

A Questionnaire-based Study to Assess the Level of Parental Knowledge, Attitude And Practice Towards Maintaining the Oral Health of Child between the age of 1-14 years in Sangamner, Maharashtra, India.

Khooshi Santosh Patil¹, Maithili Sanjay Bhosale¹, Sejal Sanjio Barai¹,

Satvik Suresh Gondhali¹, Hitendra Jain², Sheetal Chavan³, Vidya Rodge³.

¹Undergraduate Student, SMBT Dental College and Hospital, Sangamner, Maharashtra, India.² Professor and Head of Department, SMBT Dental College and Hospital, Sangamner, Maharashtra, India.³ Senior Lecturer, SMBT Dental College and Hospital, Sangamner, Maharashtra, India.

ABSTRACT

. Background:

Oral health is an essential component of a child's overall health and quality of life. Parents are the primary influencers of their children's health-related behaviors, including oral hygiene practices. Adequate parental knowledge, a positive attitude, and appropriate oral health practices play a significant role in preventing oral diseases and promoting healthy habits among children. Previous studies conducted in different regions of India and worldwide have highlighted the impact of parental awareness on children's oral health outcomes.

. Objective:

To assess the knowledge, attitude, and practices (KAP) of parents regarding the oral health of children aged 1–14 years in Sangamner, Maharashtra, India.

. Methodology:

A cross-sectional questionnaire-based survey was conducted among 150 parents of children aged 1–14 years in Sangamner, Maharashtra. A structured and validated questionnaire was used to collect information regarding demographic details, parental knowledge about oral health, attitudes toward preventive dental care, and oral hygiene practices followed for their children. The collected data were processed and summarized using descriptive statistical techniques

. Results:

The findings indicated that the majority of parents recognized the importance of maintaining good oral hygiene and acknowledged the role of primary teeth in a child's overall development. Most participants demonstrated a positive attitude toward preventive dental care and regular tooth brushing. However, gaps were observed in knowledge regarding the appropriate timing of the first dental visit, the preventive role of fluoride, and dietary factors associated with dental caries. Variations in oral health practices were also observed among parents, suggesting the need for improved oral health education.

. Conclusion:

The study revealed that while parents possessed a generally positive attitude toward their children's oral health, deficiencies in knowledge and certain preventive practices still existed. Strengthening oral health education programs targeting parents may help improve children's oral health outcomes and encourage the adoption of appropriate oral hygiene practices from an early age.

Keywords:

Oral health, Parents, Knowledge, Attitude, Practice, Children, Oral hygiene, Dental caries, Preventive dentistry, Sangamner, Maharashtra

INTRODUCTION

Oral health is an essential component of general health and well-being, influencing nutrition, speech, growth, psychological development, social interaction, and overall quality of life. It has been stated that "oral health is a reflection of general health. Dental caries, periodontal diseases, and other oral health problems can cause pain, infection, impaired mastication, poor nutritional status, school absenteeism, and diminished quality of life if left untreated."¹

Childhood is a critical period for the establishment of lifelong oral hygiene practices. The parents play a pivotal role in determining their children's oral health status. Consequently, parental knowledge, attitudes, and practices (KAP) have a profound influence on children's oral hygiene habits, utilization of preventive dental services, and overall oral health outcomes.²

Parents are the primary decision-makers regarding a child's oral healthcare. Their understanding of the importance of primary teeth, appropriate tooth-brushing techniques, fluoride use, dietary counseling, regular dental visits, and preventive interventions directly influences children's oral health behaviors.³

Several studies have demonstrated and a study conducted among in Chennai reported that although many mothers possessed satisfactory knowledge regarding oral hygiene, toothpaste, preventive dental visits, and management of dental diseases, highlighting the need for continuous parental education.⁴ The knowledge, attitudes, and oral health practices of parents toward their school-going children are influenced by educational attainment and socioeconomic status, thereby impacting children's oral health.⁵

Positive parental beliefs regarding preventive oral healthcare significantly influence children's oral hygiene practices and utilization of dental services.⁶ Likewise, studies using structural equation modeling have shown that parental knowledge and attitudes indirectly improve children's oral health status through better oral hygiene behaviors and healthier dietary practices.⁷

Recent evidence has shown that parental attitudes influence the development of early childhood caries through multiple pathways, including oral hygiene supervision, feeding practices, sugar consumption, and healthcare-seeking behavior.⁸

Parents' own oral health behaviors also serve as a model for their children. Children are more likely to develop healthy oral hygiene habits when their parents practice good oral care, attend regular dental check-ups, and emphasize the importance of preventive dental care.⁹ . Parent's perceptions of infant and child oral healthcare play an important role in determining the timing of the first dental visit, the adoption of preventive measures, and acceptance of dental treatment.¹⁰

Healthcare professionals, including pediatricians and dentists, play a vital role in promoting oral health among children by educating parents regarding preventive oral healthcare measures.¹¹

Therefore, the present study aims to assess the parental knowledge and attitudes toward child oral health among children aged 1–14 years. The findings of this study will help identify deficiencies in parental

awareness and attitudes and provide evidence for planning effective oral health education programs and preventive interventions aimed at improving the oral health status of children.

METHODOLOGY

This cross-sectional questionnaire-based study was conducted among parents of children aged 1–14 years residing in Sangamner, Maharashtra, India, to assess their knowledge and attitude regarding the oral health of their children. The study population consisted of parents or primary caregivers accompanying children within the specified age group. A sample size of 150 parents was determined based on previous studies assessing parental knowledge and attitudes toward children's oral health and considering a 95% confidence interval with a 5% margin of error. Participants were selected using a convenience sampling technique from schools, pediatric dental clinics, anganwadis, and community health centers within Sangamner.

Approval for conducting the study was secured from the Institutional Ethics Committee before the initiation of data collection. Written informed consent was obtained from all participating parents after explaining the purpose and objectives of the study. The study enrolled parents who consented to participate and had at least one child between 1 and 14 years of age. Parents of children diagnosed with severe systemic illnesses or developmental disorders were excluded from the study. Disabilities that could significantly affect oral health practices were excluded.

A structured self-administered questionnaire was developed after an extensive review of the literature and previously validated questionnaires used in similar studies. The questionnaire was prepared in English and translated into Marathi, followed by back-translation into English to ensure linguistic accuracy and consistency. Content validity was assessed by a panel of experts in Pediatric and Preventive Dentistry.

The questionnaire consisted of three sections. The first section recorded demographic details such as age, gender, educational status, occupation, socioeconomic status, and number of children. The second section assessed parental knowledge regarding oral health, including the importance of primary teeth, causes and prevention of dental caries, fluoride use, oral hygiene practices, dietary habits, and the timing of the first dental visit. The third section evaluated parental attitudes toward children's oral health, preventive dental care, regular dental visits, and parental responsibility in maintaining oral hygiene. Knowledge-related questions were scored as correct or incorrect responses, while attitude-related items were assessed using a 5-point Likert scale ranging from strongly agree to strongly disagree.

The collected data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 25.0. Descriptive statistical measures such as frequencies, percentages, means, and standard deviations were applied to summarize the collected data. Knowledge scores were categorized as satisfactory and unsatisfactory based on predetermined cut-off values. The association between parental knowledge and attitude scores and demographic variables was assessed using the Chi-square test, independent t-test, and one-way ANOVA wherever applicable. Pearson's correlation test was used to evaluate the relationship between knowledge and attitude scores. A p-value below 0.05 was regarded as indicative of statistical significance.

STATISTICAL METHOD

The collected data was then entered manually into excel spreadsheets. Detailed statistical analysis was done by SPSS software. Chi square test was done and p value was calculated.

RESULT :- A 18 item questionnaire was used to assess the awareness of parent towards oral health .

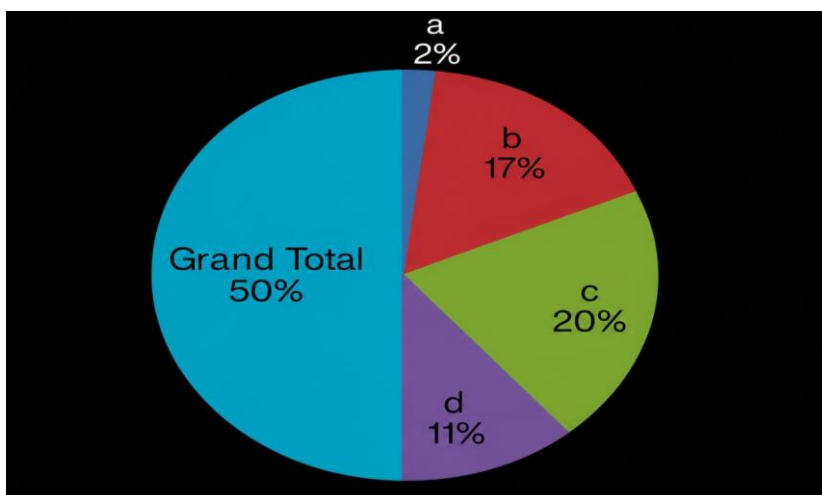
The study findings showed that parents had moderate knowledge, positive attitudes, and variable preventive practices regarding their children's oral health.

For knowledge, 49% identified fluoride varnish as a preventive treatment, 46% considered regular dental check-ups important for preventing caries, and 84% reported that children should brush twice daily. Nearly half (49%) considered primary teeth very important, while 91% identified toothpaste with a toothbrush as the best method for cleaning teeth. However, awareness of preventive measures was limited, with only 28% reporting adequate awareness.

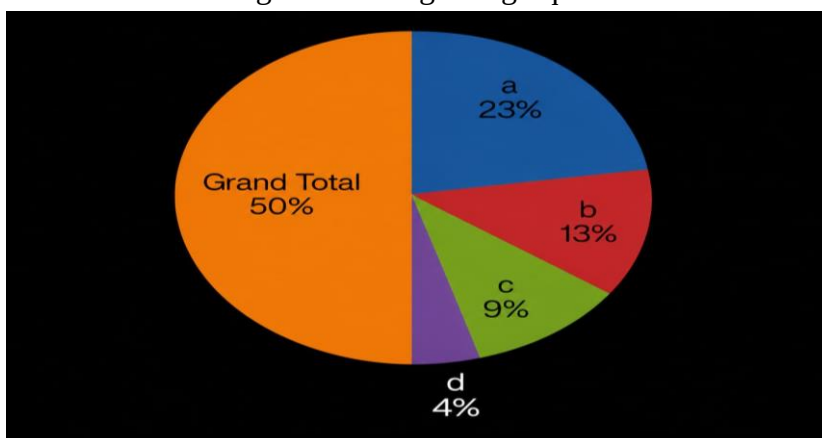
Parents demonstrated a generally positive attitude toward preventive dental care. Most strongly agreed that preventive treatment is important for oral health (57%), that prevention is better than treatment (62%), and that preventive care reduces future treatment costs (67%). Additionally, 72% were willing to take their child for regular dental check-ups even in the absence of dental problems.

Regarding practices, 44% reported visiting a dentist only when their child experienced pain or a dental problem. Lack of awareness (53%) was the most common reason for not seeking preventive dental treatment. Sugary food and soft drink consumption was reported sometimes by 42% of parents, while 35% replaced their child's toothbrush every three months.

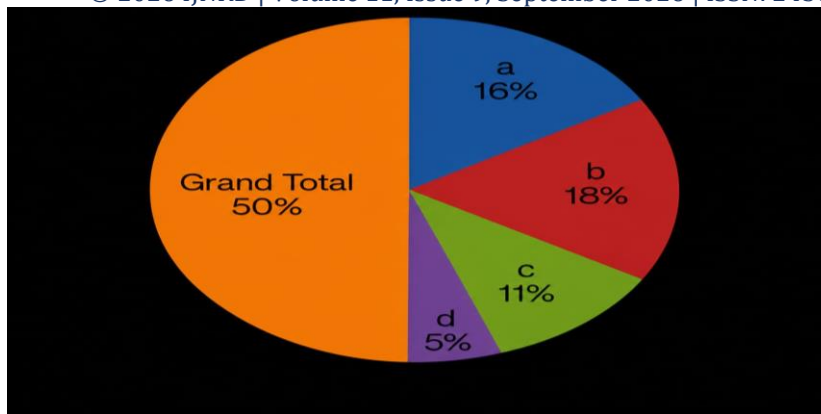
Overall, although parents showed favorable attitudes and reasonable knowledge regarding preventive dental care, preventive practices were less consistent. All variables showed statistically significant differences ($p < 0.05$), indicating that the observed response distributions were not due to chance.



Pie chart showing result regarding question no. 2 from section B : Knowledge and awarene



Pie chart showing result regarding question no. 4 from section C : Attitude



Pie chart

showing result regarding question no. 4 from section D: Practice

Section wise comparison of distribution responses received from all patients pertaining to knowledge, attitude and practice was evaluated using Chi Square test

QUESTIONS	RESPONSE	TOTAL	%	X ² VALUE	P VALUE
1) Which of the following is a preventive treatment to avoid dental caries (tooth decay)?	a) Tooth extraction b) Tooth filling c) Application of fluoride varnish d) Root canal treatment	4 14 38 22	5% 18% 49% 28%	31.74	<0.001
2) In your opinion, when should a child have their first dental check-up?	a) After birth b) At 1 year of age c) At 5 years of age d) Only after milk teeth erupt	3 27 32 18	4% 34% 40% 22%	24.30	<0.001
3) Which factor is most important in preventing dental caries?	a) Avoid frequent intake of sugary foods b) Brush regularly using fluoridated toothpaste c) Regular dental check-ups d) All of the above	23 18 2 36	29% 23% 2% 46%	30.01	<0.001
4) When should a child begin an oral hygiene routine?	a) After eruption of all primary teeth b) After 1 year of age c) As soon as the first tooth erupts d) After 2 years of age	9 14 49 7	11% 18% 62% 9%	59.50	<0.001
5) How often should a child brush their teeth?	a) Once a day b) Twice a day c) Whenever possible d) Never	9 67 3 1	11% 84% 4% 1%	149.00	<0.001
6) How important are milk (primary) teeth?	a) Not important at all b) Slightly important c) Very important d) Extremely important	2 14 39 25	2% 18% 49% 31%	37.30	<0.001

7) Preventive dental treatment is important for my child's oral health.	a) Strongly agree	46	57%	57.50	<0.001
	b) Agree	24	30%		
	c) Somewhat agree	7	9%		
	d) Disagree	3	4%		
8) Preventive dental care before problems occur is more important than treatment after problems develop.	a) Strongly agree	48	62%	63.94	<0.001
	b) Agree	9	12%		
	c) Somewhat agree	18	23%		
	d) Disagree	2	3%		

DISCUSSION

The present questionnaire-based study assessed the knowledge, attitude, and practices regarding oral health among 150 parents of children aged 1–14 years in Sangamner, Maharashtra. The findings demonstrated moderate knowledge, generally positive attitudes, but comparatively inadequate preventive practices. Statistically significant differences were observed in the response distribution for the assessed variables ($p < 0.05$).

In the present study, 49% of parents identified fluoride varnish as a preventive treatment for dental caries, indicating moderate awareness of professional preventive measures. However, awareness regarding the timing of the first dental visit was inadequate, with 40% of parents considering 5 years as the appropriate age, while only 34% selected 1 year. Similar gaps in parental knowledge regarding early dental visits have been reported in previous studies.^{12,14} Early dental visits are important for caries-risk assessment, fluoride guidance, dietary counseling, and establishment of preventive oral healthcare habits.¹⁴

Knowledge regarding basic oral hygiene was comparatively satisfactory. 62% of parents reported that oral hygiene should begin with eruption of the first tooth and 84% recommended twice-daily brushing. Additionally, 91% identified toothbrush with toothpaste as the best method of cleaning teeth. These findings indicate good awareness of basic oral hygiene, although knowledge may not always translate into consistent behavior.^{15,16} Parental supervision and regular reinforcement of toothbrushing practices remain important for young children.¹⁶

Approximately 80% of parents considered primary teeth very or extremely important, while 43% disagreed with the misconception that primary teeth require little care because they eventually fall out. This reflects a relatively favorable understanding of the importance of primary dentition. Maintaining primary teeth is essential for mastication, speech, arch integrity, and normal development of the permanent dentition.¹²

Parental attitudes toward preventive dentistry were largely positive. 57% strongly agreed that preventive dental treatment is important, 62% strongly agreed that prevention is preferable to treatment after problems develop, and 67% strongly agreed that preventive treatment can reduce future treatment expenses. However, a clear attitude–practice gap was observed. Although 72% expressed willingness to attend regular dental check-ups in the absence of symptoms, 44% actually visited the dentist only when pain or a dental problem occurred. Similar discrepancies between parental knowledge and actual dental utilization have been reported previously.^{13,17}

Lack of awareness (53%) was the most commonly reported barrier to preventive dental treatment, followed by cost (21%), belief that primary teeth are temporary (18%), and fear of treatment (8%). These findings suggest that both educational and socioeconomic barriers may influence preventive dental utilization. Recent evidence indicates that parental oral health literacy is associated with children's oral health behaviours and dental care utilization.^{17,19} Dietary practices also require attention. 42% of parents reported occasional consumption of sugary foods and soft drinks, while 11% reported daily consumption. Frequent exposure to dietary sugars is an

important risk factor for dental caries, emphasizing the need for dietary counseling as part of preventive pediatric dental care.²⁰

Toothbrush replacement practices were variable, with only 35% replacing the toothbrush every three months. Although most parents demonstrated awareness of appropriate toothbrushing methods, inconsistencies in dental attendance, dietary habits, and other preventive behaviours demonstrate that knowledge alone may not result in sustained healthy practice.^{15,18}

Overall, the present study indicates that parents in Sangamner possess moderate oral health knowledge and favorable attitudes, but preventive practices remain inconsistent. The findings highlight the need for parent-focused oral health education emphasizing early dental visits, fluoride use, supervised toothbrushing, importance of primary teeth, dietary counseling, and regular preventive dental examinations. Community- and school-based oral health education programs may help bridge the gap between parental knowledge, attitude, and actual practice.^{17,21}

CONCLUSION

The study found that parents in Sangamner have generally positive attitudes and moderate knowledge regarding their children's oral health. Awareness of basic oral hygiene practices and the importance of primary teeth was satisfactory, but knowledge gaps existed regarding the recommended age for the first dental visit and the causes of dental caries. Despite favorable attitudes toward preventive dentistry, regular preventive dental visits were uncommon, with most parents seeking care only when problems occurred. The significant Chi-square results indicate meaningful trends in parental knowledge, attitudes, and practices. These findings highlight the need for oral health education programs promoting early dental visits, preventive care, healthy dietary habits, and improved oral health practices among children.

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