants stated that they didn't notice any oral habits in their children, while 20% noticed thumb sucking habit and 21% noticed lip biting habit.

About 41% of the study participants stated that they would take their child for a dental check-up only when there is a need or when pain arises. These results were in accordance with the study conducted by Al-Ansari JM and Honkala<sup>21</sup> and Kumar et al.<sup>22</sup> About 29% of the respondents mentioned that they would take their child for a routine dental check-up once in 6 months which was similar to the result of the study conducted by Al-Sane et al.<sup>23</sup> It was appreciative that 61% of the study participants were aware that the oral health of their children has a significant impact on systemic health.

## Conclusion

Parents play an extremely vital role in oral disease prevention in children. In the present study, the majority of the parents showed a positive attitude towards preventive dental practices and had knowledge and awareness about the impact of diet on oral health and the effect of oral health on their children's general health. However, parents still lacked the knowledge of the use of fluorides, frequent dental visits, trauma care. Hence, dentists should take the responsibility of educating the patients both in the office and community set-up.

**Source of Funding:** None

**Conflict of Interest:** None

## References

- Holt R, Roberts G, Scully C. Dental damage, sequelae, and prevention. *West J Med.* 2001 Apr;174(4):288. [PubMed] [Google Scholar]
- Hussein AS, Abu-Hassan MI, Schroth RJ, Ghanim AM. Parent's perception on the importance of their children's first dental visit (a cross-sectional pilot study in Malaysia). *J Oral Res.* 2013 Mar;1(1):17-25. [Google Scholar]
- Köhler B, Andreen I. Influence of caries-preventive measures in mothers on cariogenic bacteria and caries experience in their children. *Arch Oral Biol.* 1994 Oct;39(10):907-11. [PubMed] [Google Scholar]
- Thorild I, Lindau B, Twetman S. Caries in 4-year-old children after maternal chewing of gums containing

- combinations of xylitol, sorbitol, chlorhexidine and fluoride. *Eur Arch Paediatr Dent.* 2006 Dec;7(4):241-5. [PubMed] [Google Scholar]
5. Alesia K, Khalil HS. Reasons for and patterns relating to the extraction of permanent teeth in a subset of the Saudi population. *Clin Cosmet Investig Dent.* 2013 Jul 30;5:51-6. [PubMed] [Google Scholar]
  6. Musaiger AO, Takruri HR, Hassan AS, Abu-Tarboush H. Food-based dietary guidelines for the Arab Gulf countries. *J Nutr Metab.* 2012;2012:905303. [PubMed] [Google Scholar]
  7. Horst JA, Tanzer JM, Milgrom PM. Fluorides and other preventive strategies for tooth decay. *Dent Clin North Am.* 2018 Apr;62(2):207-34. [PubMed] [Google Scholar]
  8. Bisson JI, Roberts NP, Andrew M, Cooper R, Lewis C. Psychological therapies for chronic post-traumatic stress disorder (PTSD) in adults. *Cochrane Database Syst Rev.* 2013 Dec 13;2013(12):CD003388. [PubMed] [Google Scholar]
  9. Khanna P, Sunda S, Mittal S. "Keep my space" - a review article. *Int J Oral Health Dent.* 2015 Jan;1(1):11-5. [Google Scholar]
  10. Cruz GG, Rozier RG, Slade G. Dental screening and referral of young children by pediatric primary care providers. *Pediatrics.* 2004 Nov;114(5):e642-52. [PubMed] [Google Scholar]
  11. Nainar SM, Straffon LH. Targeting of the year one dental visit for United States children. *Int J Paediatr Dent.* 2003 Jul;13(4):258-63. [PubMed] [Google Scholar]
  12. Douglass JM, Douglass AB, Silk HJ. Infant oral health education for pediatric and family practice residents. *Pediatr Dent.* 2005;27(4):284-91. [PubMed] [Google Scholar]
  13. Suguna S, Ravindran V. Trends in paediatric first dental visit: a retrospective study. *Int J Dent Oral Sci.* 2021 May 22;8(5):2538-43. [Google Scholar]
  14. Gaur A, Sujjan SG, Katna V. The oral health status of institutionalized children that is, juvenile home and orphanage home run by Gujarat state Government, in Vadodara city with that of normal school children. *J Indian Soc Pedod Prev Dent.* 2014 Jul;32(3):231-7. [PubMed] [Google Scholar]
  15. Al Mutairi MA. Parental comprehension about use of fissure sealants and fluorides in their children and effects on oral health of the children. *J Dent Res.* 2020;2(1):1010. [Google Scholar]
  16. Lone N, Sidiq M, Yousuf A, Khan M. Parental awareness and attitudes towards preschool oral health of children visiting a Government Dental Hospital of Kashmir. *Int J Contemp Med Res.* 2016;3(11):3239-42. [Google Scholar]
  17. Mustafa M, Nasir EF, Åstrøm AN. Attitudes toward brushing children's teeth-A study among parents with immigrant status in Norway. *Int J Paediatr Dent.* 2021 Jan;31(1):80-8. [PubMed] [Google Scholar]
  18. Sabbagh HJ, Alghamdi DS, Almutairi WM, Alshahrani SA, Alghamdi AS. Knowledge and practices for early childhood caries prevention among parents of the children visiting King Abdulaziz University Pediatric Dental Clinics, Kingdom of Saudi Arabia. *J Contemp Dent.* 2019 May;9(2):53-8. [Google Scholar]
  19. Marrs JA, Trumbley S, Malik G. Early childhood caries: determining the risk factors and assessing the prevention strategies for nursing intervention. *Pediatr Nurs.* 2011 Jan;37(1):9-15. [Google Scholar]
  20. Bamba S, Chachra S, Duhan H. A questionnaire-based study to assess the level of awareness among parents about preventive measures and its relationship with dental health status of 6–12 years old children in Panchkula, Haryana, India. *J South Asian Assoc Pediatr Dent.* 2019 Jan;2(1):11. [Google Scholar]
  21. Al-Ansari JM, Honkala S. Gender differences in oral health knowledge and behavior of the health science college students in Kuwait. *J Allied Health.* 2007;36(1):41-6. [PubMed] [Google Scholar]
  22. Kumar G, Dhillon JK, Vignesh R, Garg A. Knowledge, attitude, and practical behavior of parents regarding their child's oral health in New Delhi. *J Indian Soc Pedod Prev Dent.* 2019;37(1):3-7. [PubMed] [Google Scholar]
  23. Al-Sane M, Koerber A, Montero M, Baskaradoss JK, Al-Sarraf E, Arab M. Sociodemographic and behavioural determinants of early childhood caries knowledge among expectant mothers in Kuwait. *Eur Arch Paediatr Dent.* 2021 Jun;22(3):449-58. [PubMed] [Google Scholar]