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Parental Knowledge And Attitude Toward Oral Health Care In Children: A Survey-Based Study

Jaskaran Singh[1], Dr. Parinita Mohindru[2], Kamaljot Kaur Rattu, DDS[3]

[1]Bachelor's of Dental Surgery (BDS) Student Punjab Government Dental College and Hospital, Amritsar, Punjab, India. E-mail: drjas29@gmail.com

[2]Associate Dentist, Kkafe Dental Smiles, Amritsar, Punjab, India . E-mail: dentist.parinita.mohindru@gmail.com

[3]DDS Department of Dentistry, Pacific Dental Services, Rohnert Park, California, USA. Email: kaurdrkamal@gmail.com

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Abstract
AIM: To access Parental Knowledge and Attitude toward oral health care in children

MATERIALS AND METHODS: A cross-sectional questionnaire based study was conducted among 380 parents to assess their knowledge and attitude regarding oral health in children. A well structured questionnaire comprising 21 multiple choice questions under various sections such as, awareness, attitude, and knowledge of pediatric oral health, was administered to all willing participants. The collected data was compiled, sorted and analyzed using simple percentages and comparative analysis.

RESULTS: The findings indicate that most parents possess a moderate level of awareness regarding the importance of oral health and their practical practices remain inadequate. Out of all, 80% understand the link between oral and general health, but only a little proportion follow recommended dental visits, and rather delay check ups until emergency arrives. Attitudes toward oral hygiene practices mostly positive, with many people regarding value for primary teeth and brushing. However, gaps exist in execution, specifically when it comes to proper brushing techniques, fluoride use, and timely visits to the dental office. Overall, the study highlights a need for improved parental education and reinforcement of preventive dental programs to ensure better oral health outcomes in children.

CONCLUSION: The study concludes that though parents demonstrate a fairly good awareness towards oral health, this existing level of knowledge is not adequately translated into effective practical oral health practices. Adoption of preventive measures such as regular dental visits, correct brushing techniques, and fluoride application still remain insufficient. These gaps bring to light a lacuna between awareness and action. Therefore, educational interventions targeted at improving parental health practices have become the need of the hour to ultimately promote better oral health outcomes and reduce the incidence of dental disorders among children.

Keywords:

- Parental Knowledge
- Parental Attitude
- Children's Oral Health
- Pediatric Dentistry
- Oral Hygiene
- Preventive Dentistry
- Dental Caries
- Fluoride Use
- Dental Visits
- Oral Health Education
- Brushing Practices
- Preventive Oral Care

Introduction

Oral health forms an indivisible part of general health and is essential for maintaining the physical, psychological, and social well-being of an individual (2). In children, oral health assumes even greater importance because it directly influences growth, nutrition, communication, self-respect , and overall quality of life (15). A healthy oral cavity enables children to eat, speak, smile, and interact confidently without discomfort or embarrassment. Conversely, poor oral health can adversely affect multiple aspects of a child's life, including school attendance, academic performance, emotional development, and social relationships. As a result, maintaining proper oral hygiene during childhood is considered a fundamental requirement for ensuring healthy development and long-term well-being (6).

The oral cavity often reflects the general health status of the body. Numerous scientific studies have established a close association between oral health and systemic health (3). Oral infections and inflammatory conditions may contribute to or annoy systemic diseases, while systemic illnesses may also manifest in the oral cavity. The mouth can act as a gateway for pathogenic microorganisms capable of affecting other organs and systems. Therefore, oral health cannot be considered in isolation from general health. Preventive oral care during childhood not only reduces the occurrence of dental diseases but also supports the maintenance of overall health.

Among children, dental caries and periodontal diseases remain some of the most widespread chronic conditions globally (3). Although these diseases are largely preventable, they continue to affect millions of children due to poor oral hygiene practices, unhealthy dietary habits, insufficient parental awareness, and limited access to preventive dental care. Early childhood caries, in particular, represents a major public health concern because of its rapid progression and long-term result . Untreated dental caries can cause pain, infection, chewing difficulties, sleep disturbances, poor nutritional intake, and impaired physical growth. In severe cases, it may even affect speech development, learning ability, and psychological health.

The childhood years are regarded as a critical stage for the formation of lifelong habits and behaviors. During this

period, children begin to learn daily routines, social behaviors, and health-related practices that often continue into adulthood. Consequently, early childhood provides an ideal opportunity for instilling positive oral hygiene habits and promoting awareness regarding preventive oral healthcare. Habits such as twice-daily tooth brushing, reduced consumption of sugary foods, regular dental check-ups, and proper oral hygiene maintenance are more likely to become permanent when introduced at an early age.

Therefore, childhood represents a highly significant phase for preventive mediation aimed at improving oral health outcomes.

Children are largely dependent on adults for their physical care and decision-making during their early years. Since young children lack the ability to independently maintain oral hygiene practices or understand the importance of preventive care, parents and caregivers play a decisive role in determining their oral health status (13). Parents are responsible for supervising brushing routines, providing healthy nutrition, arranging dental visits, and encouraging hygienic practices. Because children emulate the behaviors and attitudes of adults around them, parents serve as powerful role models in shaping oral health habits. Their influence extends beyond direct supervision and includes the attitudes, beliefs, and values they transmit to their children (5).

Parental knowledge and awareness regarding oral health significantly affect children's oral hygiene practices and dental outcomes. Parents who possess accurate information about preventive care are more likely to encourage healthy behaviors, seek timely dental treatment, and maintain proper oral hygiene for their children. On the other hand, lack of awareness and inadequate knowledge may lead to neglect of oral care, delayed treatment, and increased pervasiveness of oral diseases. Studies have consistently shown that children of parents with poor oral health awareness are at a greater risk of developing dental caries and other oral health problems (14).

One of the most common misconceptions among parents is the belief that primary teeth are temporary and therefore do not require much attention. This misunderstanding often results in negligence toward oral hygiene during the early years of life (6). However, primary teeth perform several essential functions, including chewing, speech development, facial aesthetics, and maintenance of space for permanent teeth. Premature loss of primary teeth due to untreated caries can lead to malocclusion, difficulty in chewing, nutritional deficiencies, and disturbances in the eruption pattern of permanent dentition. Therefore, preservation of primary teeth is critical for ensuring healthy oral and overall development.

The importance of early preventive dental care cannot be overstated. Dental organizations worldwide recommend that a child should have the first dental visit within six months after eruption of the first tooth or by the age of one year (21). Early dental visits provide opportunities for parental counseling, risk assessment, oral examination, and preventive guidance. These visits help parents understand proper feeding practices, oral hygiene methods, fluoride use, and the significance of regular dental care (11). Despite these recommendations, many parents continue to seek dental treatment only when their child experiences pain or visible dental problems. Such problem-oriented dental visits delay diagnosis and treatment, allowing oral diseases to progress to advanced stages.

Dietary habits also play a crucial role in the development of oral diseases among children (4). Excessive consumption of sugary foods, sweetened beverages, sticky snacks, and processed foods significantly increases the risk of dental caries. Frequent exposure to fermentable carbohydrates creates an acidic environment in the oral cavity that promotes demineralization of tooth structure. Parents largely control the dietary patterns of young children and therefore have a major influence on caries risk. Encouraging balanced nutrition, limiting sugary snacks, and promoting healthy eating habits are essential preventive strategies for maintaining oral health.

Parental oral health literacy is another important determinant of children's oral health status(12). Oral health literacy refers to the ability to obtain, process, and understand oral health information required for making appropriate healthcare decisions (9). Parents with low oral health literacy may have difficulty understanding preventive measures, recognizing early signs of dental disease, or accessing available dental services. Limited literacy may also reduce compliance with oral hygiene recommendations and preventive practices. Consequently, improving parental oral health literacy is considered a key approach for enhancing pediatric oral health outcomes (8).

Socioeconomic status exerts a considerable influence on oral health behaviors and access to dental care (19). Children from economically disadvantaged families often experience higher rates of dental caries, untreated oral diseases, and reduced access to preventive dental services. Financial limitations may prevent parents from seeking timely professional care or purchasing oral hygiene products such as fluoride toothpaste and toothbrushes. Furthermore, parents with lower educational levels may possess limited awareness regarding preventive dental practices and oral health maintenance (1). In contrast, families with higher socioeconomic and educational status are generally more likely to adopt preventive behaviors and utilize dental services regularly.

Educational attainment of parents has been strongly associated with improved oral health practices among children. Educated parents are usually more informed about the relationship between diet and dental caries, the importance of fluoride, and the need for routine dental visits. They are also more likely to understand the significance of early preventive care and supervise their children's oral hygiene activities effectively. Higher educational levels contribute to better health-seeking behaviors and more positive attitudes toward oral healthcare. Therefore, parental education

is recognized as an important predictor of children's oral health outcomes.

Mothers are often regarded as the primary caregivers responsible for maintaining children's health and hygiene. Numerous studies have demonstrated a strong association between maternal oral health knowledge and children's oral health status (22). Mothers play a dominant role in supervising brushing routines, dietary practices, and healthcare utilization during early childhood.

The role of parental attitudes in influencing oral health behaviors is equally important. Parents who value oral health and prioritize preventive care are more likely to ensure regular brushing, healthy dietary habits, and routine dental visits for their children. Positive attitudes toward oral hygiene encourage children to perceive dental care as an important aspect of daily life. In contrast , parents who neglect oral health or display fear and anxiety toward dental treatment may negatively influence their children's perceptions and behaviors. Thus, parental attitudes and practices are fundamental determinants of oral health behavior formation during childhood (12).

Parental involvement in oral healthcare routines during childhood has a lasting impact on oral health outcomes (17). Active supervision of brushing, assistance with oral hygiene practices, and positive reinforcement help children develop healthy habits and confidence in maintaining oral cleanliness. Parents who regularly monitor their children's oral hygiene routines can ensure proper brushing techniques and prevent the accumulation of dental plaque. Such involvement is especially important during preschool years when children lack the manual dexterity required for effective tooth brushing.

Oral health education programs play a crucial role in improving parental awareness and promoting preventive practices. Educational interventions provide parents with information regarding oral diseases, preventive measures, healthy dietary habits, fluoride use, and the importance of regular dental visits (7). These programs also help correct misconceptions regarding primary teeth and pediatric dental treatment. Community-based oral health campaigns, school dental programs, and healthcare counseling sessions can effectively enhance parental knowledge and encourage positive behavioral changes.

Schools and educational institutions provide an excellent platform for promoting oral health awareness among children and parents. School-based oral health programs can reinforce healthy behaviors learned at home and create supportive environments for preventive practices. Teachers, healthcare professionals, and parents can collaborate to encourage proper brushing habits, healthy nutrition, and regular dental check-ups. Integrating oral health education into school curricula may further strengthen awareness and improve oral hygiene behaviors among children.

Behavioral and psychological factors also influence oral health practices among children and parents. Parents may experience challenges such as time constraints, stress, lack of motivation, or difficulty managing uncooperative child behavior during tooth brushing (18). Some caregivers may lack confidence in their ability to maintain their children's oral hygiene effectively. Addressing these practical and emotional barriers through counseling and supportive educational interventions is important for achieving sustainable improvements in oral health behaviors.

Preventive oral healthcare should be viewed as a continuous process beginning during pregnancy and continuing throughout childhood. Pregnancy offers an ideal opportunity to educate expectant mothers regarding oral hygiene, dietary practices, and preventive care for themselves and their future children (21). Healthcare providers should emphasize the importance of maternal oral health and encourage early dental visits for infants. Continuous parental engagement and reinforcement of healthy practices can help establish strong foundations for lifelong oral health.

Despite advances in dental awareness and preventive dentistry, substantial gaps continue to exist in parental knowledge and implementation of proper oral hygiene practices (16). Many parents remain unaware of the importance of early dental visits, preventive counseling, fluoride application, and pediatric dental services. Misconceptions, socioeconomic barriers, and limited oral health literacy continue to contribute to inadequate oral healthcare among children. These issues highlight the urgent need for comprehensive educational strategies aimed at improving parental awareness and promoting preventive oral health behaviors.

Assessing parents' knowledge, attitudes, and practices regarding pediatric oral health is therefore of great importance. Such assessments help identify deficiencies in awareness, misconceptions, and barriers affecting oral hygiene practices (10).The data gathered from these assessments can shape practical, community-focused education and grassroots health programs. Once public health professionals truly grasp the parental perspective, they can design sharper, more empathetic strategies to improve children's health outcomes.

Ultimately, dental wellness is an inseparable part of a child's overall growth and well-being. Parents act as the primary architects of their children's daily hygiene, diet, and clinical habits(20). Their knowledge, attitudes, and behaviors significantly influence the oral health status of their children. Factors such as education, socioeconomic status, cultural beliefs, oral health literacy, and healthcare accessibility further affect parental practices related to oral hygiene. Strengthening parental awareness through education and preventive programs is crucial for promoting healthy oral habits and preventing dental diseases among children. Therefore, evaluating parental knowledge, attitudes, and practices toward pediatric oral health is necessary for identifying gaps, implementing effective interventions, and improving the oral and general health of future generations.

Materials And Methods

A cross-sectional questionnaire-based study was conducted among 380 parents to assess their knowledge, attitude, and practices regarding pediatric oral health. Participants were selected using a convenient sampling method from both urban and rural areas.

A self-administered structured questionnaire comprising multiple-choice questions was distributed to all participants. The questionnaire was prepared in English and explained to participants in case of any difficulty in understanding.

A pilot study was conducted on a small group of participants to check the clarity and reliability of the questionnaire. Based on the feedback obtained, necessary modifications were made before final distribution.

Participants who were willing to participate and available at the time of data collection were included in the study. They were instructed to select the most appropriate response from the given options. Adequate time was provided to complete the questionnaire, and confidentiality of responses was maintained.

The collected data were compiled, segregated, and analyzed using simple percentage analysis.

Survey Proforma

A self-administered questionnaire form comprising demographic details and 21 questions related to awareness, attitude, and knowledge of pediatric oral health was given to all study participants.

All participants were informed about the purpose of the study and were instructed on how to fill the questionnaire. Each participant selected one response from the list of options provided.

Questionnaire Design

The questionnaire was divided into four sections:

Section 1: Demographic Details

This section included questions related to:

•Age

•Gender

•Educational status

•Number of children

•Area of residence (urban/rural)

Section 2: Awareness

This section assessed parental awareness regarding:

•Relationship between oral health and general health

•Importance of dental visits

•Age of first dental visit

•Awareness of pediatric dental problems

•Effects of thumb sucking and diet on oral health

Section 3: Attitude

This section included questions related to:

•Importance of oral health

•Significance of primary teeth

•Response to dental problems

•Supervision of brushing habits

•Willingness to adopt preventive measures

•Importance of dental education

Section 4: Knowledge

This section assessed knowledge regarding:

•Toothbrushing techniques and duration

•Toothbrush replacement frequency

•Type of toothbrush and toothpaste

•Amount of toothpaste to be used

The response format included multiple-choice questions where participants were instructed to select the most appropriate option.

Results

Table 1. Demographic Characteristics of Study Participants (n = 380)

Variable	Category	Frequency (n)	Percentage (%)
Age	<25 years	76	20.0
	25–34 years	152	40.0
	35–44 years	91	24.0
	45–54 years	38	10.0
	≥55 years	23	6.0
Gender	Male	205	54.0
	Female	163	43.0
	Prefer not to disclose/Other	12	3.0
Educational Status	Less than high school	38	10.0
	High school	95	25.0

Among the 380 participating parents, the majority belonged to the 25–34 years age group (40.0%), followed by 35–44 years (24.0%). Male participants constituted 54.0% of the sample, whereas females represented 43.0%. Graduates formed the largest educational category (30.0%). Most respondents had one child (40.0%), and a majority resided in urban areas (60.0%).

Table 2. Awareness Regarding Pediatric Oral Health (n = 380)

Variable	Response	Frequency (n)	Percentage (%)
Awareness of relationship between oral and general health	Yes	304	80.0
	No	76	20.0
Frequency of dental visits	Every 6 months	76	20.0
	Once a year	152	40.0
	During emergencies	152	40.0
First dental visit	First tooth eruption	114	30.0
	At 1 year	57	15.0
	At 5 years	114	30.0
	Other ages	95	25.0
Familiarity with pediatric dental issues	Very familiar	95	25.0
	Somewhat familiar	190	50.0
	No knowledge	95	25.0
Awareness regarding thumb sucking effects	Yes	266	70.0
	No	114	30.0
Awareness regarding dietary effects	Yes	304	80.0
	No	76	20.0

Most parents (80.0%) recognized the association between oral health and general health. However, only 20.0% reported taking their children for regular six-month dental visits, while 40.0% sought care annually and another 40.0% visited only during emergencies. Regarding the timing of the first dental visit, 30.0% visited when the first tooth erupted and an equal proportion delayed the visit until 5 years of age. Half of the participants (50.0%) were somewhat familiar with pediatric dental problems. Awareness regarding the harmful effects of thumb sucking and unhealthy dietary practices was reported by 70.0% and 80.0% of participants, respectively.

Table 3. Attitude Toward Pediatric Oral Health (n = 380)

Variable	Response	Frequency (n)	Percentage (%)
Importance of maintaining oral health	Very important	209	55.0
	Somewhat important	114	30.0
	Not important	57	15.0
Primary teeth are important	Yes	266	70.0
	No	114	30.0
Response to child's dental pain	Visit dentist	190	50.0

	Medication from chemist	114	30.0
	Home remedies	76	20.0
Encourage regular brushing	Yes	304	80.0
	No	76	20.0
Supervise brushing habits	Yes	228	60.0
	No	152	40.0
Regular dental visits prevent disease	Yes	304	80.0
	No	76	20.0
Willingness to reduce sugar intake	Yes	285	75.0
	No	95	25.0
Fluoride treatment necessary	Yes	152	40.0
	Accept if advised	152	40.0
	No	76	20.0
Dental education in schools	Yes	323	85.0
	No	57	15.0

More than half of the parents (55.0%) considered oral health to be very important, and 70.0% acknowledged the significance of primary teeth. In the event of dental pain, only half of the respondents preferred consulting a dentist, whereas others relied on medications or home remedies. Most parents encouraged regular tooth brushing (80.0%), although only 60.0% actively supervised their children's brushing practices. The majority believed that routine dental visits help prevent oral diseases (80.0%), and 75.0% expressed willingness to reduce their children's sugar consumption. While 40.0% considered fluoride treatments necessary, an additional 40.0% accepted them only upon professional recommendation. Furthermore, 85.0% supported the inclusion of oral health education within school curricula.

Table 4. Knowledge Regarding Oral Hygiene Practices (n = 380)

Variable	Response	Frequency (n)	Percentage (%)
Toothbrush replacement frequency	Every 3 months	171	45.0
	Other intervals	209	55.0
Brushing technique	Circular motion	133	35.0
	Horizontal motion	114	30.0
	Other techniques	133	35.0
Brushing duration	2 minutes	190	50.0
	Other durations	190	50.0
Type of toothbrush and toothpaste	Soft brush + fluoridated toothpaste	152	40.0

	Other combinations	228	60.0
Toothpaste quantity	Pea-sized amount	190	50.0
	Incorrect amount	190	50.0

Knowledge regarding recommended oral hygiene practices was moderate among the participants. Only 45.0% reported replacing toothbrushes every three months, which is considered the recommended interval. Circular brushing motion was practiced by 35.0% of respondents, whereas 30.0% reported using horizontal brushing techniques. Half of the participants correctly identified the recommended brushing duration of two minutes.

Furthermore, only 40.0% used a soft toothbrush with fluoridated toothpaste, and 50.0% reported using the appropriate pea-sized quantity of toothpaste for children.

Discussion

The findings demonstrate that although parents generally possess favorable awareness and attitudes toward pediatric oral health, significant deficiencies remain in translating this awareness into appropriate preventive practices. Delayed dental visits, inadequate supervision of brushing, limited knowledge regarding fluoride use, and sub-optimal oral hygiene techniques indicate a gap between knowledge and implementation. These results underscore the need for targeted parental oral health education programs aimed at strengthening preventive behaviors and improving oral health outcomes among children.

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