

## Knowledge and Practice on Oral Hygiene among Secondary Level Students in Khumjung Rural Municipality, Solukhumbu

Lakpa Kanchi Sherpa,<sup>1\*</sup> Prajita Mali,<sup>1</sup> Bismita Ojha,<sup>1</sup> Surakshya Guragain,<sup>1</sup> Tasi Lama,<sup>1</sup> Anima Bhandari,<sup>2</sup> Aarati Dhakal<sup>1</sup>

<sup>1</sup>Department of Public Health, Om Health Campus, <sup>2</sup>Kathmandu University School of Medical Sciences, Dhulikhel, Nepal.

### ABSTRACT

**Introduction:** Oral hygiene is the practice of keeping the mouth and teeth clean to prevent dental problems, most commonly, dental cavities, gingivitis, periodontal (gum) diseases and bad breath. Knowledge and practice on oral hygiene are important components of overall human health, and assessing them can help identify risk factors and develop effective behavior change techniques. The main objective of the study was to assess the knowledge and practice regarding oral hygiene among students.

**Methods:** Descriptive cross-sectional study was conducted among 115 students of Khumjung secondary high school, Solukhumbu. Self-administration of semi-structured questionnaire was done for data collection. Data was entered and analyzed in SPSS version 20 by using simple statistical methods. Results were presented through frequency and percentage.

**Results:** The result showed that 50.4 % of the students had adequate knowledge on oral hygiene and 73% had a good oral hygiene practice. Majority of the respondents brushed twice a day (73%) and 40.9% of the respondents changed their brush in every 3 month.

**Conclusions:** Based on the study findings, the respondent had less knowledge on oral hygiene but had good practice due to provision of free dental camps and distribution of oral hygiene kits to the students from various foreign aids.

**Keywords:** *Knowledge; Oral hygiene; Practice; Rural.*

\*Correspondence: [lakpakanchi@gmail.com](mailto:lakpakanchi@gmail.com)

Department of Public Health, Om Health Campus,  
Kathmandu, Nepal

## INTRODUCTION

Oral hygiene is the act of keeping one's mouth, teeth, and gums clean and healthy in order to avoid disease. Oral hygiene and oral health are often overlooked, although they are important aspects of our daily life.<sup>1</sup> The sole purpose of maintenance of oral health is to limit the build-up of bacteria and food residue in the teeth, which prevents the generation of acids that and cause cavities.<sup>2</sup>

The 2004 National Pathfinder Survey shows that 58% of 5–6 –year- old school children suffer from dental caries which caries prevalence of 58%, dental caries is more prevalent than malnutrition that affects 49% of child population.<sup>3</sup>

The main objective of this study was to assess knowledge and practice on oral hygiene among secondary students studying in a municipality of rural Nepal, Solukhumbu.

## METHODS

A cross-sectional descriptive study was conducted among students of grade 5-9 of Khumjung Secondary High School. Total 115 students were interviewed for the data collection after obtaining approval for data collection from Khumjung Secondary School. The data collection period was one month from June to July of 2019. Written consent was taken from the parents and students as well. Ethical approval was taken from Nepal Health Research Council (Ref. No. 389/1019).

As there is only one school in Khumjung rural municipality, we recruited all the students of grade 5-9. Inclusion criteria included students who were enrolled in grades 5-9 willing to participate in the study, and whose parents willingly gave consent. Exclusion criteria included students who were not willing to participate, whose parents did not give consent to be involved in the study and those who did not complete the questionnaire.

The teachers were initially contacted, and they were given an orientation on the questionnaire, the study's goal, the importance of privacy, and maintaining the respondents' confidentiality. Second, the students' parents were notified and invited to participate in an orientation program. The parents were then informed about the research and given their approval for their children to participate in the study.

The tool used for data collection in the study was self-

administration questionnaire. Self-administration questionnaire consisted of socio-demographic characteristics, knowledge and practice of oral hygiene. Knowledge and practice were assessed through the correct answers given by the respondents.

After data collection, all the data were entered and analyzed using SPSS version 20. Frequency and percentage were presented through tabulation.

## RESULTS

50.4% of the students had adequate knowledge and similarly, 73% of the students did good practice of oral hygiene.

**Table 1. Respondent's knowledge and practice regarding oral hygiene (n=115)**

Characteristics	n (%)
<b>Knowledge</b>	
Adequate	58(50.4)
Inadequate	57(49.6)
<b>Practice</b>	
Good	84 (73.0)
Practice	31 (27.0)

Majority of respondent were of age group 13-14 (42.6%). Similarly, female respondent (52.2%) were more compared to male respondent (47.8%). In case of religion most of the respondent were Buddhist (53%). Almost 90% of the respondent were Janajati.

**Table 2. Socio-demographic information of respondents (n=115)**

Characteristics	n (%)
<b>Age</b>	
10-12	33(28.7)
13-14	49(42.6)
15-16	33(28.7)
<b>Gender</b>	
Male	55(47.8)
Female	60(52.2)
<b>Religion</b>	
Hindu	48(41.7)
Buddhist	61(53.0)

Others	6(5.2)
<b>Ethnicity</b>	
Brahmin	5(4.3)
Janajati	103(89.6)
Others	7(6.0)

Almost ninety percent of the respondents understood oral hygiene as the practice of keeping the mouth and teeth clean. Most of them had heard about oral hygiene from their school (75.7%). About 67.8% of respondents think that regular oral check-ups are not necessary to maintain oral hygiene. Majority of the respondent said that one should brush teeth twice a day (79.1%). About 43.5% of the respondents told that one must visit dentist only when there is pain in mouth.

**Table 3. Respondent knowledge regarding oral hygiene (n=115)**

Characteristic	n (%)
<b>Define oral hygiene</b>	
Practice of keeping the mouth and teeth clean.	102(88.7)
Practice of keeping the face clean	8(7.0)
Cleaning of teeth only	1(0.9)
Don't know	4(3.5)
<b>Source of information regarding oral hygiene</b>	
School	87(75.7)
Friends/family	12(10.4)
Communication medium	10(8.7)
Self	6(5.2)
<b>Necessary of oral checkups</b>	
Yes	37(32.2)
No	78(67.8)
<b>Frequency of Brushing</b>	
Once a day	18(15.7)
Twice a day	91(79.1)
Once a week	5(4.3)
Don't know	1(0.9)
<b>Visit to dentist</b>	
Every 3 month	37(32.2)
Every 6 month	219(18.3)
Once a year	7(6.1)
Only when pain in mouth	50(43.5)

About 73% of the respondents did practice good oral hygiene. About 51.3% of the respondent said that they used soft bristle tooth brush and almost 5% of the respondents were unknown about their brush type. Majority of the respondents brushed twice a day (73%). Where as 40.9% of the respondents changed their brush in every 3 month. Most of the respondents brushed their teeth in a circular way (45.2%) and about 36.5% of them brushed horizontally and 18.3% brushed vertically.

**Table 4. Respondent oral hygiene practice (n=115)**

Characteristic	n (%)
<b>Types of brush</b>	
Soft bristle	59(51.3)
Medium bristle	51(44.3)
Don't know	5(4.3)
<b>Brushing frequency in a day</b>	
Once a day	25(21.7)
Twice a day	84(73.0)
<b>Frequency of changing brush</b>	
Once a week	6(5.2)
Once a month	43(37.4)
3 month	47(40.9)
When bristle is worn out	25(21.7)
<b>Way of brushing teeth</b>	
Vertical way	21(18.3)
Horizontal way	42(36.5)
Circular way	52(45.2)

## DISCUSSION

In this study, 50.4% of students had adequate knowledge on oral hygiene which was more than half compared to the study conducted in Ajman which found, all students were aware about the importance of brushing, it was due to effective implementation and evaluation of school based oral health promotion and preventive programs to increase the dental awareness and oral hygiene practices.<sup>4</sup> Similarly, study done by Humagain found poor oral hygiene knowledge (35.1%) as compared to our study (50.4%) it might be due to inclusion of oral health hygiene in school health curriculum and free dental checkups for the students.<sup>5</sup>

In the study conducted by Ajman, more than 79% of the participants reported correct practice of brushing which was similar to the findings of our study (73%). Among all students 82.7% used the correct type of brush for maintaining the oral hygiene compared to this study the majority of using the correct type of brush was (51.3%).<sup>4</sup> In a study done by Okemwa .K.A on oral health knowledge and oral hygiene practices among school children in Uasni-Gichu district reported that about 92% claimed to brush their teeth whereas in our study 100% of the students brushed their teeth. In our study most of the participants (73%) brushed at least twice daily, while the study conducted in Uasni-Gichu reported that only about 48% brushed at least twice daily.<sup>6</sup> This might be due to free distribution of the tooth brush and paste in school and due to free oral health checkups in Solukhumbu district. A study done by Prof. Kaimenyi et al on oral hygiene practices and dental health awareness of Kenyan school children revealed that 93% of the children used a tooth brush with a tooth paste which was more (96.5%) in this study, this may be due to more provision of oral hygiene kits to the students from various foreign Aids.<sup>7</sup>

Another study conducted in Chepang school of Nepal had reported that 45% of children suffered from tooth ache. In our study majority of students suffering from tooth ache was 69.6%. In the study conducted among Chepang community reported that 93% of children had never visited a dentist where as in the our study the majority of the students' visiting dentist was 92.2%. Low dental visit and 100% untreated caries was due to lack of access to affordable health care services which was Similar to my finding.<sup>8</sup>

## CONCLUSIONS

The knowledge and practice on oral hygiene among school students were assessed in rural part of Nepal. The knowledge on oral hygiene was found to be low as compared to the practice on oral hygiene. The study revealed that majority of students had heard about oral hygiene. Information regarding oral hygiene should be included in the school curriculum in an attempt to prevent and control dental diseases. Comprehensive oral hygiene education programs for both children and parents are necessary.

## ACKNOWLEDGEMENT

Not Applicable

## CONFLICT OF INTEREST

None

## FUNDING

This study was funded with the authors' own contributions.

## REFERENCES

- Center for Disease Control and Prevention. Body, Facial and Dental Hygiene. 2016 Jul 16. Available at: <https://www.cdc.gov/healthywater/hygiene/dental/index.html>
- Kumar PG. SVIM. Dental caries status in 6–14-yearold schoolchildren of rural Channagiri, Davangere.: 2015. Dent Res J. 2016;13(4):342-53.
- Yee R, Mishra P. Nepal oral National Pathfinder Survey 2004. Int Dent J. 2006, 56: 196-02.
- Dakhili S, Alsuwaidi NO, Saeed S, Murad SB, Mohammad D, Muttappallymyalil J, Prasad P, Gopakumar A, Khan FA. Oral hygiene: association between knowledge and practice among school going children in Ajman, United Arab Emirates. American Journal of Research Communication. 2014;2(10):39-48.
- Humagain M. Evaluation of Knowledge, Attitude and Practice (KAP) About Oral Health Among Secondary Level Students of Rural Nepal. 2011.
- Okemwa KA, Gatongi PM, Rotich JK. The oral health knowledge and oral hygiene practices among primary school children age 5-17 years in a rural area of Uasin Gishu district, Kenya. East Afr J Public Health. 2010 Jun;7(2):187-90.
- Kaimenyi JT, Ndungu FL, Maina SW, Chindia M. Oral hygiene habits and dental health awareness of Kenyan children aged 9-15 years in a peri-urban and urban school. East Afr Med J. 1993 Feb;70(2):67-70.
- Prasai Dixit L, Shakya A, Shrestha M, Shrestha A. Dental caries prevalence, oral health knowledge and practice among indigenous Chepang school children of Nepal. BMC Oral Health. 2013 May 14;13:20.