



# Evaluation of Oral Hygiene Practice, Knowledge and Attitude among (10-15 Yrs) School Children in Dharan, Nepal- A Cross-Sectional Study

Roshana Poudyal<sup>1</sup>, Priyata Agrawal<sup>2</sup>, Ashish Shrestha<sup>3</sup>, Mamta Dali<sup>4\*</sup>, Tarakant Bhagat<sup>5</sup>, Asish Choudhary<sup>6</sup>

<sup>1,2</sup>Dental Surgeon, BPKIHS, CODS, Dharan, Nepal

<sup>3</sup>Additional Professor and Head, Department of Public Health Dentistry, BPKIHS, CODS, Nepal

<sup>4</sup>Department of Pedodontics and Preventive Dentistry, CODS, Dharan, Nepal

<sup>5</sup>Assistant Professor, Department of Public Health Dentistry, BPKIHS, CODS, Nepal.

<sup>6</sup>Assistant Professor, Department of Public Health Dentistry, BPKIHS, CODS, Nepal

## ABSTRACT

**Background:** The study is aimed to evaluate oral hygiene practice, knowledge and attitude among (10-15 yr) school children in Dharan. **Materials and Methods:** This is a cross sectional study which included 200 school students of age group (10-15 years) from five different schools of Dharan. The school and the students were selected by random sampling method. The consent for the participation of school children were obtained from the head of the school verbally. A pre-tested close-ended questionnaire was used for the study which was adopted from different conducted research. The questions were in English language. **Results:** The result of this study show that only 15% of the students knew that gum bleeding means gingivitis. 83% reported that use of fluoride strengthens teeth and 81% knew that healthy teeth is strong and caries free teeth. 64.5% participant reported the reason for dental visit was general dental check up while 36% visited dentist only when dental pain and 76% felt the necessity of regular dental visit. 96% of the respondents used toothbrush and toothpaste as their brushing material and 83% of them brushed twice a day. Among all the students surveyed 80.5% had the habit of rinsing their mouth after eating. Results of this study prove that oral hygiene habits, oral health awareness and knowledge level among school children in Dharan is satisfactory. The participants had conducive oral health behavior, sufficient knowledge, positive attitude and practice regarding oral health.

**Key words:** Attitude, Awareness, Knowledge, Oral hygiene, Practice.

## INTRODUCTION

While the eyes may be the window to the soul, our mouth is a window to our body's health.<sup>1</sup> The state of your oral health can offer lots of clues about your overall health. Oral health may be defined as a standard of health of the oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contributes to general well being.<sup>2</sup> Childhood is the period of greatest change in life. It is widely recognized that good oral health practices are necessary from a young age to ensure posi-

tive long term dental health and hygiene. The oral health of children is important towards their overall well being.<sup>3</sup> Oral hygiene is the practice of keeping the mouth healthy and clean by brushing and flossing to prevent dental decay and gum diseases. With developing country like Nepal, Dental hygiene is poor with inadequate and improper brushing of teeth, no washing of mouth after intake of sweets, wide-spread substance abuse and addiction, hyper-acidity, increased consumption of refined sugar and sweetened foods. Use of toothbrush in underdeveloped areas is grossly limited and Neem twigs are traditionally utilized for dental cleaning. Regular brushing of teeth after principal meals is not practiced universally.<sup>4</sup> The children tend to be more vulnerable to dental diseases due to social, economic and demographic factors like lack of awareness, lack of transportation, limited access to professional dental care, lack of perceived need for dental care.<sup>5</sup>

Little is known about oral health attitudes and behaviors of children from developing countries as comparison with developed countries,<sup>6</sup>

### About Author :

Dr. Mamta Dali  
Assistant professor,  
Department of Pedodontic and Preventive Dentistry,  
BPKIHS, CODS, Dharan, Nepal.  
E-mail: mamtadali@hotmail.com

DOI : 10.5530/PTB.1.1.5

although such knowledge is an indication of the efficacy of applied dental health education programs.

## Aims and Objectives

Evaluate the awareness and knowledge among school children (10-15 yrs) on dental health problems, their oral hygiene practices and pattern of practices.

Determine the methods by which we can improve the awareness about oral hygiene among school children.

Generate awareness about the importance of oral hygiene practice and the necessity of regular dental check up.

## Methodology

The study was a cross-sectional survey which included 200 school students of age group (10-15 years) from five different schools of Dharan. The school and the students were selected by random sampling method. The consent for the participation of school children were obtained from the head of the school verbally.

A pre-tested dental health questionnaire from various researches was adopted in this study and distributed to all subjects. The questionnaires were designed to collect information on knowledge about oral disease and methods of prevention, attitudes towards preventive methods of periodontal disease, dental health behaviour in relation to periodontal disease, and sources of information about dental health.

## Data analysis

The data was analyzed using the SPSS version 10.0 software. The individual scores were summed up to yield a total score and given in subtitles for each questions. Frequency distribution, number and percentage were calculated and was tabulated.

## Results of the Survey

Various questions were asked regarding the knowledge and awareness on oral health, such as meaning of gum bleeding, role of fluoride on teeth, healthy teeth means etc.

Table 1 reported that approximately 85% of the students did not know about bleeding gums or gave wrong answers such as gingival bleeding reflects healthy gingiva or injury to the gums. Only 15% of the study population was aware that gingival bleeding reflects swollen gums (gingivitis).

**Table 1: Knowledge and awareness on Gum bleeding, role of fluoride and healthy teeth**

Gum bleeding means	No. of students	Percentage of students
a. Swollen gums (gingivitis)	30	15%
b. Healthy gums	17	8.5%
c. Injury to gums	138	69%
d. Don't know	15	7.5%
<b>Using fluoride strengthens teeth</b>		
a. Yes	166	83%
b. No	34	17%
<b>Healthy teeth is</b>		
a. White and shiny teeth	32	16%
b. Strong and caries free teeth	162	81%
c. Don't know	6	3%
<b>TOTAL</b>	<b>200</b>	<b>100%</b>

When subjects were asked about the role of fluoride on teeth, 83% of the students were aware that fluoride strengthens the teeth, whereas 17% had no knowledge about the effect of fluoride on teeth. Majority of the students (81%) believed that healthy teeth is strong and caries free teeth, while (16%) said that healthy teeth is white and shiny teeth and (3%) had no awareness about healthy teeth.

Table 2 showed that about 36% of the respondents reported that they would only visit the dentist when they have dental pain and 13% stated that they have never visited a dentist. Of 174 (87%) reported to visit the dental clinic whereby 64.5% were for dental checkup, 28.1% of those were due to tooth decay and only 6% were due to bleeding gums. When questioned on the necessity of regular dental visit, approximately 76% of the students had the positive attitude that regular dental visit is necessary and 16.5% did not feel the necessity of regular dental visit.

Table 3 revealed that all participants brushed their teeth regularly. Most of individuals (83%) brushed twice a day, (12%) brushed only once a day and only (10%) brushed occasionally. A greater percentage of the students (96%) practiced brushing with toothbrush and toothpaste and few used brush & tooth powder (1.5%), finger & tooth powder (1.5%), Dattiwon and others (1%). 80.5% answered that they always rinse their mouth after eating while 14.5% children rinse sometimes and 5% rinse never.

## DISCUSSION

This study presented a comprehensive overview of the oral health behavior, knowledge and attitude among school children of Dharan, Nepal. The present study cannot be exactly compared with the other studies but careful observations can be made with the other studies.

Concerning knowledge, most of subjects did not know the meaning of gingival bleeding and very few reported that gingival bleeding means gingivitis, however, more than two-third of school students were aware that fluoride prevent dental caries and healthy teeth means strong and caries free strengthen teeth. This shows that there is lack of awareness regarding gingival bleeding as an indicator of poor periodontal condition among school children whereas the knowledge of fluoride and healthy teeth is quite adequate, could be through the media like television, radio, newspaper and various advertisements.

In relation to attitude toward professional dental care, majority of the participants were found that they visit dental clinic only when they have dental pain however comparatively a larger no of partici-

**Table 2: Attitude toward professional dental care**

Visit to a dentist	No. of students	Percentage of students
a. Every 6 months	68	34%
b. Every 12months	9	4.5%
c. Occassionally	25	12.5%
d. Only when dental pain	72	36%
e. Never visited	26	13%
<b>Reason for visit</b>		
a. Tooth decay	49	28.1%
b. Bleeding gums	12	6%
c. Dental check up	139	64.5%
<b>Necessity of regular dental visit</b>		
a. Yes	152	76%
b. No	33	16.5%
c. Don't know	15	7.5%
<b>TOTAL</b>	<b>200</b>	<b>100%</b>

**Table 3: knowledge on oral hygiene practices**

Frequency of brushing	No. of students	Percentage of students
a. No brushing	0	0%
b. Occassionally	10	5%
c. Once a day	24	12%
d. Twice a day	166	83%
<b>Brushing materials</b>		
a. Brush+ tooth powder	3	1.5%
b.Brush + tooth paste	192	96%
c. Finger + tooth powder	3	1.5%
d. Dattiwon(Neem stick) and others	2	1%
e. Not any	0	0%
<b>Mouth rinsing after eating</b>		
a. Never	10	5%
b. Sometimes	29	14.5%
c. Always	161	80.5%
<b>TOTAL</b>	<b>200</b>	<b>100%</b>

pants (34%) has reported that dental check up should be in every six months interval and 76% of the students had the positive attitude that regular dental visit is necessary whereas 16.5% did not feel the necessity of regular dental visit. Pain was the main reason for visiting the dentist and agrees with other study.<sup>7</sup> proved in their study that pain is the main driving factor for children to visit the dentist. Reasons for this drastic behaviour might be lack of oral health education programme and indicates the necessity of awareness among parents of school children for regular dental visit to prevent future dental diseases.

It is very encouraging and satisfactory to know that majority of the students reported to brush their teeth twice a day (83%) and not a single student reported who did not brush his\her teeth. This can be because the children of this present study come from a very medium or high socioeconomic background and affordability plays an important role. This result can be compared.<sup>8</sup> it was 44.4 percent and with another study of Chinese school children where only 22% of the 12 year old group brushed at twice a day, 62% brushed once a day and 16% never brushed or brushed less frequently.<sup>9</sup>

## REFERENCES

1. <http://www.wm.edu/offices/hr/benefits/commonhealth/oralhealth/index.php>. Accessed on 09.01.2010
2. Department of health. An oral health strategy for England, London: dept. of health; 1994.
3. Mathur A, Gupta T. oral health attitude knowledge behavior and consent towards dental treatment among school children. Journal of orofacial research 2011; 1(1): 6-10.
4. Mistry KM. Factors related to the promotion of oral health in developing countries. J Indian Dent Assoc. 1992; 63(1): 59-63.
5. Oral Health Status in rural child population: Promotional & Interventional Strategies. A GOI-WHO Collaborative Programme 2006-07. [www.whoindia.org/en/Section\\_30\\_1453.htm](http://www.whoindia.org/en/Section_30_1453.htm).
6. Al- Omiri MK, Board J, Al-Wahadni AM, Saeed KN. Oral health attitudes, knowledge and behavior among school children in North Jordan. Journal of Dental Education 2005; 70 (2): 179- 87.
7. Rajab LD, Petersen PE, Bakeen G, et al. Oral health behaviour of school children and parents in Jordan. Int J Pediatr Dent. 2002; 12(3): 168-76.
8. Zhu L, Petersen PE, Wang HY, Bian JY, Zhang BX. Oral health knowledge, attitudes and behaviour of adults in China. Int Dent J. 2005; 55(4): 231-41.
9. Peterson PE, Esheng Z. Dental caries and oral health behavior situation in children and school children in Wuham, People Republic of China. Int Dent J. 1998; 48(1): 210-6.
10. Punitha et al. oral hygiene status, knowledge, attitude and practices of oral health among rural children of kanchipuram district. Indian Journal of Multidisciplinary Dentistry 2011; 1(2): 115-8.
11. Smyth E, Caamano F, Fernandez-Riveiro P. Oralhealth knowledge, attitudes and practice in 12-year-old schoolchildren. Med Oral Patol Oral Cir Bucal. 2007; 12(8): 614-20.

The result of the practice questionnaire showed that major group (96%) of children used toothpaste and toothbrush to clean their teeth and had habit of rinsing mouth after eating. This accounts for the awareness the participants have regarding the efficacy of tooth brush and toothpaste over toothpowder, finger, dattiwon (Neem sticks) and others. Though, a small percentage of children did indicate the use of both Toothpaste and Toothpowder. This could be due to low socio-economic factor or lack of proper knowledge on brushing aids.<sup>10</sup>

Since the study was conducted on children of considerably prudent age group who are inclined to make a positive impression about them, hence the results of the oral health practices could be biased especially the response to the frequency of brushing and mouth rinsing.

The change to healthy attitude and practice can be occurred by giving adequate information, motivation and practice of the measures to the subjects.<sup>11</sup> Results of this study prove that oral hygiene habits, oral health awareness and knowledge level among rural schoolchildren is poor and needs to be improved. Parents and teachers need to be informed, motivated about dental care so that their attitudes change. Based upon these findings, the establishment of a school-based oral health education program in school children, including parents and teachers is recommended.

## CONCLUSION

Results of this study prove that oral hygiene habits, oral health awareness and knowledge level among school children in Dharan is satisfactory. The participants had conducive oral health behavior, sufficient knowledge, positive attitude and practice regarding oral health. The information given to the parents and teachers, the role the media played in raising awareness helped the children to change their attitude and practice. The findings of this study suggested that the 10-15 years age group students would be the appropriate target group to receive the first organized intervention leading towards improving their oral health and reducing prevalence of dental disease.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## ACKNOWLEDGEMENT

The authors wish to thank Department of Public Health Dentistry for their help in conducting this survey.