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RESEARCH ARTICLE

A Cross-Sectional Study on Knowledge and Attitudes Towards Oral Health Care Among School Students

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ABSTRACT: Backround: The growth and development of a nation depend greatly on health and well being of its children. Keeping in mind that schools are useful platform to promote health and prevention of various diseases among school going children, the Government of India has launched 'School Health Program 'under Ayushman Bharat Scheme.Good Knowledge of oral health is an important foundation prerequisite for developing healthy habits and motivating children to take appropriate measures to protect their oral and overall health.**Objectives:** The aim of the study is to assess the level of oral health awareness and hygiene practices among the school student.**Materials and Methods:** The cross-sectional survey was done in 500 students studying in Grades 10-12 at private schools in the Doaba region.Data were collected using a self administered ,structured and pre-validated questionnaire comprising 20 close- ended questions. The results were depicted with graphs.The responses were analysed descriptively and the findings were expressed as percentages. **Results:**The results showed that many schoolchildren were lacking awareness and understanding of oral hygiene practices. **Conclusion:**The study revealed that many schoolchildren lacked awareness and understanding of oral hygiene practices.As the oral health has relation with the general health of the individual.So oral health awareness is very much needed in the society .The most significant group accessible for oral health education is always seen in schools.

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Introduction

Children are greatest asset of the nation. School children constitute around 25% of total population of India. They are more vulnerable to malnutrition, infections, and oral diseases than rest of the population.The nation's growth and development are dependent on the status of the children.Since schools as useful platform to promote health and prevention of various diseases among school going children, Government of India has launched 'School Health Program 'under Ayushman Bharat Scheme. Oral health is a key indicator of overall health,well-being, and quality of life of the students. [1,2,3].

The oral cavity is one of the most significant structures of the human body, having a direct impact on an individual's the oral as well as overall physical health of an individual. So the oral health is much more than beautiful and

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healthy teeth.[4,5,6].

The oral cavity initiates the digestive process by breaking down food carbohydrates through the enzymatic reaction caused by salivary enzymes ;additionally, it serves a secondary protective function by defending the body against bacteria that may enter with ingested food, making a complete and functional oral cavity essential for both digestion and defence against pathogens [7,8,9].

Now doubt that Oral diseases such as tooth caries, gingivitis, and bad breath are major dental health-care concern, especially in children in the developing countries.But in Last few decades it has been seen that there is reduction in the severity and incidence of dental caries among the children in India as a result of improvement and advance in dental treatment and technology.Knowledge of oral health is a fundamental prerequisite for healthy behavior, allowing individuals to take measures to protect their overall health[7,8][10,11].Oral health promotion through schools is recommended by the World Health Organization (WHO) for improving knowledge, attitude, and behavior related to oral health and for prevention and control of dental diseases among schoolchildren [9][12].The level of oral health-care knowledge in the middle school children can play a very crucial role, as their dentition is in a transition phase as well as child see the development of cognitive abilities. Good knowledge and a positive attitude toward oral health care play a vital role in preventive dentistry.[13] Parents with good oral hygiene skills and positive attitude have shown to reflect their child's oral health, brushing practices, and dietary sugar intake[14]. Understanding of level of oral health knowledge can help oral health agencies to develop an oral health-care policy in the prevention of dental problems in very early stage[10][15].

Methods

The cross-sectional survey was done in 500 students studying in Grades 10-12 at private schools in the Doaba region.Data were collected using a self administered ,structured and pre-validated questionnaire comprising 20 close- ended questions. The questionnaire was designed to assess the students' knowledge and awareness of oral health and oral hygiene practices. The completed questionnaires were collected, and the responses were analysed descriptively. The findings wereexpressed as percentages .The study was undertaken to assess the level of oral health awareness and hygiene practices among the school student.

Results

In the present study, all students were using a toothbrush and tooth paste for cleaning their teeth and approximately 95% of the students were following the correct tooth- brushing technique i.e in all directions.

Considerable variation was observed in the duration of tooth- brushing. About 48% of the students reported brushing their teeth for approximately 1 minute while 36% brushed for 2 minutes. About 11% reported brushing for approximately 30 seconds while only 5% reported brushing for 5 minutes (Graph 1).

Concerning tooth brushing after meals, 70% reported that they always brushed their teeth after meals, while 20% did sometimes. The remaining 10% reported that they never brushed their teeth after meals (Graph 2). When asked about the choice of toothbrush, 67% preferred the design of the brush, whereas 33% considered the brand as their primary choice. No student considered price as the deciding factor(Graph 3).

Regarding tooth brush replacement, 27% of the students reported changing their toothbrush every three months, whereas 73% reported changing it after more than six months (Graph 4).

In terms of awareness of dental flossing , 23% of the students were aware of dental flossing, while 77 % were unaware (Graph 5).Among those who were aware of dental flossing , 88% reported knowledge of the correct flossing technique, whereas 12% were unaware of the correct technique (Graph 6).

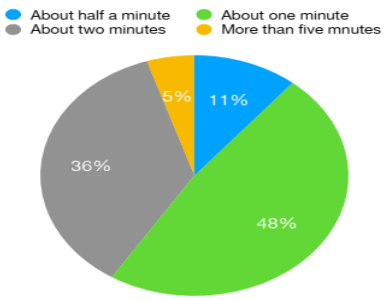
With respect to periodic dental check-ups, 38% of the students reported visiting a dentist for regular dental check-ups, whereas 62% did not(Graph 7). Among the students who visited the dentist , 38% reported visiting once a year, while 62% visited only when they had a dental complaint(Graph 8).In terms of the time since

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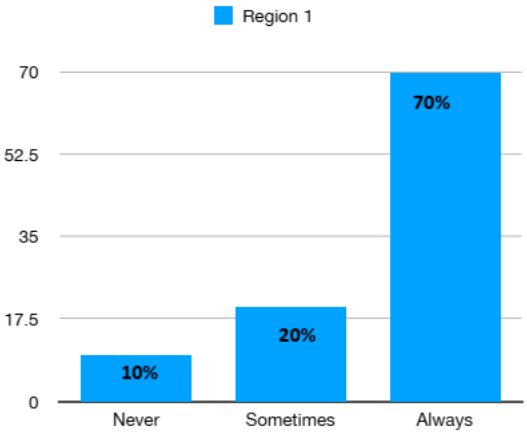
the last dental visit, 10% of the students had visited the dentist within the preceding 12 months, while 15% had their last visit more than one year ago.A majority (75%) reported that their last dental visit had been more than two years ago.(Graph 9).

When asked about the reason then the 45%responded that they visited for some dental treatment ,followed by 30% of the participants who visited for treatment of pain and there was 25% participants who visited for routine dental check-ups (Graph 10) .

Professional dental cleaning was not a routine practice among the majority of participants.90% of the students had never undergone dental cleaning by the dentist, whereas 10% underwent dental cleaning once a year.



Graph 1 : How long do you take to brush your teeth?

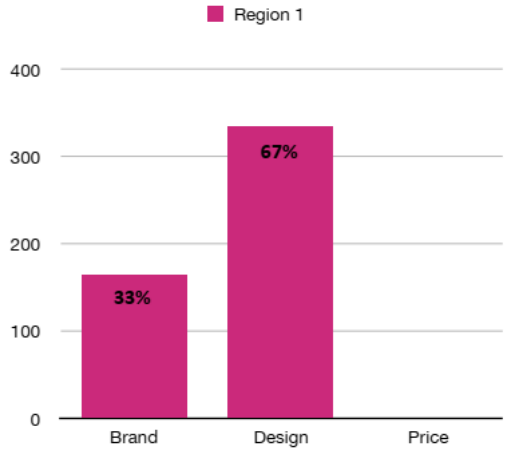


Graph 2 : Do you normally brush your teeth after your meal?

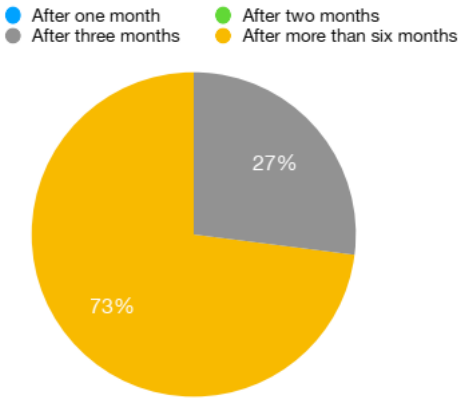
In terms of measures adopted to control mouth odour,65% of the students reported rinsing their mouth regularly with plain water, while 35% used mouthwash.None of the participants reported using salt water for this purpose (Graph 11).

Regarding soft drink consumption,37% of the students reported consuming soft drinks daily, whereas 63% consumed them occasionally.None reported complete avoidance of soft drinks[Graph 12].

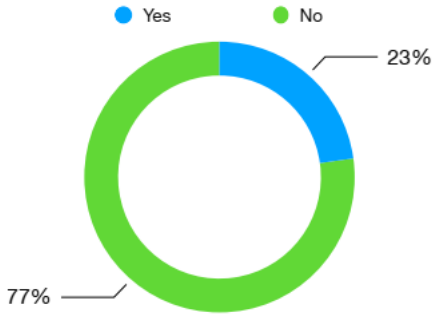
A high frequency of junk food consumption was also observed,63% consumed junk food daily. 29% consumed it 2-3 days per week and 6% consumed it 2-3 days per month. Only 2% stated that they did not consume junk food [Graph 13].



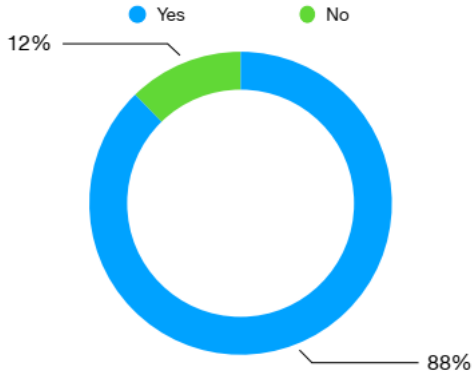
Graph3: What is your choice for brushes?



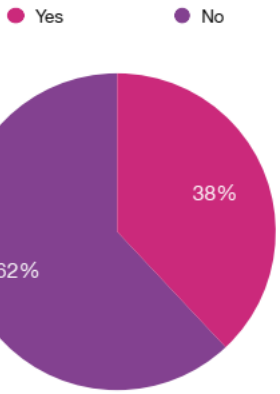
Graph 4: After how many months you change the toothbrush ?



Graph 5: Do you know about the dental flossing ?



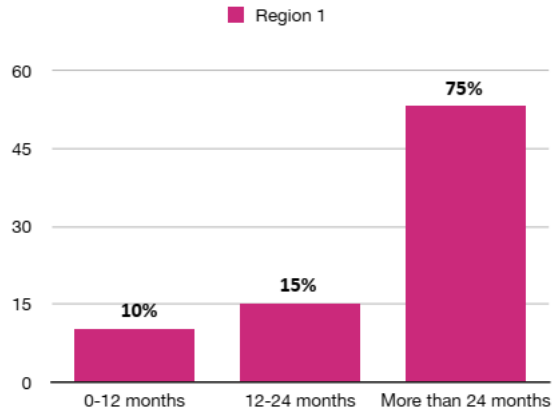
Graph 6: Do you know the correct technique of dental flossing ?



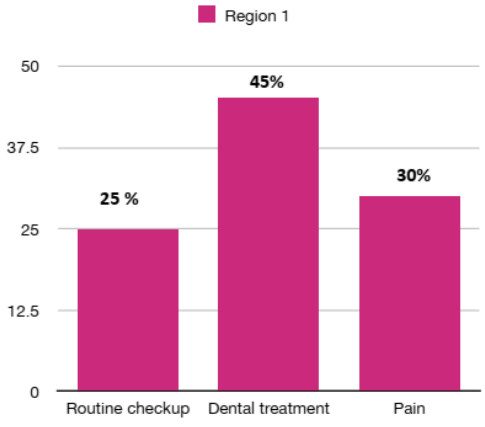
Graph7: Do you visit dentist for periodic dental check-ups ?



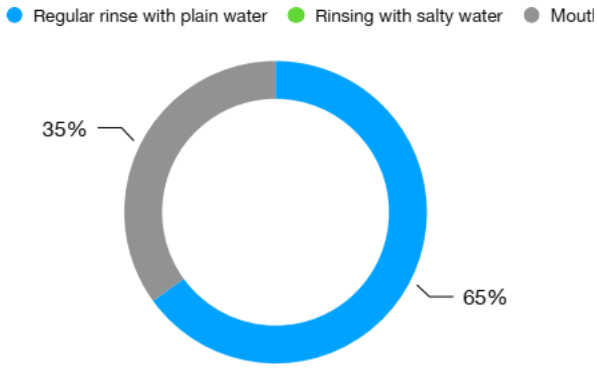
Graph 8: If yes, how often do you go to dental clinics for checking your teeth ?



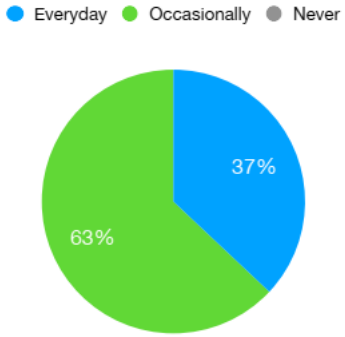
Graph 9: Your last visit to dentist.



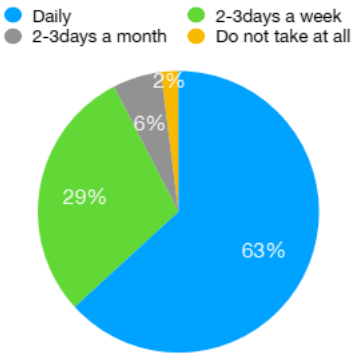
Graph10: What was the reason for your visit ?



Graph11: How do you control your mouth odour ?



Graph 12: Do you consume soft drinks ?



Graph 13: How often you take the junk food ?

Discussion

Adequate knowledge of oral health is fundamental in maintaining optimal oral health and preserving the integrity of oral tissues especially among children who are susceptible to dental caries and issues due to dietary habits and inadequate hygiene practices. Raising awareness and motivation for maintaining good oral hygiene during childhood is essential for preventing oral diseases both in early life and adulthood.The present study assessed students' knowledge of oral health, oral hygiene practices, and self-perceived oral health status among school students. [16,17,18,19].

In the present study, it was noticed that all the students were using toothbrush and tooth paste for cleaning their teeth.Almost similar findings have been reported in previous studies, in which 81% ,85.7% and 94.4% of students, respectively, used a toothbrush and toothpaste for maintaining oral hygiene [20,11,21]. Effective plaque removal depends on the proper brushing technique including vertical, horizontal and circular movements that ensure cleaning in different directions [22].In the present study, 95% of the students followed an appropriate technique which was considerably higher than the 20% reported in a previous study[21].

Second important determinant of effective plaque removal is the duration of toothbrushing and should therefore be emphasized as an essential component of dental health education[23].In the present study, considerable variation was observed in both the duration and frequency of toothbrushing among the participants .Nearly half of the students (48%) reported brushing their teeth for approximately one minute, while 36% reported a brushing duration of two minutes. In contrast,11% brushed for only about 30 seconds and 5% were the students who brushed for more than five minutes(

Graph 1).The findings on toothbrushing duration are broadly comparable with those reported in previous studies. The study conducted by Ahad M and Gheena S it was seen that in which 48.80% of student population said that they brush for 1-2 minutes and 40.80% of students brush more than 2 minutes, 14.40% brush their teeth for 30 secs[21] and Tadin et al reported that 70% of respondents brush their teeth for two to three minutes; only 2.5% do so for more than five minutes[11]. With respect to brushing frequency,(Graph 2), 70% of the students were brushing their teeth after every meal, suggesting a relatively favourable oral hygiene practice among the majority of students.In a previous large scale study, done by Peltzer and Pengpid, involving 19,560 undergraduate students from 27 universities across 26 countries in Asia, Africa, and America reported that 67.2% of students brushed their teeth twice or more daily,28.8% approximately once a day, and 4.0% reported never brushing their teeth[24].Taken together ,the present findings indicate generally favourable toothbrushing practices among the study participants; however, the relative short brushing duration reported by a subset of students highlights the need for continued oral health education emphasizing both adequate brushing frequency and appropriate brushing duration.

Dental floss is an important interdental cleaning aid because it facilitates the removal of food particles, debris and dental biofilm from interproximal areas that are difficult to access with conventional toothbrush bristles[25].

In the present study , 23% of the students reported using dental floss (Graph 5), and out of this,88% revealed knowledge of the correct flossing technique (Graph 6).Despite the high level of awareness regarding the appropriate technique ,the actual use of dental floss was comparatively low. Among the additional oral hygiene aids, mouthwash was used by 35% of the students, whereas 65% reported using plain water for rinsing (Graph 11).In comparison to this ,Tadin.et.al has reported daily use of dental floss among 26.7% of respondents, and interdental brushes among 15.3% [11]. Ahad M and Gheena S reported that 41.2% of participants used mouth wash along with tooth paste,17.2% used a tongue cleaner, 8.4% used dental loss,24.4% used salt and water as adjunctive cleaning aids while 8.8% did not use any oral hygiene aid other than tooth paste [21].

In the present study, 73% and 27% of the students reported replacing their tooth brush after six months and after three months respectively (Graph 4).This finding differs from observations reported in several previous studies, which generally demonstrated more frequent toothbrush replacement . In a study conducted among students in Split,Croatia, 59.7% of participantsreported changing their toothbrush every three months while 24.5% replaced it monthly [11].Similarly, among students at the Military College in Bucharest,53.8% changed their toothbrush every three months and 34.3% did so monthly [26]. In Zagreb, 48.3% of students reported using the same toothbrush for less than three months [27]. Another study reported that 39.2% of participants replaced their toothbrush within three months, whereas 38% changed it every month[21]. The present study demonstrated a comparatively longer interval between toothbrush replacements than that reported in several previous studies, indicating variation in oral hygiene practices across different student populations and geographical settings. Although students may possess adequate awareness of certain aspect of oral health, such knowledge may not always translate into appropriate preventive practices.The observed pattern underscores the need for targeted oral health education that addresses not only the importance of regular toothbrushing but also the appropriate of toothbrush replacement practices.Such interventions may help in bridging the gap between oral health knowledge and its effective implementation in daily life.

Periodic dental examinations are essential for the prevention and early detection of oral diseases and provide an opportunity to promote oral health education and reinforce appropriate oral hygiene practices [28]. In the present study, only 38% of the students reported undergoing periodic dental check-ups (Graph 7), indicating relatively low utilization of preventive dental services. A similar trend has been reported in another study done by Ahad M and Gheena S, in which only 20% of

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students visited a dentist for routine dental examinations[21].Graph 9 is showing that 10% of the students had visited the dentist within the preceding 12 months, while 15% had their last visit more than one year ago.A majority (75%) reported that their last dental visit had been more than two years ago (Graph 9). In response to the reason for their visit, 45% visited for some dental treatment ,followed by 30% and 25% who visited for treatment of pain and routine dental check-ups, respectively (Graph 10), suggesting that dental care was primarily sought for symptomatic rather than preventive reasons. The previous study reported that 64.80% of participants avoided dental visits because they did not experiencedental pain[21]. Adding to the further findings, 90 % of the students in the present study had never undergone professional dental cleaning.The limited utilization of professional dental cleaning ,along with the low frequency of preventive dental visits, may reflect inadequate awareness of the importance of regular preventive dental care.These findings emphasise the need to strengthen oral health education and encourage students to undergo routine dental examinations and professional cleaning, irrespective of the presence or absence of dental symptoms.

Oral health-related habits and behaviours are often established during childhood and may influence oral health outcomes throughout life.Therefore, early adoption of healthy dietary practices is an important component of oral health promotion[29]. In the present study 37% of students reported consuming soft drinks daily, whereas 63.2% reported daily consumption of junk food. In contrast ,only 2% of the participants reported complete avoidance of junk food (Graph 12 & 13).The findings suggest a reasonable level of awareness regarding the association between dietary practices and oral health among the participants. However, despite such awareness, the present study demonstrated a high frequency of soft drink and junk food consumption.This discrepancy between knowledge and dietary practices emphasizes the need for oral health education strategies that not only improve awareness but also facilitate the adoption and maintenance of healthier dietary behaviours.In comparison to this , several studies reported that participants were aware of the potential adverse effects of sugary diet, soft drinks and chocolate on oral health respectively [30,31,32,33,34,35,36,37].

Conclusion

The study revealed that many schoolchildren lacked awareness and understanding of oral hygiene practices. Previous studies have shown that the various oral health conditions are directly related to the lifestyle of the individual and dietary habits .Furthermore, maintaining good oral hygiene is an important factor in promoting oral health, and is subsequently associated with overall health and quality of life. Many oral diseases are preventable through education regarding their risk factors and the preventive measures. So oral health awareness is very much needed in the society .The largest and the most significant group accessible for oral health education is always seen in schools.It is believed that visualisation, active participation,skill training, and reinforcement play an important role in developing and changing behavior among children.

Conflict of Interest –Nil

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