

Evaluation of Awareness, Attitude and Preparedness of School Children and Caregivers toward Dental Treatment in a Military Dental Establishment: A Cross-Sectional Descriptive Study

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Abstract

Objective: To evaluate the awareness, attitude and preparedness of school children and their caregivers toward dental treatment in a military dental service setting.

Materials and Methods: A school-based screening camp was conducted as part of a social outreach program linked to a military dental establishment. A total of 1000 students aged 5–18 years (classes I–XII) were clinically examined for oral findings, including oral hygiene status, dental caries, gingival and periodontal diseases, mucosal abnormalities, malocclusion, congenital and developmental anomalies and ongoing dental treatment. Students presenting with abnormal intraoral findings (n = 954) were identified as requiring dental care and were administered a structured dichotomous (Yes/No)

questionnaire assessing previous dental attendance, advice and receipt of dental treatment, experiences of dental pain, apprehension toward dental treatment and current willingness to undergo treatment. Descriptive statistics were calculated using SPSS version 22.

Results: Of the 1000 students examined, 954 (95.4%) had at least one abnormal intraoral finding. Overall, 58.17% reported a previous dental inspection in the preceding three years, while 41.82% had not undergone any screening during that period. Dental treatment had been advised to 46.22% of respondents, and 40.56% had received some form of dental consultation or intervention. Episodes of dental pain in the last three years were reported by 48% of students, whereas 51.99% denied any pain. Apprehension regarding dental treatment was expressed by 69.8% of respondents or their

parents, while 30.18% reported no such concern. Despite this, 76.2% stated that they were prepared to receive necessary dental treatment, whereas 23.79% were reluctant.

Conclusion: A high proportion of school children in this military-linked educational setting required dental care, yet relatively few had undergone prior screening or treatment. Although more than half reported apprehension toward dental treatment, a similar proportion expressed readiness to receive care. Structured school-based screening and targeted oral health education may help improve dental service utilization in comparable institutional environments.

Keywords: Oral health screening; questionnaire; dental treatment attitude; school children; military dental services.

Introduction

Oral health is an integral part of overall health and well-being, and the oral cavity often serves as an accessible site for early detection of various systemic and local diseases that can be addressed effectively if diagnosed at an initial stage.¹ Good oral health behavior established early in life through appropriate motivation and health education can improve patient compliance and contribute to better long-term health outcomes.²

Dental diseases such as dental caries and periodontal problems remain highly prevalent among school-aged children in many parts of India.³ The experience of pain and associated discomfort due to dental diseases results in the restriction of their activities at school and home. However, studies from different regions have reported a considerable burden of untreated oral disease and limited utilization of available dental services among school children.^{4,5} The gap between existing treatment needs and actual service uptake is influenced by multiple factors, including awareness of oral health, perception of need,

motivation, accessibility and attitudes toward dental care.⁶

Military dental establishments often provide structured dental services for armed forces personnel and their families and may also serve institutional populations through outreach programs. School-based dental screening in such settings can identify children with dental treatment needs and simultaneously provide an opportunity to explore their awareness, attitudes and willingness to seek care.

The present cross-sectional descriptive study was conducted in an educational institution associated with a military dental establishment. It aimed to assess the awareness, attitude and preparedness of school children and their caregivers toward dental treatment, based on responses to a structured questionnaire administered to students identified with abnormal intraoral findings during a screening camp.

Materials and Methods

Study design and setting

This cross-sectional descriptive study was conducted as part of a social outreach oral health program organized by a military dental establishment in collaboration with an educational institution. A school-based screening camp was held to identify oral health problems among students and to assess their awareness and attitudes toward dental treatment.

Study population and sampling

A total of 1000 students from classes I to XII, aged between 5 and 18 years, participated in the study. The sample comprised children present in school on the day of the camp and willing to undergo screening as part of the institutional program. All students meeting these criteria were examined, providing a large, institution-based sample.

Clinical examination

Each student underwent an intraoral examination using a standardized examination chart. Dental findings were recorded using the Palmer-Zsigmondy notation system for tooth identification.⁷ The following parameters were assessed systematically:

- Oral hygiene status
- Dental caries
- Gingival and periodontal conditions
- Mucosal abnormalities
- Ongoing dental treatment status
- Malocclusion
- Congenital and developmental anomalies of the oral cavity

Any abnormal intraoral condition requiring dental intervention was documented in a separate section of the examination chart. Students presenting with at least one abnormal finding were categorized as having positive dental findings and considered as requiring dental care.

Among the 1000 students examined, 954 were found to have abnormal intraoral findings and formed the subgroup for the questionnaire-based component of the study.

Questionnaire design and administration

A structured, closed-ended questionnaire with dichotomous (Yes/No) responses was designed to evaluate the following domains:

1. History of dental inspection in the last three years
2. Whether dental treatment had been advised in the last three years
3. Whether any dental treatment had actually been undertaken in the last three years
4. History of dental pain episodes in the last three years
5. Presence of apprehension or reluctance toward dental treatment on the part of the child or parents

6. Current willingness and preparedness to undergo necessary dental treatment

The questionnaire was distributed only to students who had positive dental findings on clinical examination (n = 954), as these students had existing treatment needs. Forms were administered in the classroom setting. The purpose of the survey was explained to students and communicated to parents through teacher notes. Student identity details were not recorded on the questionnaire, ensuring anonymity. Completed questionnaires were collected class-wise for data compilation.

Ethical considerations

The screening camp and subsequent survey were conducted with prior permission from school authorities. Information regarding the nature and purpose of the study was communicated to students and their caregivers through institutional channels, and consent for participation was obtained at the school level. Confidentiality of responses and anonymity of participants were maintained throughout the study.

Statistical analysis

Data from the examination charts and questionnaires were entered into a spreadsheet and analyzed using SPSS software (version 22). Descriptive statistics, including frequencies and percentages, were computed for responses to each questionnaire item. Overall totals and mean percentages were used to summarize the distribution of responses.

Results

Screening findings

Of the 1000 school children examined in the screening camp, 954 (95.4%) presented with at least one abnormal intraoral finding indicative of the need for dental treatment. These 954 students constituted the study group for the questionnaire-based assessment of awareness, attitude and preparedness for dental treatment.

Questionnaire responses

Aggregate descriptive statistics for the six questionnaire items are presented in Table 1.

When asked whether they had undergone any dental inspection in the last three years (Q1), 58.17% reported at least one prior inspection, whereas 41.82% indicated that they had not been screened during this period. Dental treatment had been advised to 46.22% of students (Q2), while more than half (53.77%) reported that no treatment recommendations had been made.

With respect to actual utilization of dental services (Q3), 40.56% of respondents had received some form of dental consultation or treatment in the previous three years, while 59.43% had not undergone any treatment. Pain-related experiences (Q4) showed that 48% of students had experienced dental pain, whereas 51.99% denied such episodes during the same timeframe.

Regarding attitude, 69.8% of students reported that either they or their parents felt apprehensive or reluctant about dental treatment over the last three years (Q5), while 30.18% reported no apprehension. Despite this, 76.2% of respondents indicated that they were willing and prepared to undergo necessary dental treatment at present (Q6), whereas 23.79% were not ready to receive treatment.

Discussion

This study explored the awareness, attitude and preparedness of school children and their caregivers toward dental treatment in a military-linked educational institution, using data from a large screening camp and a simple questionnaire. The finding that 95.4% of students had at least one abnormal intraoral condition underscores the considerable burden of untreated oral disease in this population.

Although the majority of students had treatment needs, less than half reported having undergone any dental inspection in the preceding three years, and only about

one-fifth had actually received dental treatment in that period. This pattern is consistent with previous reports from different regions of India that describe high prevalence of dental caries and other oral conditions in school children, coupled with suboptimal utilization of dental care services.^{8,9}

The discrepancy between the need for care and actual treatment uptake suggests the presence of barriers at several levels. These may include limited awareness of the importance of routine dental check-ups, underestimation of the seriousness of oral problems, practical constraints such as time and access, and psychological factors such as fear or apprehension about dental procedures. In this study, more than half of the respondents indicated some degree of apprehension toward dental treatment on the part of themselves or their parents, highlighting the role of attitude as an important determinant of service utilization.

Interestingly, despite the reported apprehension, a larger proportion of students expressed willingness and preparedness to undergo necessary dental treatment at present. This suggests that when opportunities for care are actively provided and supported—such as through organized school-based screening linked to a military dental establishment—many children and caregivers may be receptive to treatment, provided they are adequately informed and reassured.⁸

Military dental centres are often well equipped, follow stringent infection-control protocols and operate within a structured system, which can be leveraged to enhance the uptake of care among school children under their purview. School-based programs that combine screening with immediate counselling, clear communication of findings to parents and streamlined referral pathways to the dental facility may help bridge the gap between need and utilization.^{9,10}

Limitations

The study design was cross-sectional and descriptive, which does not permit inference of causal relationships between awareness, attitude and treatment utilization. The questionnaire was intentionally kept brief and dichotomous to suit the school setting, but this limited the depth with which reasons for apprehension and non-utilization could be explored. The study population was drawn from a single educational institution associated with a military establishment, which may restrict the generalizability of findings to other school environments or civilian settings. Additionally, reliance on self-reported data introduces the possibility of recall bias and social desirability bias.

Implications and future directions

Despite these limitations, the study highlights a substantial unmet need for dental care and a mixed pattern of apprehension and readiness toward treatment among school children in a military-linked educational setting. Future research could employ more detailed, validated questionnaires to investigate specific determinants of dental attitudes and behaviours, compare military and non-military school populations and evaluate the impact of targeted educational and motivational interventions on subsequent dental attendance and treatment uptake.

Conclusion

A high proportion of school children examined in this military outreach program required dental treatment, yet many had no recent history of dental inspection or treatment. More than half of the students reported apprehension toward dental treatment, but a larger proportion expressed willingness to receive care when asked about their current preparedness. Strengthening school-based oral health screening, enhancing communication with caregivers and providing clear

referral pathways to military dental facilities may help to reduce the burden of untreated oral disease and improve dental service utilization in similar institutional settings.

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Legend Table

Table 1: Descriptive statistics of questionnaire responses among students with abnormal intraoral findings (n = 954)

Question	Yes (n)	No (n)	Yes (%)	No (%)
Q1. Previous dental inspection in the last three years	555	399	58.17	41.82
Q2. Advised dental treatment in the last three years	441	513	46.22	53.77
Q3. Underwent any dental treatment in the last three years	387	567	40.56	59.43
Q4. Episodes of dental pain in the last three years	458	496	48	51.99
Q5. Child or parent apprehensive toward dental treatment over the last three years	666	288	69.8	30.18
Q6. Currently willing and prepared to undergo necessary dental treatment	727	227	76.2	23.79