

Original Research

Oral Health Knowledge among Parents Regarding Children's Dental Care: A Survey of 320 Parents in Bathinda District

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ABSTRACT:

Oral health plays a critical role in children's overall well-being, yet insufficient parental knowledge can negatively impact children's dental health. This study assessed the knowledge of parents in Bathinda district, Punjab, regarding their children's dental care. A cross-sectional survey of 320 parents was conducted to evaluate their understanding of oral hygiene practices, dietary habits, preventive measures, and the appropriate age for the first dental visit. The results revealed significant gaps in knowledge, particularly concerning fluoride use, dental sealants, and the timing of the first dental visit. The findings highlight the need for targeted oral health education programs in the Bathinda district to improve parental awareness and practices.

Keywords: Parental Knowledge, Hygiene Practices, Dietary Habits, Child's Dental Health, Fluorides, Dental Visits.

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INTRODUCTION

Childhood dental health is foundational to general health, yet it remains an often-overlooked aspect of child care [1]. Dental caries, particularly in children, is a common and preventable condition that significantly impacts their quality of life [2]. Parents, as primary caregivers, have a profound influence on their children's oral health behaviours, including the initiation of preventive dental visits and routine oral hygiene practices [3].

Research has consistently demonstrated that parental knowledge and attitudes towards oral health are key determinants of children's oral health outcomes. The American Academy of Pediatric Dentistry (AAPD) recommends that children have their first dental visit by age 1 [4]. However, in many regions, including rural and semi-urban areas like Bathinda, awareness of such guidelines remains limited. In Punjab, cultural, socio-economic, and educational factors often influence parental decisions about dental care, leading to potential delays in seeking preventive care [5].

This study aims to evaluate the level of knowledge among parents in Bathinda district about children's dental care, including oral hygiene practices, the

importance of dietary control, and preventive measures like fluoride and dental sealants. By identifying gaps in knowledge, this research seeks to inform future educational interventions tailored to the region's specific needs.

MATERIALS AND METHOD

Study Design and Population

A cross-sectional survey was conducted among 320 parents in Bathinda district, Punjab. The participants were selected from local pediatric clinics, schools, and community centers across both rural and urban areas. The inclusion criteria included parents of children aged 1–12 years, residing in the Bathinda district, and willing to participate voluntarily.

Questionnaire Design

A structured questionnaire was designed based on validated oral health knowledge assessment tools used in previous studies [6,7]. It comprised 25 questions organized into five major areas:

1. Knowledge of Dental Visits: Awareness of the recommended age for a child's first dental visit.
2. Oral Hygiene Practices: Frequency of brushing, flossing, and use of fluoride toothpaste.

3. Dietary Habits: Parental awareness of the effects of sugary foods and drinks on children's oral health.
4. Preventive Measures: Knowledge of fluoride treatments, dental sealants, and regular dental check-ups.
5. Common Dental Problems: Awareness of conditions such as tooth decay and gum disease.

Data Collection

The survey was conducted through both face-to-face interviews and self-administered questionnaires. Participants were informed about the purpose of the study and provided informed consent before completing the survey.

Statistical Analysis

The data were analysed using descriptive statistics to summarize findings. Chi-square tests were used to explore associations between parental knowledge and demographic factors such as education level, income, and urban versus rural residence. A p-value of less than 0.05 was considered statistically significant

RESULTS

1. Demographics of the Participants

The demographic characteristics of the participants are summarized in Table 1. The sample included 62% mothers and 38% fathers, with a median age of 34 years. About 52% of the participants had completed higher education, while 48% had completed only secondary school. A majority (60%) were from rural areas, with 40% residing in urban areas.

Table 1. Demographic characteristics of sample (N=320)	Demographic variables of sample	N	%
Gender	Male	198	62%
	Female	122	38%
Education	High school	154	48%
	College	166	52%
Residence	Rural	192	60%
	Urban	128	40%

2. Parental Knowledge of Children's Oral Health

The survey results in Table 2 reveal that only 42% of parents were aware that the first dental visit should occur by the age of 1, while a significant proportion (58%) believed it should be delayed until after the age of 3. Similarly, awareness of preventive measures such as fluoride treatments and dental sealants was limited, especially among rural parents.

Table 2. Survey results on parental knowledge of children's oral health. (N=320)		N	%
Knowledge of timing for first dental visit	Correctly identified first dental visit by age 1	134	42
	Believed first visit should occur after age 3	186	58
Oral hygiene practices	Parents reported brushing child's teeth twice daily	240	75
	Parents using fluoride toothpaste	104	32.5
	Children flossing regularly	62	19
Dietary habits	Parents aware of the impact of sugary foods on oral health	186	58
	Parents limiting child's sugary snacks intake to less than 3 times per week	128	40
Knowledge of preventive measures	Awareness of dental sealants	156	49
	Awareness of fluoride treatment	164	51
	Understanding the importance of regular dental checkups	200	63
Awareness of common dental problems	Familiar with tooth decay as a common problem	222	69
	Awareness of the impact of oral health on overall well-being	108	34

DISCUSSION

The results of this study reveal notable gaps in parental knowledge about children's oral health in Bathinda district. While some parents demonstrated an understanding of basic oral hygiene practices,

significant areas of concern were identified, particularly with respect to the timing of the first dental visit and the use of preventive measures like fluoride and dental sealants.

1. Awareness of the First Dental Visit

A major finding of this study is the lack of awareness regarding the appropriate timing for the first dental visit. Only 42% of parents were aware that the first dental visit should occur by the age of 1, in line with the recommendations of the AAPD (2021). The majority of parents believed that dental visits were unnecessary until the child was older than 3 years. This misconception is particularly concerning because early dental visits are critical for the prevention of dental caries and other oral health issues. Early detection of dental problems allows for timely intervention, which can prevent complications that require more invasive treatments^[3].

In rural areas, the lack of awareness was even more pronounced. This may be attributed to limited access to dental services and health education, as well as cultural factors that prioritize curative care over preventive care. Additionally, the lack of emphasis on dental health in early childhood education and public health campaigns in rural Bathinda could contribute to these misconceptions^[5].

2. Oral Hygiene Practices

The majority of parents (75%) reported that they ensured their children brushed their teeth twice daily, which is a positive finding. However, only 32.5% of parents reported using fluoride toothpaste, which is known to be an essential component in the prevention of dental caries. This aligns with other studies that highlight a lack of knowledge about the importance of fluoride in rural areas^[8].

Fluoride's role in strengthening enamel and preventing demineralization is well-documented, yet misinformation or lack of access to fluoride toothpaste in rural settings could explain the lower usage rates. Parents' low awareness of fluoride treatments suggests that dental professionals in the area need to engage in more educational outreach about the benefits of fluoride.

3. Dietary Habits and Sugary Food Consumption

Dietary habits also emerged as an area needing attention. While 58% of parents were aware of the detrimental effects of sugary foods on oral health, fewer than half (40%) actively limited their children's intake of sugary snacks. This discrepancy between knowledge and practice is concerning, as frequent consumption of sugary foods and drinks is a major contributor to dental caries in children^[2].

In rural Bathinda, traditional diets high in carbohydrates and sugary snacks, combined with limited access to healthier food options such as fresh fruits and vegetables, may contribute to a higher prevalence of dental caries among children. The widespread availability of inexpensive, sugary snacks and beverages in local markets may also exacerbate this issue^[9]. Furthermore, many parents are unaware of healthy alternatives, which suggests that nutritional education should be incorporated into oral health

promotion efforts.

4. Knowledge of Preventive Measures

One of the most concerning findings of the study is the low level of awareness regarding preventive dental care measures. Less than half (49%) of the parents were aware of dental sealants, and only 51% knew about fluoride treatments, both of which are effective in preventing dental caries^[7]. Dental sealants protect the chewing surfaces of molars, where cavities frequently develop, while fluoride strengthens enamel and helps prevent demineralization.

This lack of awareness points to a significant gap in preventive oral health knowledge, particularly in rural areas where access to dental professionals and educational resources is limited. Public health campaigns and school-based programs could play a crucial role in disseminating information about these preventive measures and encouraging parents to take advantage of them for their children's benefit^[10].

5. Urban vs. Rural Discrepancies

A consistent trend observed throughout the study was the difference in oral health knowledge between parents in urban and rural areas. Rural parents were less informed about the appropriate timing for a first dental visit, the benefits of fluoride, and the availability of preventive treatments like dental sealants. These discrepancies are likely due to various factors, including socioeconomic differences, educational attainment, and access to healthcare services^[11].

In rural Bathinda, dental services are less accessible, and preventive care is often overlooked in favor of curative treatment. The cultural beliefs and practices in these areas may also emphasize home remedies over formal medical interventions. To address these disparities, targeted educational initiatives are necessary, particularly those that are culturally sensitive and accessible to rural populations.

6. Educational Interventions and Policy Recommendations

The findings of this study underscore the need for comprehensive oral health education programs tailored to parents in the Bathinda district. Several strategies can be employed to improve parental knowledge and consequently reduce the incidence of dental caries among children:

Public Health Campaigns: Mass communication efforts should focus on educating parents about the importance of early dental visits, fluoride usage, and preventive treatments such as sealants. These campaigns should be disseminated through accessible channels such as television, radio, and social media, particularly targeting rural areas^[12].

School-Based Programs: Schools can serve as effective platforms for educating both children and their parents about the importance of dental hygiene and preventive care. Programs that incorporate oral

health education into school curriculums can have a lasting impact on family health behaviours^[13].

Training for Healthcare Providers: Paediatricians, general practitioners, and nurses, especially those serving rural populations, should be trained to offer basic oral health education during regular child health visits. Consistent messaging from healthcare providers can reinforce the importance of preventive dental care^[14].

Improved Access to Preventive Services: Enhancing access to preventive dental services, such as fluoride varnish applications and dental sealants, is essential. Mobile dental clinics and community outreach programs can help bridge the gap in care availability, particularly in rural areas^[15].

CONCLUSION

This study highlights significant gaps in parental knowledge about children's oral health in the Bathinda district, particularly among rural residents. While parents generally understand basic oral hygiene practices, such as brushing their children's teeth twice daily, many are unaware of the importance of fluoride treatments, dental sealants, and early dental visits. These findings emphasize the need for educational interventions that target both parents and healthcare providers, particularly in rural communities where access to dental care is limited.

Addressing these knowledge gaps could lead to significant improvements in children's oral health, reducing the prevalence of dental caries and enhancing overall health outcomes in the Bathinda district. Future efforts should focus on developing culturally appropriate and accessible educational programs, as well as improving access to preventive dental services.

LIMITATIONS

The study has several limitations. First, it relies on self-reported data, which may lead to response bias, particularly with socially desirable behaviors such as tooth brushing. Additionally, the study is limited to a single district, which may restrict the generalizability of the findings to other regions. Future research should explore parental knowledge in other areas of Punjab and assess the long-term impact of educational interventions on children's oral health outcomes.

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