

Knowledge, Attitudes, and Practice of Parents toward Their Child's Oral Health in Davanagere: A Questionnaire Survey

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ABSTRACT

Background: Children are a kind and innocent part of society, and since their oral health affects the oral health of future generations, it is given the attention it deserves. The dental health of young children is greatly influenced by the knowledge and attitude of their parents. Hence, the present study was conducted to assess the knowledge, attitude, and practices of parents toward their children's oral health and also to compare the knowledge, attitude, and practices with regard to age and socioeconomic status.

Methods: This cross-sectional descriptive study was carried out with a sample of 200 among the parents of higher primary schoolgoing children in Davanagere. A questionnaire was designed to test parent's awareness toward their children's oral health, and data were collected by means of a questionnaire. The questionnaire consisted of 16 relevant questions with demographic data. The Chi-square test had been used to test the association between the responses among parent's socioeconomic status using statistical package for social sciences version 23.

Result: A total of 210 questionnaires were distributed, with a response rate of 95.4%. Out of the 200 participants (30–60 years), 41% were mothers and 59% were fathers. Of them, 19.5% were upper middle (II), 48.5% were lower middle (III), and 32% were upper lower (IV). Almost 36% of the parents preferred to take their child for dental visit only after seeing a visible cavity in their child's mouth. Nearly 74% of parents were aware that deleterious oral habits can cause irregular teeth.

Conclusion: More than half of the respondents had an average level of knowledge on oral health, while a majority had a positive attitude toward their child's oral health. Participants with lower middle (III) status had significantly better overall knowledge scores than others.

Keywords: Attitude, Children, Knowledge, Oral health, Practice.

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INTRODUCTION

Children are a vulnerable and compassionate segment of society, deserving of special care and attention, especially when it comes to their health. Their oral health, in particular, is a critical aspect of their overall development, influencing not just their physical well-being but also their confidence and social interactions. By prioritizing children's dental care, we help prevent future generation oral health issues. Parental awareness and attitudes toward oral health have a significant influence on maintaining young children's oral health. Since oral health is crucial, it establishes the framework for healthy permanent teeth.¹ Children's dental health, which includes maintaining good oral hygiene and eating a balanced diet, has been observed to improve with parents' positive attitudes toward dentistry.²

The World Health Organization defines oral health as being free from chronic mouth and facial pain, cancers, infection, and other conditions which may inhibit a person's ability to chew, bite, smile, or speak (WHO, 2018). Tooth decay is the leading oral health issue among children and young people, yet it remains largely preventable.³ Children from racial and ethnic minorities, immigrants, and lower socioeconomic backgrounds often experience higher rates and severity of dental caries. This disparity can significantly impact their ability to carry out daily activities like eating, sleeping, talking, and playing. The pain and discomfort caused by untreated caries can affect their speech and self-image, leading to social and psychological challenges later in life.^{4,5} Although tooth decay remains highly prevalent in the population, recent studies examining parental and child toothbrushing

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behaviors are limited. Parents' health beliefs, attitudes, and behaviors, along with their socioeconomic status, significantly influence the oral health practices of their children.⁵

Hence, an attempt has been made in this study to assess the knowledge, attitude, and practices of mothers toward their children's oral health and also to compare the knowledge, attitude, and practices with regard to age and socioeconomic status.

MATERIALS AND METHODS

Design and Sampling

The present descriptive study is a self-designed questionnaire-based cross-sectional survey among the parents of higher primary school going children in Davanagere city, Karnataka, India, carried out in the month of April 2024. By using a random

sampling technique, about 200 participants were chosen. The study participants gave their informed consent, and the Institutional review board granted ethical clearance.

The structured questionnaire proforma was designed in English. A two-part structured questionnaire was given to the participants. The first section included basic details, such as the parent's name, age, gender, occupation, education, and family income. The questionnaire was the second part and consisted of 16 questions about children's oral health behaviors, attitudes, and knowledge. Six questions dealt with knowledge, six with attitudes, and four with practices. Majority of the questions were closed ended (9 in number), where the respondents were expected to put a tick sign to the options they feel most relevant, and seven questions were open ended.

Procedure

The self-completed questionnaire was distributed to 210 higher primary school going children in Davanagere city, and they were asked to get it filled by their parents. Total of 200 questionnaires were collected back with three rounds of follow-ups. Socioeconomic status of the subjects was calculated using Modified Kuppaswamy Socioeconomic scale for year 2023.

Statistical Analysis

The filled questionnaire forms were collected and coded, with numerical values assigned to each response. The data were then entered into a Microsoft Excel sheet for organization. For analysis, Statistical Package for the Social Sciences version 23 (SPSS Inc., Chicago, IL, USA) was used. A *p*-value of ≤ 0.05 was considered statistically significant, with a 95% confidence interval. To determine associations between various variables, the Chi-square test was employed.

RESULTS

A total of 200 parents took part in the study; out of which 82 (42%) were mothers and 118 (59%) were fathers in which 59 were in 31–39 years age-group, 105 were in 40–49 years age-group, and 36 were in >50 years age-group. The level of socioeconomic status of the parents ranged from upper middle (19.5%), lower middle (48.5%), to upper lower (32%) (Table 1).

The frequency distribution of the responses along with Pearson's Chi-square result have been recorded in Table 2. Most of the questions tested the knowledge and attitude of the parents toward their child's oral health. Four of the questions involved practice-based assessment.

About 153 (76.5%) participants were aware of the presence of two sets of teeth in mouth (Table 2 and Fig. 1) and when asked about the deleterious oral habits, 148 (74.0%) participants knew that habits like thumb-sucking and mouth-breathing can cause irregular teeth, whereas 53 (36.05%) were not aware of it (Fig. 2). On asking that if brushing teeth daily helps in preventing tooth decay and gum diseases, 178 (89.0%) participants said Yes and 22 (11.0%) said No (Fig. 3). About 79% of participants were aware that sweet has a role to play in the occurrence of dental cavities (Fig. 4). The percentage of participants giving correct response was significantly higher in the lower middle socioeconomic status parents.

On being questioned about when they feel is the right time for their child's first dental visit, 21 (10.5%) participants said when their child lost his/her first tooth. Among this, eight participants belonged to upper middle, four belonged to lower middle, and

Table 1: Sociodemographic characteristics of the survey respondents according to age, gender (parental status), and socioeconomic status

Variables	Frequency (%)
Age-group	
31–39	59
40–49	105
>50	36
Parental status	
Father	118
Mother	82
Socioeconomic status	
Upper middle	39
Lower middle	97
Upper lower	64

nine belonged to upper lower. About 99 (49.5%) participants said when their child complains of tooth pain, in which 19 participants belonged to upper middle, 49 belonged to lower middle, and 31 belonged to upper lower. Nearly 72 (36.0%) said when they see the visible cavity in their child's mouth. Among them, nine were from upper middle, 40 from lower middle, and 23 from upper lower. Only 8 (4.0%) said when all primary teeth are present in which three were from upper middle, four from lower middle, and one from upper lower. This difference among the participants was statistically significant (*p* = 0.041).

On asking how often their child brushes his/her teeth, 127 (63.5%) said they brush once a day, 71 (35.5%) said twice daily, only 2 (1.0%) said they brush after every meal, and 0 participant said they do not brush. Nearly 73 (36.5%) of parents were aware of the significance of using fluoride toothpaste.

When asked about food cariogenicity, 154 (77%) of participants were aware that sweet food leads to caries, whereas 46 (23.0%) were unaware of it. Only 110 (55.0%) participants have taken their child for regular dental visit. Only 27 (13.5%) participants said that the right time for toothbrushing for their child is when the first primary tooth erupts (Fig. 5), and when they were asked to rate their child's oral health, 129 (64.5%) parents rated it as good, 33 (16.5%) rated it as satisfactory/better, 23 (11.5%) rated it as bad, and 15 (7.5%) rated it as needs improvement.

DISCUSSION

The best way to protect the child's teeth is by teaching him/her good dental habits. Healthy dental habits in children are largely established by positive parenting techniques. By educating parents about the importance of oral hygiene and preventive measures, we can significantly reduce the incidence of dental caries, which is indeed a preventable disease.¹ Implementing preventive strategies early in a child's life can significantly impact their long-term dental health, saving both time and money for parents. Hence, oral health education of parents is important as the children's oral health is dependent on them. Oral health promotion measures are essential, and encouraging proper brushing and the use of fluoridated toothpaste can be a collaborative effort among parents, children, and dental professionals.^{1–5} The survey's impact measure focused on parents' perceptions of how their child's oral health affected their daily life. This includes aspects like eating, speaking, sleeping, or socializing. Since parents are often the ones who decide when to seek dental care, their awareness of how oral health issues influence their child's quality of life can significantly



Table 2: The frequency distribution of responses along with Pearson's Chi-square

Questions	Response	N	%	p-value
1. Do you know that there are two sets of teeth called milk teeth and permanent teeth?	1. Yes	153	76.5	0.942
	2. No	47	23.5	
2. What is the number of teeth present in mouth?	1. 20	4	2.0	0.904
	2. 30	11	5.5	
	3. 28	37	18.5	
	4. 32	148	74.0	
3. Do you think that the deleterious oral habits can cause irregular teeth?	1. Yes	148	74.0	0.774
	2. No	52	26	
4. Do you think brushing teeth daily helps in preventing tooth decay and gum diseases?	1. Yes	178	89.0	0.914
	2. No	22	11.0	
5. When do you feel is the right time for your child's first dental visit?	1. When your child loses his or her first tooth	21	10.5	0.04
	2. When your child complains of tooth pain	99	49.5	
	3. When you see visible cavity in your child's mouth	72	36.0	
	4. When all primary teeth are present	8	4.0	
6. Is it necessary to take the child for regular dental visit?	1. Yes	47	48.5	0.256
	2. No	103	51.0	
7. Have you taken your child for dental visit yet?	1. Yes	110	55.0	0.134
	2. No	90	45.0	
8. How often does your child brush his/her teeth?	1. Once a day	127	63.5	0.117
	2. Twice daily	71	35.5	
	3. After every meal	2	1.0	
	4. Do not brush	0	0.0	
9. What bristled toothbrush does your child use?	1. Ultrasoft	21	10.5	0.429
	2. Soft	74	37.0	
	3. Medium	103	51.5	
	4. Hard	2	1.0	
10. What toothpaste does your child use?	1. Fluoridated toothpaste	73	36.5	0.306
	2. Nonfluoridated toothpaste	68	34.0	
	3. Unaware	59	29.5	
11. Do you encourage your child to rinse the mouth after every meal?	1. Yes	157	78.5	0.581
	2. No	43	21.5	
12. Does your child consume sweet snacks in between meals?	1. Yes	36	18.0	0.816
	2. No	62	31.0	
	3. Sometimes	102	51.0	
13. Do you agree that sweets have a role to play in the occurrence of caries?	1. Yes	154	77.0	0.498
	2. No	46	23.0	
14. If your child complains of dental pain, what would be your first reaction?	1. Take him/her to dentist	91	45.5	0.313
	2. Give painkillers (medications)	43	21.5	
	3. Wait for it to subside on its own	31	15.5	
	4. Reduce the pain by using home remedies (like clove, Zandu balm, and so on)	35	17.5	
15. When do you think is the right time for toothbrushing for your child?	1. From the age of 3 years	101	50.5	0.243
	2. Younger than 2 years	65	32.5	
	3. When the first primary tooth erupts	27	13.5	
	4. Unaware	7	3.5	
16. How do you rate your child's oral health?	1. Good	129	64.5	0.628
	2. Satisfactory or better	33	16.5	
	3. Bad	23	11.5	
	4. Needs improvement	15	7.5	

impact the decision to visit a dentist. Therefore, the parents' perceptions are vital in addressing oral health concerns promptly and effectively. Interestingly, several observed parenting practices were significantly associated with childhood dental caries.^{6,7}

The present study was conducted to assess the knowledge, attitude, and practice of parents toward their child's oral health in Davanagere. In the present study, 76.5% of the parents were aware of presence of milk teeth and permanent teeth, while Khanduri et al.

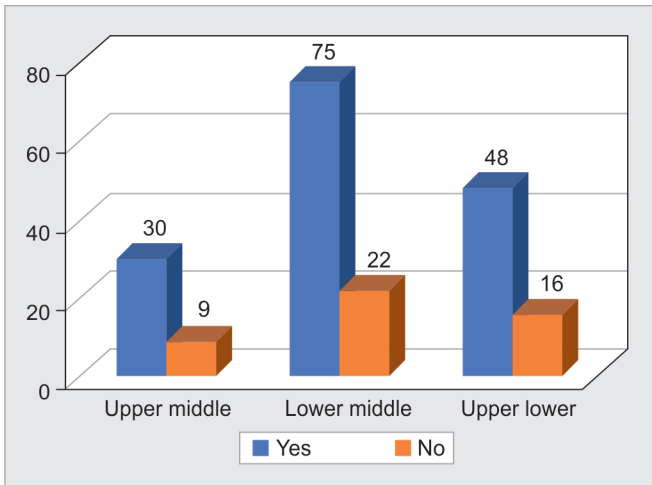


Fig. 1: Do you know that there are two sets of teeth called milk teeth and permanent teeth?

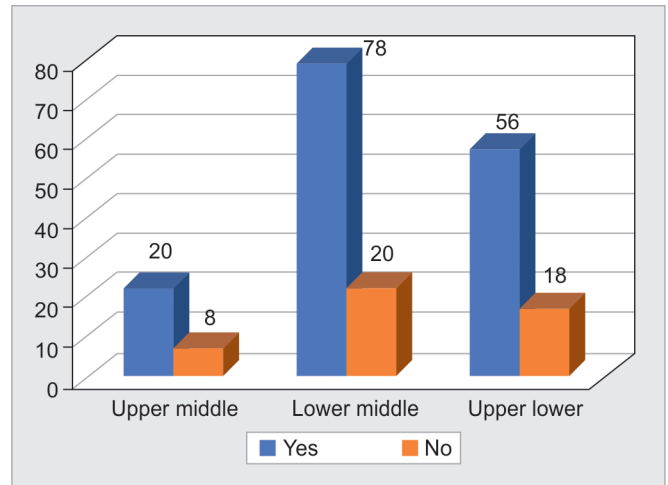


Fig. 4: Do you agree that sweets have a role to play in the occurrence of caries?

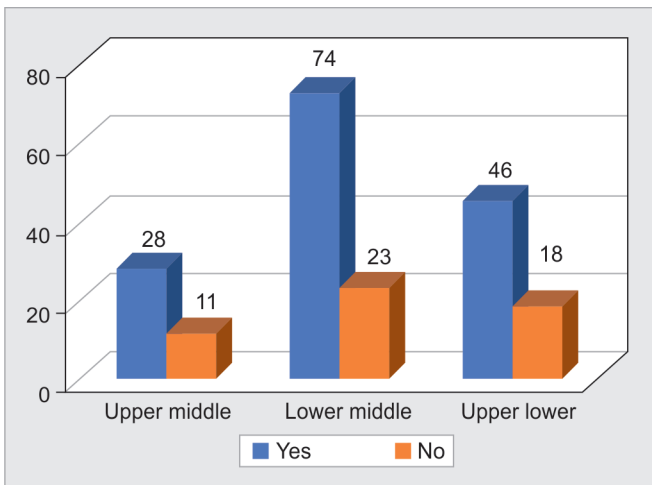


Fig. 2: Do you think that deleterious oral habit (thumb-sucking and mouth-breathing) can cause irregular teeth?

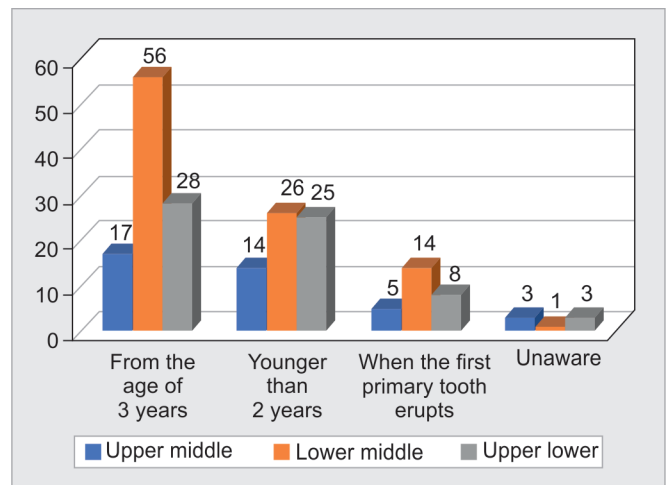


Fig. 5: When do you think is the right time for toothbrushing for your child?

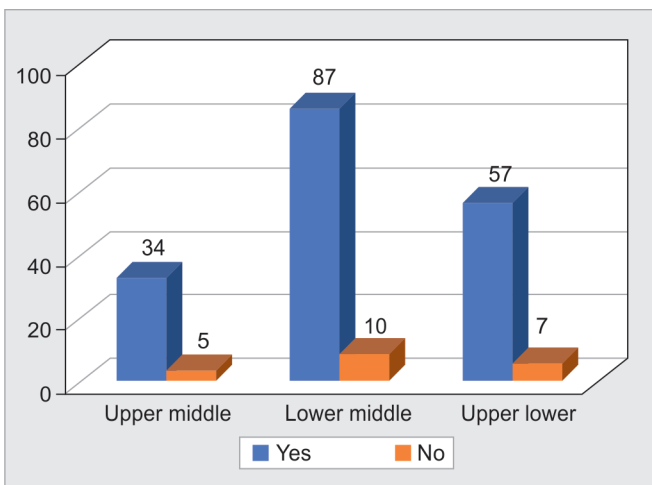


Fig. 3: Do you think that brushing teeth daily helps in preventing tooth decay and gum diseases?

in 2021, in their study, showed that nobody had knowledge about the number of milk teeth in child’s mouth and about 48.1% parents agreed that milk teeth are important in Robert et al.’s study.² Jain et al. in their study reported that only 10.0% of parents were aware of milk teeth number.² About 74.0% parents in this study were aware that deleterious oral habits like thumb-sucking and mouth-breathing can cause irregular teeth, and in Khanduri et al.’s study nearly 41% of parents knew that unhealthy oral habits can lead to uneven teeth.^{1,3}

In this study, only 36.0% parents feel that the right time for their child’s first dental visit is when they see the visible cavity in their child’s mouth, while Robert et al., in their study, showed that 44.3% parents reported that children should visit dentist or dental therapist by first birthday, and in Jain et al.’s study, 54.7% parents reported that they take their child to visit the dentist only when problem arises. In this study, about 35.5% parents reported that their children brushed their teeth two times a day. Khanduri et al., in their study, showed that only 20% of children brush their teeth twice daily. Adair et al. stated that children who brush their teeth two times a day with fluoride toothpaste are significantly more likely



to be free of cavities.¹ The results from Jain et al.'s study showed that only 41.0% parents reported that children brush twice daily.²

Hoefl et al., in their study, reported that nearly 77.0% parents agreed that sweets have a role in occurrence of dental caries, and over 92% of them knew that drinking soda/sweet is bad for children's teeth.⁵ Several studies have reported similar findings, indicating the effect of sweets in caries occurrence.¹⁻⁸

The most effective way to administer fluoride for cavity prevention is through the regular use of fluoride toothpaste. However, in the present study, only 36.5% of parents were aware of the benefits of fluoride toothpaste and its positive effects on children's oral health. Robert et al., in their study, reported that about 47.1% parents agreed that using fluoride toothpaste helps to prevent tooth decay.² This aligns with the findings of studies done by Khanduri et al., Robert et al., Jain et al., Hiratsuka et al., and Suresh et al., whereas study done by Franzman et al. reported good knowledge about fluoride.^{1-4,9,10}

It was found that the majority of parents in the current study who had more knowledge regarding their children's oral health belonged to lower middle socioeconomic class. To our knowledge, there are very few studies that correlate socioeconomic classes of parents; therefore, the current study is unique in its findings.

CONCLUSION

This study showed that more than half of the respondents had an average level of knowledge on oral health while a majority had a positive attitude toward their child's oral health. Parents with lower middle (III) status had significantly better overall knowledge scores than others. Parents are instrumental in fostering good oral habits in their children. By practicing and demonstrating healthy behaviors themselves, they can effectively influence their children. The limitation of the study is that only parents of children in higher primary school in Davanagere were included in the study; so the sample size was small and the results cannot be extrapolated. As a result, research on the same topic must be carried out on larger samples from various demographics. Additionally, society must be made more aware of the value of regular dental checkups and

oral hygiene. It is crucial for healthcare providers to emphasize the importance of oral hygiene for both expectant mothers and their children.

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