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Oral Health Awareness, Perception, and Hygiene Practices among School-Aged Children Residing at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune

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Abstract: ***Oral health is an essential component of overall health and well-being, particularly during childhood when lifelong health behaviours are established. Poor oral health among children can adversely affect nutrition, school attendance, and quality of life, yet it remains largely preventable through early awareness and timely intervention. This study aimed to assess oral health awareness, self-perceived oral health status, oral hygiene practices, dietary habits, dental visit patterns, and the influence of parental education among school-aged children residing at the Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune. A cross-sectional, questionnaire-based study was conducted among children aged 6–19 years residing at the centre. Of the 400 eligible children, 153 participants were enrolled, and 150 valid questionnaires were analysed after excluding incomplete responses. A structured oral health questionnaire was used to collect data on demographic characteristics, self-perceived oral health status, oral hygiene practices, dietary habits, dental discomfort, dental service utilization, and substance use. Descriptive statistics were used to summarize the data, and inferential analysis included chi-square and binomial tests, with statistical significance set at $p < 0.05$. Among the participants, 65% reported brushing their teeth once daily, and 47% had never visited a dentist. More than two-thirds reported experiencing dental discomfort at least occasionally. Self-perceived oral health status varied significantly, with most participants reporting average to good oral health. High consumption of sugar-rich foods and low fruit intake were observed. A substantial proportion of children were unaware of their parents' educational status, indicating potential gaps in health literacy and caregiver engagement. No participant reported tobacco or cigarette use. The findings highlight significant gaps in oral health awareness, hygiene practices, and utilization of preventive dental care among children residing in institutional settings. Strengthening institution-based oral health education, promoting regular dental visits, improving dietary practices, and enhancing caregiver involvement are essential to improve oral health outcomes in this vulnerable population.***

Keywords: Oral health, School-aged children, Oral hygiene practices, Dental visits, Parental education, Health awareness

1. Introduction

Oral health is a vital component of overall health and well-being and plays an essential role in the growth and development of children. Healthy teeth and gums are necessary for proper nutrition, speech, and participation in daily activities. Poor oral health during childhood can result in pain, infection, and difficulty in eating and speaking, which may negatively affect children's physical development, school attendance, academic performance, and overall quality of life [4,12,15]. Establishing appropriate oral hygiene practices during childhood is essential, as these behaviours often continue into adulthood and influence long-term oral health outcomes [2,9].

Despite being largely preventable, oral diseases remain a significant public health problem worldwide. Dental caries is one of the most prevalent chronic diseases globally, affecting a substantial proportion of children and adolescents [5,13]. The burden of oral diseases is disproportionately higher in low- and middle-income countries due to limited awareness, inadequate access to preventive dental services, and socioeconomic inequalities [8,14]. Dietary habits, particularly frequent consumption of sugar-rich foods, are a major contributing factor to the development of dental caries [7].

In India, oral health problems among children remain highly prevalent, with many children lacking adequate knowledge, preventive practices, and access to oral healthcare services [3,6]. Parental education and socioeconomic factors play an important role in influencing children's oral health behaviours and utilization of dental care services [11].

Children from vulnerable and institutionalized backgrounds are at increased risk of poor oral health due to limited caregiver supervision, inadequate access to oral health

education, and reduced utilization of preventive dental services [10,14]. These factors may contribute to poor oral hygiene practices, delayed treatment seeking, and an increased risk of untreated oral diseases.

Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune, provides care and support to children from vulnerable and disadvantaged backgrounds. However, limited information is available regarding oral health awareness, self-perception of oral health status, oral hygiene practices, dietary habits, and dental care utilization among children residing in such institutional settings.

Therefore, the present study aims to assess oral health awareness, self-perceived oral health status, oral hygiene practices, dietary habits, dental visit patterns, and associated demographic factors among school-aged children residing at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune.

2. Review of Literature

Oral diseases such as dental caries and periodontal conditions are among the most prevalent health problems globally. The Global Burden of Disease Study reported that untreated dental caries in permanent teeth affects a substantial proportion of the global population, making it one of the most prevalent health conditions worldwide. The burden of dental caries is significantly higher among children living in low- and middle-income countries due to limited access to preventive care and healthcare services [5,8].

In India, oral health problems among children remain highly prevalent. National surveys and systematic reviews have reported a high prevalence of dental caries and unmet oral healthcare needs among Indian children, highlighting the magnitude of the problem [3,6]. Poor oral health has also been associated with negative impacts on children's physical health, growth, and quality of life [4,12].

Oral hygiene practices play a crucial role in the prevention of dental caries. Regular tooth brushing with fluoridated toothpaste has been shown to significantly reduce the risk of dental caries and improve oral health outcomes among children [10]. However, inadequate oral hygiene practices remain common among children, particularly in underserved populations, increasing their susceptibility to oral diseases.

Dietary habits are another important determinant of oral health. Frequent consumption of sugar-rich foods has been strongly associated with increased risk of dental caries in children [7]. Poor dietary practices, combined with inadequate oral hygiene behaviours, contribute significantly to the high burden of oral diseases in paediatric populations.

Utilization of preventive dental services is essential for early detection and management of oral health problems. However, studies have shown that access to dental care remains limited in many developing countries, and children often seek dental care only after experiencing pain or discomfort (8). Lack of awareness, limited access to services, and socioeconomic factors contribute to poor utilization of preventive dental care.

Parental education and socioeconomic status have also been shown to influence children's oral health behaviours and dental care utilization. Children of parents with higher educational levels demonstrate better oral hygiene practices and greater utilization of dental services compared to children from less educated backgrounds [11].

Children residing in institutional settings represent a particularly vulnerable population due to limited caregiver supervision, inadequate access to oral health education, and restricted access to preventive dental services. These children may have poorer oral hygiene practices and higher risk of untreated oral diseases compared to children living in family environments [10,14].

Although several studies have examined oral health status and associated factors among school children, limited research has specifically focused on oral health awareness, self-perception, and behavioural determinants among children residing in destitute rehabilitation centres. Understanding these factors is essential for identifying gaps in oral health awareness and developing targeted preventive and educational interventions for vulnerable populations.

3. Aim and Objectives

Aim

To assess oral health awareness, self-perceived oral health status, oral hygiene practices, and associated demographic factors among school-aged children residing at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune.

Objectives

1) To evaluate the level of oral health awareness among school-aged children residing at Janaseva Foundation Destitute Rehabilitation Centre.
2) To assess children's self-perception regarding their oral health status.
3) To assess oral hygiene practices followed by the children.
4) To assess dietary habits related to oral health among the children.
5) To assess dental visit patterns and utilization of dental services among the children.
6) To analyse the association between demographic factors (such as age, gender, and parental educational status) and oral health awareness and practices.
7) To identify gaps in oral health knowledge and practices among the children.
8) To generate baseline data to support the planning of institution-based oral health education and intervention programmes.

4. Materials and Methods

A cross-sectional, descriptive study was conducted to assess oral health awareness, self-perceived oral health status, oral hygiene practices, dietary habits, dental visit patterns, and associated demographic factors among school-aged children. Institutionalized children are considered a vulnerable population due to limited access to regular health education and preventive healthcare services, including oral healthcare. Understanding oral health awareness and practices among children residing in rehabilitation centres is essential for

identifying gaps and developing targeted interventions. In this context, the present study was conducted at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune, Maharashtra.

Janaseva Foundation Destitute Rehabilitation Centre is a residential institution that provides care, shelter, education, and rehabilitation support to children from vulnerable and disadvantaged backgrounds. The centre offers a structured living and educational environment, making it an appropriate setting to assess oral health awareness, hygiene practices, and dental care utilization among institutionalized children.

The study population comprised children aged 6 to 19 years residing at the rehabilitation centre. At the time of the study, approximately 400 children were residing at the centre. Of these, 153 children who met the eligibility criteria and were present during the data collection period agreed to participate. After data cleaning and exclusion of incomplete responses, 150 questionnaires were considered valid and included in the final analysis. A convenience sampling method was used, wherein all eligible and willing children present during the data collection period were invited to participate.

Children aged between 6 and 19 years residing at the centre who provided assent and whose parents or guardians provided informed consent were included in the study. Children who were unwilling to participate or who submitted incomplete or partially filled questionnaires were excluded from the analysis.

Data were collected using a structured oral health questionnaire developed for the study. The questionnaire consisted of multiple-choice and open-ended questions designed to collect information on demographic characteristics, including age, gender, and parental educational status, as well as self-perceived oral health status, oral hygiene practices such as tooth brushing frequency, dietary habits related to oral health, experience of dental discomfort and functional limitations, dental visit history and reasons for dental visits, and use of tobacco or other substances. The questionnaire was reviewed prior to administration to ensure clarity, relevance, and suitability for the study population.

Data collection was conducted in a supervised setting within the institution. Participants were informed about the purpose of the study, and clear instructions were provided to ensure accurate and honest responses. Assistance was provided to younger children where necessary to help them understand the questions without influencing their responses. Completed questionnaires were collected immediately after completion to minimize missing or incomplete data.

The collected data were entered into a spreadsheet and analysed using appropriate statistical methods. Descriptive statistics, including frequencies and percentages, were used to summarize categorical variables. Inferential statistical analysis included Chi-square tests of independence to examine associations between categorical variables, Chi-square goodness-of-fit tests to assess distribution patterns, and binomial tests where applicable. Statistical significance was set at a p-value of less than 0.05.

The study was conducted in accordance with ethical principles. Participation was voluntary, and informed consent was obtained from parents or guardians, along with assent from the children. Confidentiality and anonymity of all participants were strictly maintained, and no personally identifiable information was collected or disclosed.

5. Results

The results describe the demographic characteristics, oral health awareness, hygiene practices, dietary habits, dental visit patterns, and parental education status of the study participants. Regarding paternal educational status, 68% of participants reported that they were unaware of their father's educational level. Among those who reported paternal education, 13% had completed secondary school, 7% had completed primary school, and 5% had completed college or university education. Smaller proportions reported high school completion (2%), less than primary school education (3%), and no formal schooling (1%). Additionally, 1% of participants reported that their father was deceased.

Similarly, with respect to maternal education, 61.3% (n = 92) of participants reported that they were unaware of their mother's educational status. Among those who reported maternal education, 15.3% (n = 23) had completed secondary school, 12.7% (n = 19) had completed primary school, and 4.7% (n = 7) had completed college or university education. Smaller proportions reported high school completion (4.0%; n = 6), less than primary school education (2.0%; n = 3), and no formal schooling (2.0%; n = 3). No participant reported that their mother was deceased.

Assessment of substance use showed that none of the participants reported the use of tobacco or related substances.

Demographic Characteristics:
A total of 150 completed questionnaires were included in the final analysis. The study population comprised 82 females (54.7%) and 68 males (45.3%) (Figure 1).

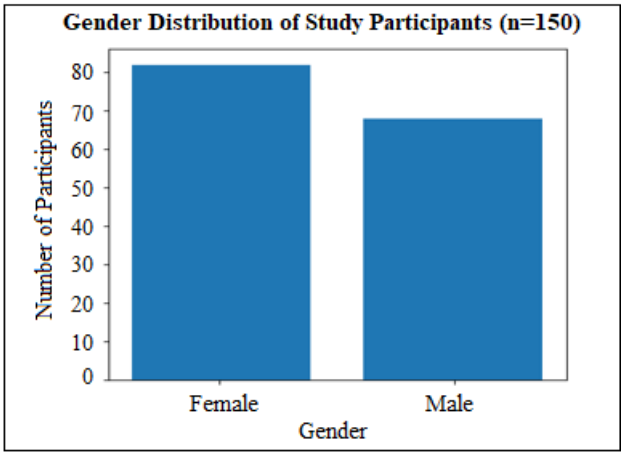


Figure 1: Gender distribution of study participants

The age of the participants ranged from 6 to 19 years, with a mean age of 11.05 years and median age of 11 years (Figure 2).

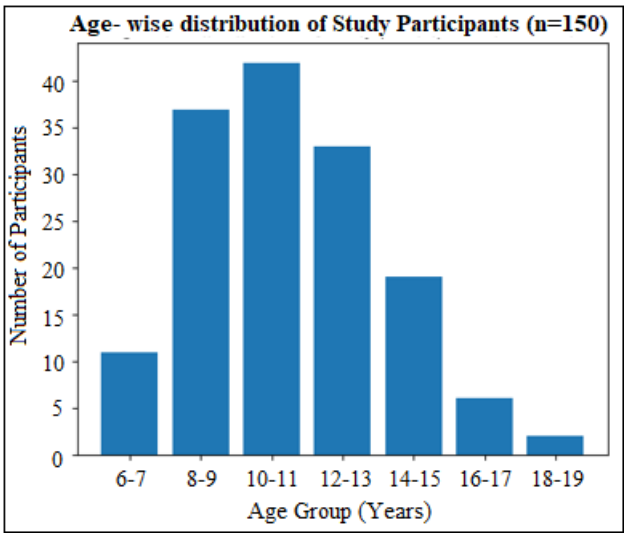


Figure 2: Age-wise distribution of study participants.

Self-Perception of Oral Health:

Self-perceived oral health status of teeth and gums among participants is presented in Figure 3. A total of 59 participants (39.3%) reported their oral health as average, 54 participants (36.0%) as good, 30 participants (20.0%) selected "don't know," 6 participants (4.0%) reported poor oral health, and 1 participant (0.7%) reported very poor oral health.

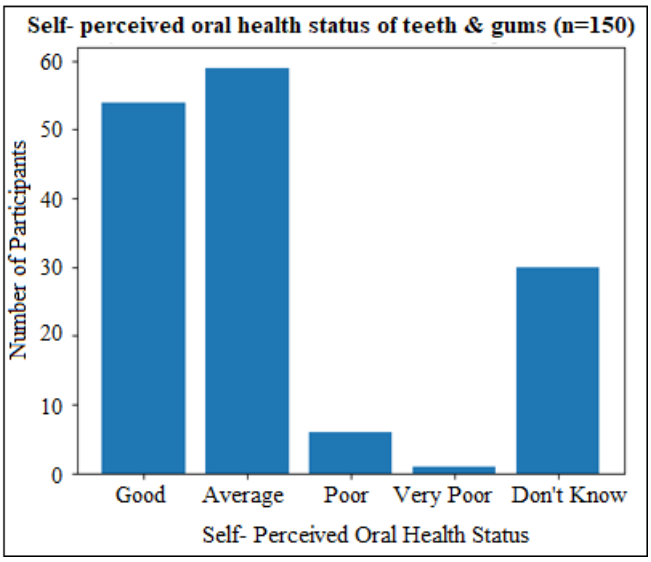


Figure 3. Self-perceived oral health status of teeth and gums among participants

Dental Discomfort:

The frequency of dental discomfort experienced by participants in the past 12 months is presented in Figure 4. A total of 55 participants (36.7%) reported experiencing dental discomfort occasionally, 52 participants (34.7%) reported never experiencing dental discomfort, 40 participants (26.7%) reported experiencing discomfort often, 2 participants (1.3%) reported rarely experiencing discomfort, and 1 participant (0.7%) selected "don't know."

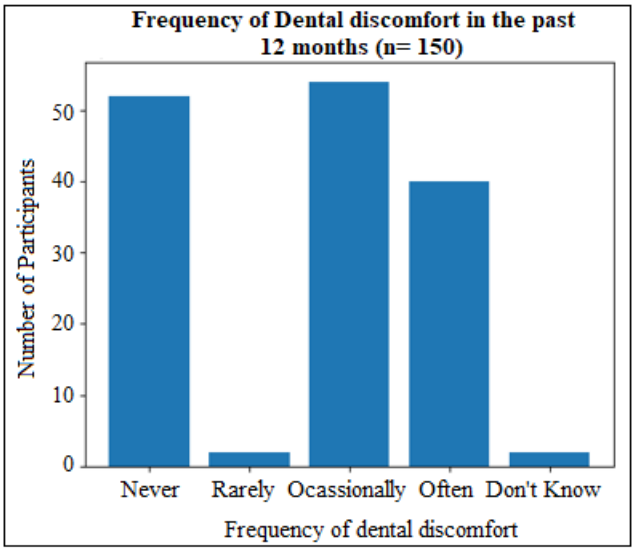


Figure 4: Frequency of dental discomfort experienced by participants in the past 12 months

Dental Visit Patterns:

The dental visit patterns of participants are presented in Figure 5. Nearly half of the participants (46.7%) reported never having visited a dentist, while 43.3% reported visiting a dentist once. 9 participants (6.0%) reported visiting twice, and 2 participants each (1.3%) reported visiting three times, four times, and more than four times.

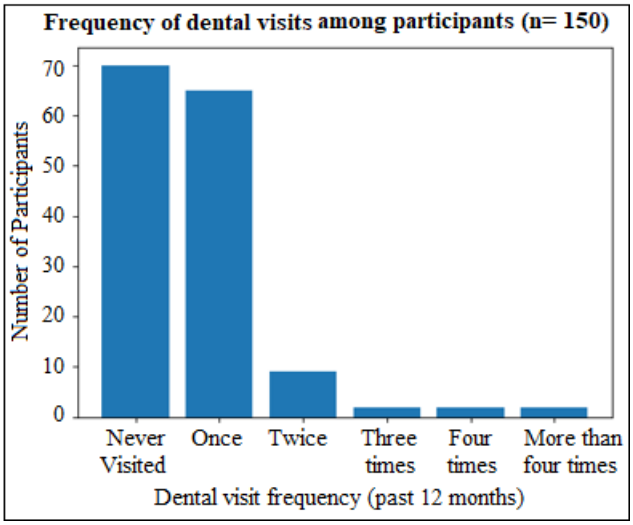


Figure 5: Frequency of dental visits among study participants

Tooth Brushing Practices:

Tooth brushing frequency among participants is presented in Figure 6. A total of 98 participants (65.3%) reported brushing their teeth once daily, while 52 participants (34.7%) reported brushing their teeth twice or more daily.

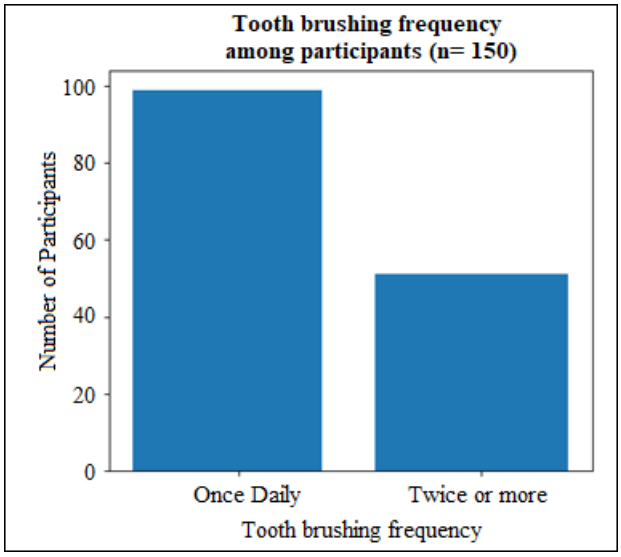


Figure 6: Tooth brushing frequency among study participants

Dietary Habits:

Daily intake of selected food items among participants is presented in Figure 7. A total of 120 participants (80.0%) reported daily milk consumption, 98 participants (65.3%) reported daily consumption of sweets or candies, 75 participants (50.0%) reported daily consumption of biscuits, 12 participants (8.0%) reported daily consumption of soft drinks, and 2 participants (1.3%) reported daily fruit consumption.

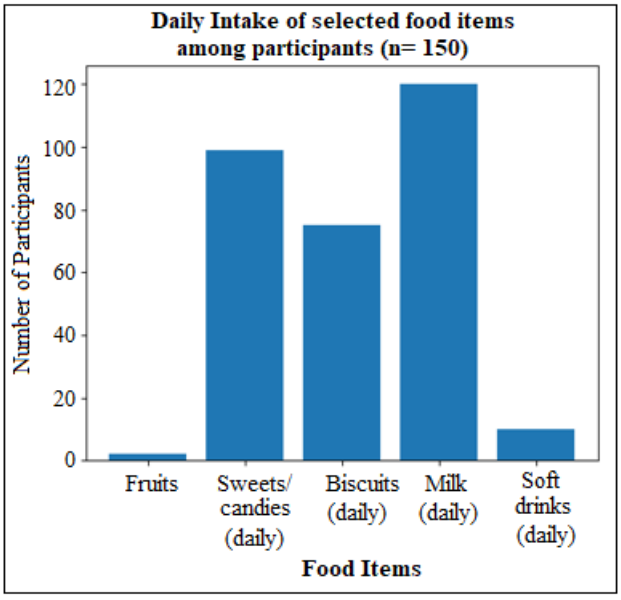


Figure 7: Daily intake of selected food items among study participants

6. Discussion

The present study assessed oral health awareness, self-perception, oral hygiene practices, dietary habits, dental visit behaviour, and the influence of parental education among school-aged children residing at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune. The findings revealed gaps between recommended oral health practices and actual behaviours, indicating the need for targeted preventive interventions in this population.

A considerable proportion of children reported average or poor self-perceived oral health status, suggesting limited awareness or recognition of oral health problems. Gender-based differences were observed, with male participants more frequently reporting poorer or uncertain oral health perceptions compared to females. Similar gender-related differences in oral health awareness and practices have been reported in previous studies, highlighting the importance of gender-responsive oral health education strategies.

Dental discomfort was commonly reported among participants, and some children experienced functional difficulties such as chewing and biting. Dental discomfort during childhood can negatively affect nutrition, daily functioning, and overall well-being. These findings emphasize the importance of early identification and timely management of oral health problems through regular screening and preventive care.

Utilization of dental services was limited, with a substantial proportion of participants reporting no previous dental visits. Among those who had visited a dentist, visits were primarily symptom-driven rather than preventive. This pattern reflects limited awareness of preventive dental care and potential barriers to accessing oral health services. Similar findings have been reported in studies among children in low-resource and institutional settings, where preventive dental care utilization remains low.

Dietary habits observed among participants indicated frequent consumption of sugar-rich foods and low intake of fruits, which are recognized risk factors for dental caries. Although milk consumption was relatively common, high sugar intake combined with inadequate oral hygiene practices may increase susceptibility to oral diseases. These findings highlight the importance of integrating dietary education into oral health promotion programs.

Parental education is recognized as an important determinant of children's oral health behaviours and healthcare utilization. However, a large proportion of participants were unaware of their parents' educational status, which may reflect the institutionalized living environment and limited parental involvement. This underscores the importance of institution-based oral health education and caregiver engagement to promote healthy behaviours.

A positive finding of the present study was the absence of tobacco use among participants. This may reflect protective institutional policies and supervision. Continued oral health education is essential to reinforce healthy behaviours and prevent future risk behaviours.

Overall, the findings indicate that institutionalized children are at risk of suboptimal oral health due to gaps in awareness, preventive practices, and dental service utilization. Strengthening oral health education, promoting preventive dental care, and implementing institution-based oral health promotion and screening programs are essential to improve oral health outcomes in this vulnerable population.

7. Conclusion

Oral health is a vital component of overall health and well-being, particularly during childhood when lifelong habits are established. The findings of the present study reveal important gaps in oral health awareness, hygiene practices, dietary behaviours, and utilization of dental services among school-aged children residing at Janaseva Foundation Destitute Rehabilitation Centre, Katraj, Pune. A substantial proportion of children reported brushing less than the recommended frequency, irregular or absent dental visits, and frequent dental discomfort, indicating an unmet need for preventive oral health care.

The study also highlights the influence of parental education and family health literacy on children's oral health behaviours. A large number of children were unaware of their parents' educational status, reflecting limited family-level awareness and potential barriers to appropriate health-seeking behaviour. Additionally, dietary patterns characterized by frequent consumption of sugar-rich foods may increase the risk of oral diseases despite relatively adequate milk consumption.

Although the absence of tobacco and intoxicant use among participants represents a positive finding, the overall results emphasize the need for early, sustained, and comprehensive oral health interventions. Strengthening institution-based oral health education, promoting preventive dental care, and enhancing caregiver and institutional involvement are essential strategies to improve oral health outcomes.

Addressing these gaps through targeted preventive and educational interventions can contribute to improved oral health, enhanced quality of life, and better overall health outcomes among vulnerable children.

8. Recommendations

- Regular institution-based oral health education programs should be implemented to promote proper brushing techniques and reinforce the importance of brushing teeth at least twice daily.
- Routine preventive dental check-ups should be promoted through periodic dental screening camps and collaboration with dental professionals to facilitate early detection and management of oral health problems.
- Caregiver and parental involvement in oral health promotion should be encouraged, with particular emphasis on improving caregiver awareness and maternal health literacy to support positive oral health behaviours among children.
- Healthy dietary practices should be promoted by encouraging increased consumption of fruits and reducing the intake of sugar-rich foods, sugary snacks, and sweetened beverages.
- Oral health education should be integrated into existing institutional health programs to ensure sustained awareness and reinforcement of preventive oral health practices.
- Future studies should utilize supervised and guided data collection methods to improve the accuracy of responses and minimize uncertainty or incomplete reporting.
- Periodic follow-up studies should be conducted to evaluate the effectiveness of oral health education programs and preventive interventions among institutionalized children.

9. Limitations

The findings of this study should be interpreted in light of certain limitations. The cross-sectional study design limits the ability to establish causal relationships between oral health behaviours and associated factors.

The use of a self-reported questionnaire may have introduced response bias, including recall bias and social desirability bias, particularly among younger participants, which may have affected the accuracy of responses.

The study was conducted in a single institutional setting using a convenience sampling method, which may limit the generalizability of the findings to other populations and introduce potential selection bias.

Additionally, a large proportion of participants were unaware of their parents' educational status, which restricted a detailed assessment of the influence of parental education on oral health awareness and practices.

Clinical oral examinations were not conducted; therefore, the findings are based on self-perceived oral health status rather than objective clinical assessment, which may not fully reflect the actual oral health condition of the participants.

The wide age range of participants may also have influenced variations in comprehension, interpretation, and response accuracy, particularly among younger children.

Despite these limitations, the study provides valuable baseline information on oral health awareness, hygiene practices, dietary habits, and dental service utilization among institutionalized children and can support the development of targeted institution-based oral health education and preventive interventions.

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