

## Original Article



# Oral Health Knowledge and Practice Behaviour among Secondary School Children in Shahzadpur Upazilla, Sirajganj

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### Abstract

**Background:** A healthy oral cavity is of great significance for an individual's overall health and well-being. Further, it enables an individual to masticate, speak and socialize without discomfort or embarrassment.

**Objectives:** The study was conducted with the objective of revealing the condition of Healthy Oral Health Practice among Selected Secondary School Children of Sirajganj District.

**Materials and Methods:** This was a descriptive cross-sectional survey conducted during the month of April-June 2022. The target population for this study was the students residing in secondary school children of Shahzadpur upazilla in Sirajganj district. Convenience sampling technique was adopted. A total of 325 respondents were included in the study.

**Results:** The age of study population ranged between 13 to 15 years with a mean age of 14 years. Data pertaining to the oral hygiene habits among the study population (n=325). The survey revealed that approximately 56.9% of the population studied brushed their teeth once daily, while 38.5% of respondents brushed twice a day. Regarding knowledge of general oral health, most of the sample subjects were aware that sweets (89.8%) & smoking (65.5%) was not good for dental health. 85.6% of the respondents knew about the detrimental effect of paan/ tobacco on oral health. About half the respondents were aware that maligned teeth could affect oral health. A variable proportion of respondents were aware of the adverse effects of various habits, e.g., thumb-sucking (29.2%) and nail-biting (48.0%).

**Conclusions:** This survey furnishes the background data to get insight into the awareness of secondary-level school students regarding oral health.

**Key words:** Oral health, Oral hygiene, Toothbrushing.

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### Introduction

Oral health is fundamental to general health and wellbeing. Schools can be an ideal environment to promote oral health through school policies and health education. An individual overall health, oral cavity can play a vital role to masticate, speak and socialize without any problems.<sup>1</sup> Oral health is now conceded as major component with general health which can links for major illnesses like cardiovascular disease, diabetes, obesity, arthritis, and mainly cancer.<sup>2-4</sup>

Oral disease can reduces the quality of life, growth & development with severe tooth pain or tooth loss.<sup>5</sup> Dental caries and periodontal disease are most occurring oral conditions which

can affect oral health in most the population.<sup>6-11</sup> Among all oral diseases, most of the diseases can be preventable & curable.<sup>7</sup> According to the World Health Organization, diet, smoking, alcohol, hygiene, stress and exercise can be a risk for high morbidity of diseases.<sup>12,13</sup> To prevent oral diseases, an important factor would be maintained is oral hygiene.

Now a days to maintain oral health, some factors must be emphasized more like oral health promotion, oral health education, school health education and water fluoridation among school children. This certain type of program or health awareness, health-related attitudes and behavior can change the community's oral health development. The best place to implies

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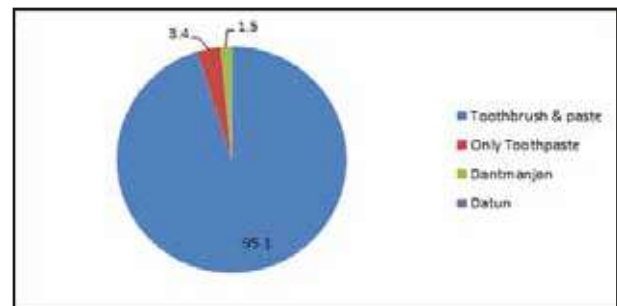
those activities will be primary and secondary school children. A younger age will be more effective target group for early intervention of healthy behaviors and lifestyle practices.<sup>7</sup> Therefore, the present study aimed to assess the level of oral health knowledge and practices of secondary school students in selected secondary school children of Shahzadpur Upazilla.

### Materials and Methods

This was a descriptive a cross-sectional survey conducted during the month of April-June 2022. The target population for this study were the students residing in secondary schools children of Shahzadpur upazila in Sirajganj district. A convenience sampling technique was adopted. A total of 325 respondents were included in the study. One semi-structured questionnaire was used as the data collection instrument. Relevant data were collected through face-to-face interviews. Collected data were checked, cleaned and edited to find any inconsistency, entered into the computer and analyzed with Microsoft Excel and Word. Data were presented in tables and graphs in reports. The findings of the study will help in understanding the practices of the school children on personal oral hygiene, knowledge and healthy lifestyle. On the basis of the study findings, necessary intervention(s) may be used to enhance the current status. The survey was conducted by maintaining all possible ethical considerations under Khwaja Yunus Ali Medical College and the School Committee of selected secondary schools in Shahzadpur Upazilla. Informed consent was obtained from all participants prior to the collection of survey data or specimens. Participation was voluntary. Before data collection, informed consent of the study subject was obtained. Detailed study-related information was read out and explained. The information was dealt with the highest confidentiality and was used only for this study. Confidentiality of data was maintained with the highest priority. The privacy of the respondents was maintained during data collection. There was no physical harm or risk on the study population as no hazardous procedure was involved with the study participants. During data collection, the privacy of the participants and confidentiality of data was maintained strictly. The study did not create any injustice to the participants as well as any emotional, financial, social or professional problems to the participants. The participants were offered due respect and they were given full freedom to withdraw their consent of participation at any stage of the study. Data were used only for this study. Data was analyzed and presented anonymously.

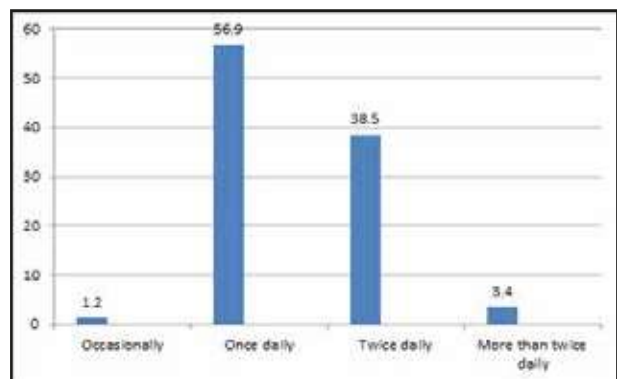
- School aged 11–15 years (Class VI-X) were included in the study.
- Both male and female participant residing in the study areas were included in the study.
- Participants who provided informed consent were included in the study.
- Severely ill students (absent during data collection) who are unable to participate in an interview.

### Results



**Fig-01:** Oral hygiene method used among the study population (n=325).

Fig-1 shows that most of the students (95.1%) used toothbrush & paste.



**Fig-02:** Frequency of tooth brushing among the study population (n=325).

Fig -2 shows that more than half of the students (56.9%) brushed once daily where less than half (38.5%) brushed their teeth twice daily.

**Table-I:** Distribution of the respondents by additional aid used along with toothbrush. (n=325)

Additional aid used along with toothbrush	Frequency	Percent
Mouthwash and tongue clean	34	10.5
Mouthwash	26	8.1
Tongue cleaner	20	6.1
Toothpick	19	5.8
Tongue cleaner and toothpick	16	4.9
Mouthwash, tongue cleaner and toothpick	7	2.1
Dental floss and mouthwash	6	1.8
Mouthwash and toothpick	4	1.2
Dental floss and tongue clean	0	0.0
None	193	59.5

Table - I shows that more than half of respondents (59.5%) do not use additional aid along with toothbrushes.

**Table-II:** Distribution of the respondents by Duration of brushing. (n=325)

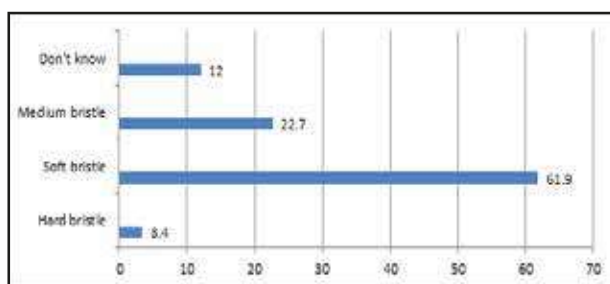
Duration of brushing	Frequency	Percent
Less than 1 min	13	4.0
One min	33	10.1
Two min	87	26.7
More than 2 min	97	29.8
Don't know	95	29.3

Table -II reveals that one-third of the respondents are brushing teeth for two or more than two mins.

**Table-III:** Distribution of the respondents by Toothpaste used. (n=325)

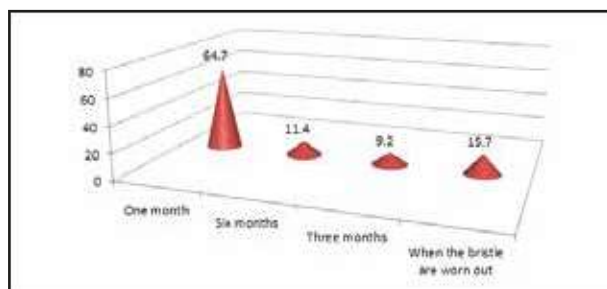
Toothpaste used	Frequency	Percent
Fluoridated	71	21.8
Non fluoridated	3	0.9
Herbal	85	26.2
Don't know	237	51.1

Table - III reveals that more than half of the respondents do not know about what toothpaste they used.



**Fig-03:** Frequency of type tooth brush used among the study population (n=325).

Fig -3 shows that more than half of the students (61.9%) used soft bristle brush.



**Fig-04:** Frequency of toothbrushes replaced among the study population (n=325).

Fig -4 shows that more than half of the students (64.7%) changed toothbrush after one month.

**Table-IV:** Distribution of the respondents by brushing technique used. (n=325)

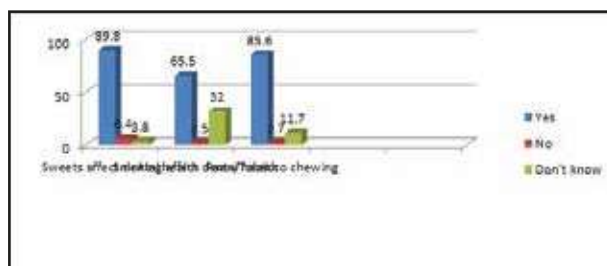
Brushing technique used	Frequency	Percent
As directed by the dentist	37	11.4
Non -directed	288	88.6

Table-04 reveals that most of the respondents (88.6%) are brushing teeth for nondirected way.

**Table-V:** Distribution of the respondents by direction of the brushing stroke. (n=325)

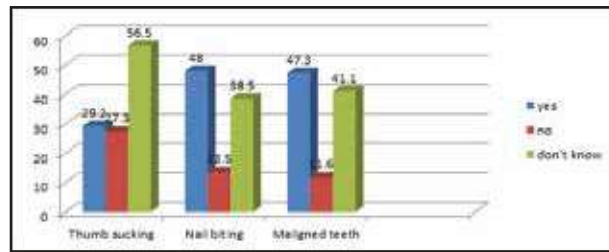
The direction of the brushing stroke	Frequency	Percent
Vertical	24	7.3
Horizontal	21	6.4
Circular	46	14.1
Combination of above	234	72.1

Table - V reveals that most of the respondents (72.1%) are brushing their teeth in combination stroke.



**Fig-05:** Frequency of affecting dental health by sweets, smoking & tobacco chewing (n=325).

Fig -05 shows that most of the respondents think that dental health affect by sweets (89.8%), smoking (65.5%) & paan/tobacco chewing (85.6%).



**Fig-06:** Frequency of affecting oral health by thumb sucking, nail biting & maligned teeth (n=325).

Fig -06 shows that variable portion of the respondents think that oral health affect by thumb sucking (29.2%), nail biting (48%) & maligned teeth (47.3%).

**Table - VI:** Distribution of the respondents perception on care of teeth, important to choose right brush & regular dental check-up necessary. (n=325)

	YES		NO		DON'T KNOW	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Care of teeth necessary	302	92.9	4	1.2	19	5.9
Important to choose right toothbrush	294	90.4	9	2.7	22	6.9
Regular dental check up necessary	237	72.9	24	7.3	64	19.8

Table- VI reveals that most of the respondents perception on care of teeth (92.9%), important to choose right brush (90.4%) & regular dental check-up (72.9%) is necessary.

**Results**

The study population ranged was selected between class VI to X (11-15 years age) among secondary schools at Shahzadpur Upazilla, Sirajganj. Among these classes, 325 respondents (students) were taken under study population during this study period of time. The survey revealed that approximately 56.9% of the population studied, brushed their teeth once daily, while 38.5% of respondents brushed twice a day. About 95.1 % of respondents used a toothbrush with toothpaste. In all 1.8% of study sample reported using floss and 8% used either mouthwash and 6% tongue cleaner as extra aids for oral hygiene. Soft bristle toothbrush was used by 61.9% and 64.7% replaced their brush every month. A total of 51.1% were not aware of the type of dentifrice being used. Among sample subjects 11.4% were brushing according to the dentist-directed brushing method, whereas 88.6% of subjects were using the non-directed brushing method. A combination of brushing strokes was used by 72.1% of subjects during brushing and about 29.8% brushed for more than 2 minutes.

Most of the students (89.8%) believe that sweets can affect oral health. Approximately 65.5% of respondents express that smoking is the leading cause that can harm the oral cavity and create more diseases. 85.6% of the respondents knew about the detrimental effects of paan/ tobacco on oral health. In the case of the etiology of mal-occlusion, students reveals that various oral habits like thumb sucking (29.2%), nail biting (48.0%) & maligned teeth (47.3%) can affect oral health.

**Discussion**

This study is carried out with the aim of oral health knowledge and practice behavior among secondary school children of Shahzadpur Upazilla in Sirajganj district which can help the planning and evaluation of the oral health awareness and improvement in this area. This study reveals that most of the students brushing their teeth at least once daily (56.9%) or twice daily (38.5%). On literature review, its found that conscientious tooth brushing once per day is adequate to maintain oral health and prevent dental caries and periodontal diseases. On other hand tooth brushing twice daily is advocated by most dentists in order to improve plaque control.<sup>14</sup> According to researchers, tooth brushing twice daily appears an effective and proved oral hygiene practice in several countries.<sup>1,15-17</sup> In India Gupta et al., reported (61.9 % ) while Harikiran et al. reported (38.5%) frequency of twice-a-day brushing. This findings are quite similar to this study.<sup>18,19</sup> The additional oral hygiene aids used along with toothbrushes such as dental floss, mouthwashes, tongue cleaners, toothpicks, were found to be rare.

Here in this study, most of the children are brushing their teeth more or less two minutes. About half of the respondents don't aware of toothpaste ingredients. Most of the students are brushing their teeth in a non-directed way. Proper oral health education programs in secondary school level can change the behavior of tooth brushing significantly. Although most oral diseases are preventable, not all in individuals and schoolchildren are not beyond this. Children are most frequently the priority group. Poor oral health have a harmful effect on children's academic activities in school and so on future. From the schools, children can transmit health messages to their parents and the community at large. Early detection of oral diseases can prevent future detrimental effects. If left untreated, the oral disease can be financially overburdening to the parents may lead to more serious general health problems, school absenteeism and poor quality of life.

It is time to take a closer look at all the possible actions and opportunities for providing proper dental care along with effective oral health education. These things can be carried out with proper planning, execution, monitoring and a systemic evaluation through well well-organized school dental health team. For implementing such programs, there may arise some limitations and also reasons for failures unless and until such programs are taken up to on priority basis, keeping in mind financial constraints, lack of manpower and administration problems. One of the first steps, therefore, in organizing a dental health program at the school level is the formation of a school dental health council consisting of professionals, experts, school authorities, voluntary organizations like NGOs, teachers and parents.

Good oral hygiene is an essential component of good oral health. Simple oral hygiene activities on a day-to-day basis can prevent the most common dental diseases without any additional cost. Today, a variety of oral hygiene aids, both mechanical and chemical to maintain oral hygiene. The provision of dental health knowledge, education and information to people in such a way that people adopt and maintain healthy practices and lifestyles and apply them in everyday living.

## Conclusion

This survey was carried out on secondary school children at Shahzadpur Upazilla, Sirajganj. There is a need to increase awareness about tooth brushing twice daily among school-going students. Students should be given proper knowledge about the timing of tooth brushing and the bad effect they will face if they brush for a long time. Students are to be informed about the correct motion of tooth brushing to ensure that the teeth are thoroughly brushed, reducing or eliminating the chance of oral disease.

Parents of the students should be made to understand why taking the children for routine dental check-ups is important. Dental health education should be incorporated into the existing school curriculum. Dental health education programs should be motivating, vibrating, and closely matched to the learning aptitude established for children at each educational level. A community group effort can reinforce interventions to endorse improved oral health. This effort should be synchronized between school personnel, dental health care professionals, as well as parents to make certain long-term remuneration.

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## References

1. Carneiro L, Kabulwa M, Makyao M, Mrosso G, Choum R. Oral health knowledge and practices of secondary school students, tanga, tanzania. *Int J Dent [Internet]* 2011;2011:1–6.
2. Linden GJ, Lyons A, Scannapieco FA. Periodontal systemic associations: review of the evidence. *J Periodontol.* 2013;84(4 Suppl):S8–S19.
3. Schenkein HA, Loos BG. Inflammatory mechanisms linking periodontal diseases to cardiovascular diseases. *J Periodontol.* 2013;84(4 Suppl):S51–S69.
4. Taylor JJ, Preshaw PM, Lalla E. A review of the evidence for pathogenic mechanisms that may link periodontitis and diabetes. *J Periodontol.* 2013;84(4 Suppl):S113–S134.
5. Sheiham A. Dietary effects on dental diseases. *Public Health Nutr.* 2001;4:569–91.
6. Global Oral Health Data Bank, 2004, World Health Organization, Geneva
7. Sharda JA, Shetty S, Ramesh N, Sharda J, Bhat N, Asawa K. Oral Health Awareness and Attitude among 12-13-year-old school children in Udaipur, India. *International Journal of Dental Clinics.* 2011;3(4):16–19.
8. Continuous improvement of oral health in the 21st century – the WHO Global Oral Health Programme approach, *Proceedings of World Oral Health Report.2003*, World Health Organization, Geneva.
9. Oral health promotion: an essential element of a health-promoting school. WHO Information Series on School Health 2003, Document 11. World Health Organization, Geneva.
10. Haque SE, Rahman M, Itsuko K, Mutahara M, Kayako S, Tsutsumi A, et al. Effect of a school-based oral health education in preventing untreated dental caries and increasing knowledge, attitude, and practices among adolescents in Bangladesh. *BMC Oral Health.* 2016;16:44.
11. Newman M. *Carranza's Clinical Periodontology.* 12th Edition. Elsevier Health Sciences; 2015.
12. Sheiham A, Watt R. The common risk factor approach: a rational basis for promoting oral health. *Community Dent Oral Epidemiol.* 2000;28:399–406.
13. Humagain M. Evaluation of knowledge, attitude and practice (KAP) about oral health among secondary level students of rural Nepal - a questionnaire study. *Webmed Central Dentistry.* 2011;2(3):WMC001805.
14. Attin T, Hornecker E. Tooth brushing and oral health: how frequently and when should tooth brushing be performed? *Oral Health Prev Dent.* 2005;3(3):135–140.
15. Bradnock G, White DA, Nuttall NM, Morris AJ, Treasure ET, Pine CM. Dental attitudes and behaviours in 1998 and implications for the future. *Braz Dent J.* 2001;190:228–232.
16. Rimondini L, Zolfanelli B, Bernardi F, Bez C. Self-preventive oral behaviour in an Italian university student population. *J Clin Periodontol.* 2001;28(3):207–211.
17. Astrøm AN, Samdal O. Time trends in oral health behaviours among Norwegian adolescents: 1985-97. *Acta Odontol Scand.* 2001;59(4):193–200.
18. Gupta T, Sequeira P, Acharya S. Oral health knowledge, attitude and practices of a 15-year-old adolescent population in Southern India and their social determinants. *Oral Health Prevent Dent.* 2012;10(4):345–354.
19. Harikiran AG, Pallavi SK, Hariprakash S, Ashutosh, Nagesh KS. Oral health-related KAP among 11- to 12-year-old school children in a government-aided missionary school of Bangalore city. *Indian J Dent Res.* 2008;19(3):236–242.