



Original Research Article

KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING ORAL HYGIENE AMONG SCHOOL CHILDREN ATTENDING A PEDIATRIC OUTPATIENT DEPARTMENT: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Oral hygiene is a key determinant of oral and general health, particularly during childhood and adolescence when lifelong health behaviours are established. Oral diseases such as dental caries and gingivitis remain highly prevalent among school-aged children in India and are largely preventable through effective oral hygiene practices, dietary modifications, and regular dental check-ups. Knowledge, attitude and practice (KAP) studies help identify gaps between awareness and actual behaviours, thereby guiding targeted preventive strategies. **Objectives:** To assess the knowledge, attitude and practices (KAP) regarding oral hygiene among school-going children attending a pediatric outpatient department (OPD).

Materials and Methods: A hospital-based cross-sectional study was conducted among 100 school-going children aged 8–18 years attending the Pediatric OPD of T.S. Misra Medical College and Hospital, Lucknow, India, from January 2024 to June 2025. Data were collected using a pre-tested bilingual (Hindi and English), semi-structured questionnaire comprising socio-demographic details, knowledge (12 items), attitude (11 items) and practices (7 items). Scores were categorized as good (>75%), moderate (50–75%) and poor (<50%). Data were analysed using descriptive statistics.

Results: The mean age of participants was 14.67 ± 3.71 years, and 56% were males. Most participants were from urban areas (66%) and belonged to the middle socioeconomic class (40%). Good knowledge was observed in 68% of children, while 42% demonstrated a positive attitude. However, only 12% reported good oral hygiene practices. Although 86% believed that regular brushing prevents oral problems and 79% recognised the dentist's role in maintaining oral health, practical behaviours such as twice-daily brushing (49%), tongue cleaning (32%) and mouth rinsing after meals (38%) were inadequate.

Conclusion: Despite satisfactory knowledge and moderately positive attitudes, oral hygiene practices among school-going children were suboptimal, indicating a significant knowledge–practice gap. Strengthening structured oral health education in pediatric OPDs and school health programs, along with parental involvement, is recommended.

Keywords: Oral hygiene; School-going children; Knowledge attitude practice; Pediatric OPD; Dental health.

INTRODUCTION

Oral health is an essential component of overall health and quality of life. The World Health Organization (WHO) defines oral health as freedom from oral pain, dental caries, periodontal disease, tooth loss, and other disorders affecting the oral cavity. Oral diseases are among the most common non-communicable diseases worldwide and contribute substantially to morbidity, healthcare expenditure, and reduced quality of life. Dental caries remains the most prevalent chronic disease in childhood and adolescence, and untreated caries may result in pain, sleep disturbances, impaired nutrition, reduced school attendance, and poor academic performance.

In India, oral diseases remain highly prevalent among school-aged children. Contributing factors include high intake of sugar-containing foods and beverages, inadequate brushing techniques, lack of parental supervision, low awareness regarding preventive dental care, and limited access to dental services. The burden of oral disease is not only clinical but also psychosocial, as it affects speech, aesthetics, self-confidence, and social interactions.

Childhood and adolescence are critical periods for the establishment of health behaviours. Oral hygiene practices such as brushing frequency, brushing technique, tongue cleaning, mouth rinsing after meals, and regular dental visits are behaviours that can be adopted early and sustained into adulthood. Knowledge, attitude and practice (KAP) studies provide valuable insights into behavioural determinants of oral health and help identify gaps between awareness and actual practices. These studies are especially relevant in resource-limited settings where preventive interventions can significantly reduce the burden of disease.

Pediatric outpatient departments (OPDs) represent an important yet underutilized platform for preventive counselling. Children visiting pediatric OPDs for various health concerns may be receptive to health education, and caregivers can be counselled simultaneously. Therefore, assessing oral hygiene behaviours in the pediatric OPD setting can guide integration of oral health promotion into routine pediatric care.

The present study was conducted to assess the knowledge, attitude and practices regarding oral hygiene among school-going children attending a pediatric OPD in Lucknow, Uttar Pradesh, and to identify gaps that may be addressed through targeted interventions.

Aim and Objectives

Aim: To study the knowledge, attitude and practices regarding oral hygiene among school-going children attending a pediatric outpatient department.

Objectives

1. To assess the level of knowledge regarding oral hygiene among school-going children.

2. To evaluate attitudes toward oral hygiene and preventive dental care.
3. To assess oral hygiene practices followed by school-going children.

MATERIALS AND METHODS

Study design and setting: A hospital-based cross-sectional study was conducted in the Pediatric Outpatient Department of T.S. Misra Medical College and Hospital, Amausi, Lucknow, India.

Study duration: May 2024 to October 2025 (18 months).

Study population: School-going children aged 8–18 years attending the pediatric OPD during the study period.

Sample size: The sample size was calculated using the formula for prevalence studies, assuming a prevalence of 50% at a 95% confidence level and 20% allowable error. The final sample size was 100 participants.

Sampling technique: Children attending the pediatric OPD during the study period were recruited using a consecutive/convenience sampling approach until the desired sample size was achieved.

Inclusion Criteria

- School-going children aged 8–18 years attending the pediatric OPD
- Ability to understand and respond to the questionnaire
- Written informed consent from parents/guardians and assent from the child

Exclusion Criteria

- Children unable to comprehend the questionnaire
- Lack of consent/assent

Data collection tool: A pre-tested, bilingual (English and Hindi), semi-structured questionnaire was used. It included socio-demographic details and items assessing knowledge (12 items), attitude (11 items) and practices (7 items).

Scoring system: Each correct/appropriate response was awarded one point. Scores were categorized as good (>75%), moderate (50–75%) and poor (<50%) for each domain.

Ethical considerations: Ethical approval was obtained from the Institutional Ethics Committee of T.S. Misra Medical College and Hospital. Written informed consent and assent were obtained. Confidentiality and anonymity were maintained.

RESULTS

A total of 100 school-going children participated in the study. The mean age of participants was 14.67 ± 3.71 years, and 56% were males. Most participants were from urban areas (66%) and belonged to the middle socioeconomic class (40%).

Good knowledge was observed in 68% of children, while 20% had moderate and 12% had poor knowledge. Positive attitude toward oral hygiene was

observed in 42% of participants. Good oral hygiene practices were observed in only 12% of participants. Twice-daily brushing was reported by 49%, tongue

cleaning by 32%, and mouth rinsing after meals by 38%. These findings indicate a marked knowledge-practice gap.

Table 1: Socio-demographic characteristics of the study participants (N = 100)

Characteristics	Frequency (n)	Percentage (%)
Age group (years): 8–15	42	42.0
Age group (years): 16–18	30	30.0
Age group (years): Others/Not specified	28	28.0
Sex: Male	56	56.0
Sex: Female	44	44.0
Residence: Urban	66	66.0
Residence: Rural	34	34.0
Socioeconomic status: Middle class	40	40.0
Socioeconomic status: Others/Not specified	60	60.0

Note: "Others/Not specified" indicates categories not further detailed in the available dataset.

Table 2: Distribution of oral hygiene knowledge among school-going children (N = 100)

Knowledge items/levels	Correct response (n)	Percentage (%)
Overall knowledge: Good	68	68.0
Overall knowledge: Moderate	20	20.0
Overall knowledge: Poor	12	12.0
Importance of teeth	88	88.0
Regular brushing prevents oral problems	86	86.0
Dentist relieves tooth pain	94	94.0
Dentist helps maintain oral health	79	79.0

Table 3: Attitude and oral hygiene practices among school-going children (N = 100)

Indicators	Positive/Practiced (n)	Percentage (%)
Overall positive attitude	42	42.0
Brushing twice daily is important	76	76.0
Regular dental visits are necessary	58	58.0
Overall good oral hygiene practices	12	12.0
Brushing twice daily	49	49.0
Tongue cleaning	32	32.0
Mouth rinsing after meals	38	38.0

DISCUSSION

The present study assessed oral hygiene-related knowledge, attitudes and practices among school-going children attending a pediatric OPD. The findings demonstrate that while the majority of children had good knowledge regarding oral hygiene, this awareness did not translate into consistent preventive practices.

Only 42% of children demonstrated a positive attitude toward oral hygiene. Although 76% considered twice-daily brushing important, a lower proportion felt that regular dental visits were necessary, suggesting that many view dental care as a service required only when pain occurs rather than as preventive care.

The most concerning finding was the low level of good oral hygiene practices (12%). Less than half reported brushing twice daily, and practices such as tongue cleaning and mouth rinsing after meals were inadequate. This highlights a significant knowledge-practice gap, possibly due to behavioural factors, lack of parental supervision, misconceptions regarding dental visits, and inadequate reinforcement of oral health education.

Pediatric OPDs provide a unique opportunity to address these gaps through structured counselling and caregiver engagement. Integration of oral health promotion into routine pediatric care, combined with

school-based oral health education and parental involvement, can help improve oral hygiene practices and reduce the burden of oral diseases among children and adolescents.

CONCLUSION

School-going children attending a pediatric OPD had satisfactory knowledge and moderately positive attitudes regarding oral hygiene; however, actual oral hygiene practices were markedly inadequate, indicating a substantial knowledge-practice gap. Strengthening oral health counselling during pediatric OPD visits, along with school-based education and parental involvement, is essential to improve oral hygiene practices and prevent oral diseases.

Recommendations

1. Incorporation of oral health education into school curricula.
2. Routine oral hygiene counselling during pediatric OPD visits.
3. Parental engagement in reinforcing daily oral hygiene practices.
4. Regular school-based dental screening programs.
5. Behavioural interventions focusing on improving practice adherence rather than knowledge alone.

Limitations

1. Hospital-based study with a relatively small sample size.
2. Self-reported practices may be subject to reporting bias.
3. Detailed associations between KAP and socio-demographic factors were not explored.

Conflict of Interest: None declared.

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