

## Assessment of oral health status amongst the Sevayats of Shree Jagannath Temple, Puri, Odisha: A cross sectional study

### ABSTRACT

**Aim:** To assess the oral health status amongst the Sevayats of Shree Jagannath temple, Puri, Odisha.

**Methodology:** A cross-sectional study was conducted to evaluate the oral health status among 488 Sevayats of Shree Jagannath Temple, Puri, using a simple random sampling technique. Data were obtained by utilizing the WHO oral health assessment form for adults-2013. The documented data were assembled, entered into an MS Excel spreadsheet, and analyzed using SPSS version 26. The statistical tests applied for the analysis were one-way analysis of variance and the Chi-square test. The *P* value of < 0.05 was considered statistically significant.

**Results:** The majority of the participants, around 30.3%, had an educational qualification of higher secondary, followed by high school, 26.2%. A total of 84.4% of participants cleaned their teeth with a toothbrush. Around 48.0% of participants were consuming paan and 11.7% were gutkha. The majority, 77.8% of the participants had periodontal pockets, and 79.09% of them had 4-5 mm of periodontal loss of attachment. The mean DMFT of all the participants was  $5.23 \pm 4.71$ . In the 25-44 and 45-60 years of age groups, 34.2% and 31.4% of the participants had tobacco pouch keratosis. About 72% of the subjects had bleeding gums.

**Conclusion:** There was a higher prevalence of dental caries and periodontal disease among the subjects. The majority of the servitors who had a history of consuming paan were diagnosed with oral mucosal lesions.

**Keywords:** Dental caries, oral health, periodontal diseases, periodontal pocket, tobacco

### INTRODUCTION

Shree Jagannath Temple is an auspicious temple dedicated to Lord Jagannath, situated on India's east coast, in the state of Odisha, in Puri.<sup>[1]</sup> The divinities of Lord Jagannath, Lord Balabhadra, and Lord Subhadra are all revered at the temple. The deities are carved from the trunks of the neem (*Azadirachta indica*) tree known as daru and are seated on the ratnabedi inside the temple premises. The rituals and other specific functions related to Lord Jagannath and other deities are performed by a particular group of assigned people who are termed Sevayats.<sup>[2]</sup>

Sevayats (servitors) are referred to as those people who are entrusted to serve the highest gods and goddesses. According to Madala Panji, during the 7<sup>th</sup> or 8<sup>th</sup> century, the ceremonial functionaries known as Sevayats (servitors or Sevaks) first

appeared in the history of the temple.<sup>[3]</sup> The temple of Lord Jagannath in Puri has 119 kinds of temple servitors who carry out various religious and ceremonial responsibilities.<sup>[4]</sup>

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The obligations and advantages enjoyed by the servitors are described in detail in the Record of Rights established under the Sri Jagannath Temple Act of 1952. Sevayat's privileges are mostly passed down through families. They belong to different castes and yet hold significant status in the eyes of Lord Jagannath.<sup>[5]</sup> They have specific diet habits and strongly follow cultural values. The majority of the sevayat's use a smokeless form of tobacco, primarily paan (*Piper betele*), and have a high sugar intake, both of which have a direct impact on their oral health.<sup>[6]</sup> As we know, oral health is the mirror of general health. It may be described as a quality of health of the oral and associated tissues that allows an individual to eat, speak, and socialize without active disease or discomfort and that contributes to general well-being.<sup>[7]</sup> Proper oral hygiene practices and maintenance help to maintain good oral health. Because poor oral health affects an individual's overall health, it is necessary to assess the oral health of the servitors who serve the deities indefinitely. Hence, the aim of the study is to assess the oral health status amongst the Sevayats of Shree Jagannath Temple, Puri, Odisha, and the objective is to collect baseline data regarding the oral health status of the study participants.

## METHODOLOGY

### Study population and design

A cross-sectional study was administered to evaluate the oral health status among the Sevayats of Shree Jagannath Temple, Puri, Odisha, from September 2022 to January 2023.

### Sampling design

A simple random sampling procedure was used for the sample selection. According to the data, around 9630 sevayats serve the deities of the temple, out of which a total of 488 of them participated in the study. The sample size was derived from the empirical data obtained from relevant studies, where the prevalence was 57.01% and the precision was considered to be as 4.5%.<sup>[8]</sup> It was derived by using the formula  $n = \frac{DEFF * N * p}{(d^2 - Z^2_{1-\alpha/2} * (N-1) + p * (1-p))}$ , where DEFF is the design effect,  $n$  = sample size,  $N$  = population size,  $p$  = prevalence of the disease,  $d$  = absolute precision and  $z$  = point on the normal deviation.<sup>[9]</sup> Upon calculation, the  $n$  needed was determined to be 444, and considering the non-response rate to be 10%, a total of 488 sample size was included in this survey.

The population list of the Sevayats of Shree Jagannath Temple, Puri, Odisha, after the necessary permission was obtained from the administrative office of Shree Jagannath Temple, Puri, Odisha.

### Inclusion and exclusion criteria

Participants who were available during the examination and those who granted informed consent were involved in the

survey. Subjects who were unwilling to undergo the clinical examination during the study, were under the age of 18, or refused to give consent were excluded from the survey.

### Ethical permission

Ethical Clearance was obtained from KIMS Institutional Ethical Committee with Ref no KIIT/KIMS/IEC/1092/2022 dated 01.12.2022.

### Informed consent

Informed consent was obtained before the start of the study, and written consent was acquired from all the participants who were ready to take part in the survey.

### Survey performa

The WHO oral health assessment form for Adults -2013 was used to assess the oral health status of the study participants. Personal habits such as smoking, smokeless tobacco, and paan were included. Sugar intake and oral hygiene practices such as types and methods of cleaning, materials used, and frequency of brushing, along with the clinical data, were also integrated into the survey.

### Data collection

Data were obtained using the WHO oral health assessment form for Adults -2013, by a single trained examiner under a light source utilizing standard explorers, plain mouth mirrors, and CPI periodontal probes. A Type III clinical examination was carried out as per ADA specifications.

### Training and calibration

All the examinations were carried out by a single examiner, assisted by a trained recording dentist. The calibration of the examiner and recording dentist was carried out in the Department of Public Health Dentistry, Kalinga Institute of Dental Sciences, Bhubaneswar, to prevent any diagnostic variability among the study participants. The investigator himself conducted all the clinical examinations with the help of recording assistants. The Kappa value was 0.85, which was considered to be an outstanding agreement between the measurements of the same examiner.

### Statistical analysis

The documented data were assembled and entered into an MS Excel spreadsheet (Microsoft Excel 2010) and evaluated using the Statistical Package for the Social Sciences version 26 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics consists of the computation of percentages, means, and standard deviation. A normality test was performed. The statistical tests applied for the analysis were one-way analysis of variance between three or more groups of data to gain information about the relationship between the dependent

and independent variables, and the Chi-Square test was used for categorical values. For all the statistical tests, the confidence level and the level of significance were set at 95% and 5%, respectively.

## RESULTS

The socio-demographic details of 488 sevayats are given in Table 1. The study participants belonged to the age group of 18-90 years, and the majority of them were males 435 (89.1%). Most of the participants had educational

**Table 1: Characteristics of the study group (n=488)**

Variables	Mean 43.87	Standard Deviation 13.24
	Frequency (n)	Percentage (%)
Age (in years)		
18-24	39	8.0
25-44	202	41.4
45-60	194	39.8
61-74	48	9.8
75-90	5	1.0
Gender		
Male	435	89.1
Female	53	10.9
Education		
Less than middle school	71	14.5
Middle school certificate	53	10.9
High school	128	26.2
Higher secondary	148	30.3
Graduate	85	17.4
Post graduate/professional	3	0.6
Experience		
<5 years	56	11.5
5-15 years	166	34.0
> 15 years	266	54.5
Working Hours		
< 10 hrs	69	14.1
> 10 hrs	419	85.9
Type		
Twig	65	13.4
Toothbrush	412	84.4
Finger	11	2.3
Method		
Horizontal	259	53.1
Vertical	192	39.3
Circular	37	7.6
Brushing		
Once	456	93.4
Twice	32	6.6
Personal Habits		
No Habit	196	40.2
Paan	234	48.0
Gutkha	57	11.7
Smoking	1	0.2
Total	488	100

qualifications of higher secondary (30.3%), followed by high school (26.2%). Most of the participants in the study were serving the deities as sevayats for more than 15 years (54.5%), followed by 5–15 years (34.0%), and the least for less than 5 years (11.5%). The majority of the servitors worked for more than 10 hours (84.9%). A total of 412 (84.4%) participants cleaned their teeth with a toothbrush and non-fluoridated toothpaste, and 65 (13.4%) of them used twigs. Few of the participants (2.3%) used their fingers to clean their teeth with gudakhu. Smokeless tobacco consumption in the form of paan was seen among 234 (48.0%) participants and gutkha was found among 57 (11.7%). [Table 1]

About 97 (42.5%) and 41 (27%) of the participants who did not have any history of consumption of any form of tobacco had 4-5 mm and 6 or more mm of pocket respectively. Among those consuming paan, 105 (44.9%) of them had 4-5 mm of the periodontal pocket, and 97 (41.5%) participants had 6 or more mm of the periodontal pocket. Among the subjects having gutkha, 25 (43.9%) of them had 4-5 mm of the periodontal pocket, and 14 (24.6%) participants had 6 or more mm of the periodontal pocket. Statistical significant differences were found among all the habits when compared with the periodontal pocket [Table 2].

Among the participants, 85 (39.2%), 24 (30%), 16 (29.6%), and 9 (25.7%) participants who did not have any history of personal habit had 4-5 mm, 6-8 mm, 9-11 mm, 12 mm periodontal loss of attachment respectively. Those consuming paan, predominantly 97 (41.5%) of them had 4-5 mm of periodontal loss of attachment, and 23 (9.8%) participants had 12 mm of periodontal loss of attachment, which was the least among the study subjects. For those consuming gutkha majority of the participants, 34 (59.6%) had 4-5 mm of periodontal loss of attachment and 5 (8.8%) had 6-8 mm of periodontal loss of attachment [Table 3].

The mean DMFT of all the participants was  $5.23 \pm 4.71$ . It was highest in the age group of 45-60 years and at  $6.62 \pm 5.41$ . Statistics showed that these outcomes were significant ( $p = 0.001$ ) [Table 4].

When the participants were evaluated for DMFT index with their diet pattern, a greater mean score ( $4.85 \pm 4.639$ ) of DMFT index was found among the participants consuming a sugary diet within meals. Statistically insignificant ( $p = 0.180$ ) was found when the DMFT index was compared with sugary intake [Table 5].

In the 61-74 years of age group, only 1 (2.1%) participant was diagnosed with leukoplakia. In the 25-44 years of age group

**Table 2: Distribution of consumption of tobacco among the study participants according to the highest score of periodontal pocket**

Pocket	No Tobacco consumption n (%)	Paan n (%)	Gutkha n (%)	Smoking n (%)	Total n (%)	Chi-square	P
Absent	58 (53.7)	32 (29.6)	18 (16.7)	0 (0)	108 (100)	31.879	0.0001**
4-5	97 (42.5)	105 (46.1)	25 (11)	1 (0.4)	228 (100)		
6 or more	41 (27)	97 (63.8)	14 (9.2)	0 (0)	152 (100)		

\*\*Highly significant

**Table 3: Distribution of consumption of tobacco among the study participants according to the highest score of periodontal loss of attachment**

Loss of attachment	No Tobacco consumption n (%)	Paan n (%)	Gutkha n (%)	Smoking n (%)	Total n (%)	Chi-square	P
Normal	62 (60.8)	29 (28.4)	11 (10.8)	0 (0)	102 (100)	41.236	0.0001**
4-5 mm	85 (39.2)	97 (44.7)	34 (15.7)	1 (0.5)	217 (100)		
6-8 mm	24 (30)	51 (63.7)	5 (6.3)	0 (0)	80 (100)		
9-11 mm	16 (29.6)	34 (63)	4 (7.4)	0 (0)	54 (100)		
12 mm	9 (25.7)	23 (65.7)	3 (8.6)	0 (0)	35 (100)		
Total	196 (40.2)	234 (48)	57 (11.7)	1 (0.2)	488 (100)		

\*\*Highly significant

**Table 4: Decayed, missing, filled teeth Index scores in study group according to the age**

AGE (in years)	DT Mean±S.D	MT Mean±S.D	FT Mean±S.D	MTC Mean±S.D	DMFT Mean±S.D
18-24	2.26±2.94	0.46±1.97	0.00±0.00	0.03±0.16	2.72±3.43
25-44	3.43±3.64	0.93±1.63	0.02±0.15	0.14±0.56	4.38±3.81
45-60	5.20±5.03	1.42±1.97	0.01±0.07	0.34±0.81	6.62±5.41
61-74	3.13±3.74	2.23±3.57	0.04±0.28	1.21±2.69	5.40±4.28
75-90	0.80±1.09	2.80±6.26	0.00±0.00	6.40±7.36	3.60±5.89
Total	3.98±4.32	1.23±2.17	0.02±0.14	0.38±1.42	5.23±4.71
F	7.764	5.991	1.001	37.151	9.441
P	0.0001**	0.0001**	0.407	0.0001**	0.0001**

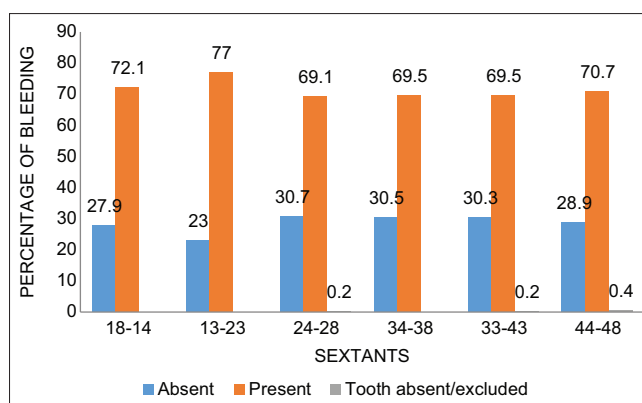
\*\*Highly significant, DT-Decayed teeth, MT- Missing teeth, FT-Filled teeth, MTC-Missing due to caries, DMFT- Decayed, Missing, Filled teeth, SD-Standard Deviation

greater prevalence of oral submucous fibrosis was established and in the 25-44 and 45-60 years of age group 69 (34.2%) and 61 (31.4%) of the participants had tobacco pouch keratosis respectively [Table 6].

Figure 1 shows the distribution of bleeding gums of the subjects, with the highest score in the sextant. Bleeding was present the highest in 13-23 sextants (77%) followed by 18-14 sextants (72.1%).

### DISCUSSION

This study was conducted on 488 Sevayats of Shree Jagannath Temple, Puri, Odisha. with a mean age of  $43.87 \pm 13.24$ . The results were not in conformity with the result of the study conducted by Jain M.<sup>[7]</sup> The majority 84.4% of the servitors who participated in the study brushed their teeth with their toothbrush and non-fluoridated toothpaste, this showed contrasting results in the survey conducted by Kumar G et al.<sup>[10]</sup> In the study conducted by Singh M et al.<sup>[11]</sup> found the majority of the participants used toothbrushes 53.6% and



**Figure 1: Frequency distribution of gingival bleeding sextant wise in the study population**

followed by fingers 46.4% which was not in accordance with the current study.

Personal habits in relation to the consumption of paan 48.0% were most evident in the study group, followed by the consumption of gutkha 11.7%. A study conducted by Sharma A et al.<sup>[12]</sup> showed similar results where 22.22% of the

**Table 5: Decayed, missing, filled teeth Index scores in study group according to the Sugar Content**

	Sugar content	n	Mean	Std. Deviation	Std. Error Mean	F	P
DT	In between meals	312	3.83	4.388	0.248	0.118	0.731
	With meals	176	4.15	4.261	0.321		
MT	In between meals	312	1.01	1.777	0.101	13.825	0.0001**
	With meals	176	1.56	2.717	0.205		
FT	In between meals	312	0.01	0.126	0.007	7.763	0.006*
	With meals	176	0.03	0.167	0.013		
DMFT	In between meals	312	4.85	4.639	0.263	1.799	0.180
	With meals	176	5.74	4.891	0.369		

\*Significant, \*\*highly significant, DT-Decayed teeth, MT- Missing teeth, FT-Filled teeth, MTC-Missing due to caries, DMFT- Decayed, Missing, Filled teeth

**Table 6: Age wise distribution of oral lesions**

AGE (in years)	Leukoplakia			Chi-square	df	P
	Absent n (%)	Present n (%)	Total n (%)			
18-24	39 (100)	0 (0)	39 (100)	9.185	4	0.057
25-44	202 (100)	0 (0)	202 (100)			
45-60	194 (100)	0 (0)	194 (100)			
61-74	47 (97.9)	1 (2.1)	48 (100)			
75-90	5 (100)	0 (0)	5 (100)			
Total	487 (99.8)	1 (0.2)	488 (100)			
<b>Oral submucous Fibrosis</b>						
18-24	39 (100)	0 (0)	39 (100)	2.847	4	0.584
25-44	194 (96)	8 (4)	202 (100)			
45-60	190 (97.9)	4 (2.1)	194 (100)			
61-74	47 (97.9)	1 (2.1)	48 (100)			
75-90	5 (100)	0 (0)	5 (100)			
Total	475 (97.3)	13 (2.7)	488 (100)			
<b>Tobacco Pouch Keratosis</b>						
18-24	37 (94.9)	2 (5.1)	39 (100)	20.633	4	0.0001**
25-44	133 (65.8)	69 (34.2)	202 (100)			
45-60	133 (68.6)	61 (31.4)	194 (100)			
61-74	25 (52.1)	23 (47.9)	48 (100)			
75-90	2 (40)	3 (60)	5 (100)			
Total	330 (67.6)	158 (32.4)	488 (100)			

\*\*Highly significant

subjects consumed a smokeless forms of tobacco. Baishya B *et al.*<sup>[13]</sup> in her study found the considerable prevalence of usage of smokeless tobacco such as paan and gutkha among the study participants which shows similar results to the present study. Kumar G *et al.*<sup>[14]</sup> their survey found 23.8% of the study participants were paan chewers, these results were not in accordance with the current study where the majority of the participants 48.0% had a habit of paan chewing.

In the present survey, the majority of the subjects consuming paan and gutkha had poor periodontal health. Among the participants consuming paan, 105 (44.9%) of them had 4-5 mm of the periodontal pocket, and 97 (41.5%) participants had 6 or more mm of the periodontal pocket. This result was in conformity with another study conducted by Yaragani A *et al.*<sup>[15]</sup> In the survey conducted by Muthukrishnan A *et al.*<sup>[16]</sup> 65.7% of the subjects showed periodontal loss of attachment

which showed similar results to our study. The finding of the current investigation was comparable to those of the survey carried out by Kumar G *et al.*<sup>[10]</sup> Niaz K *et al.*<sup>[17]</sup>

The mean DMFT of all the participants was  $5.23 \pm 4.71$ . It was highest in the age group of 45-60 years and at  $6.62 \pm 5.41$ . In a study conducted by Kumar RM *et al.*<sup>[18]</sup> the mean DMFT in the age group 45- 60 years of age was found to be  $3.85 \pm 2.65$  which is lower than the findings of our study. Previous studies on Buddhist monks and nuns revealed the greater prevalence of dental caries with mean DMFT  $1.62 \pm 2.19$ , which was mostly due to higher consumption of sugary food among the participants.<sup>[19]</sup> The results of the current study were comparable to those of Jain M. *et al.*'s study but the mean DMFT among study participants was higher among those who consumed sugar during meals.<sup>[7]</sup>

In the 25-44 and 45-60 years of age groups 69 (34.2%) and 61 (31.4%) of the participants were detected with tobacco pouch keratosis respectively. In the survey conducted by Kumar G *et al.*<sup>[10]</sup> the examination of the oral mucosa revealed 7% of the subjects had leukoplakia, whose results are not in conformity with the current study.

The majority of research participants in the current survey reported positive bleeding on probing as a result of poor oral hygiene; these findings were consistent with those of the study done by Kumar G *et al.*<sup>[10]</sup>

According to our information, this is the pioneering survey among the sevayats assessing oral health problems. Despite the strengths, there are certain constraints to the study; first, the sample size was less, and second, it was a cross-sectional study. However, it can be subdued by increasing the sample size by including all the servitors of the temple.

## CONCLUSION

In this survey, significant results were witnessed regarding the problems in oral health. It was found that the sevayats had poor oral hygiene, predominantly due to their consumption of pain and a lack of knowledge regarding good oral health. There was a higher prevalence of dental caries and periodontal disease among the subjects. The majority of the servitors who had a history of consuming paan were diagnosed with oral mucosal lesions. The health administrators can take an initiative to raise awareness of oral health programmes by providing oral health education and services to the Sevayats, who are endlessly serving our Lord Jagannath.

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## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Available from: <https://www.shreejagannatha.in/mahaprabhu-shree-jagannatha/>. [Last accessed on 2022 Dec 19].
2. Available from: <https://shreejagannathmandir.org/>. [Last accessed on 2022 Dec 19].
3. Samanta S, Nanda RK, Rautaray P. A socio-economic study of ritual functionaries (SEVAKS) of world-famous Shri Jagannath temple, Puri, India. *Cogent Soc Sci* 2019;5:1-39.
4. Ganguly D, Bandhopadhyay S. Temple and occupational specialization: Identity of Brahmin and Sevayat in Puri, Odisha, India. *Int J Humanit Soc Stud* 2016;4:252-7.
5. Available from: <http://www.shreekhetra.com/sriseva.html>. [Last accessed on 2022 Dec 19].
6. Dash A. Social Life of the sevayats of Puri in the cult of Lord Jagannath. *Odisha Review*; 2013. P. 70-5. Available from: <http://magazines.odisha.gov.in/Orissareview/2013/jul/engpdf/71-76.pdf>.
7. Jain M, Mathur A, Kumar S, Duraiswamy P, Kulkarni S. Oral hygiene and periodontal status among Terapanthi Svetambar Jain monks in India. *Braz Oral Res* 2009;23:370-6.
8. Haque HZ, Pal D, Sadhukhan SK, Das S. A cross-sectional study on oral hygiene among Santhal tribal adults in a rural area of West Bengal. *J Family Med Prim Care* 2021;10:2859-61.
9. Available from: <https://www.openepi.com/SampleSize/SSPropor.htm>. [Last accessed on 2023 Mar 18].
10. Kumar G, Dileep CL, Sethi AK, Gupta B. The Birhor tribes of Ramgarh District, Jharkhand-a ferret into their oral health status and treatment needs. *Med Pharm Rep* 2019;92:178-84.
11. Singh M, Ingle NA, Kaur N, Yadav P, Ingle E, Charania Z. Dental caries status and oral hygiene practices of lock factory workers in Aligarh City. *J Int Oral Health* 2015;7:57-60.
12. Sharma A, Thomas S, Dagli RJ, Solanki J, Arora G, Singh A. Oral health status of cement factory workers, Sirohi, Rajasthan, India. *J Health Res Rev* 2014;1:15-9.
13. Baishya B, Satpathy A, Nayak R, Mohanty R. Oral hygiene status, oral hygiene practices and periodontal health of brick kiln workers of Odisha. *J Indian Soc Periodontol* 2019;23:163-7.
14. Kumar G, Suresan V, Jnaneswar A, Subramanya GB, Jha K. Periodontal health status, oral mucosal lesions and adverse oral habits among sea food industry employees of Bhubaneswar, Odisha. *J Indian Assoc Public Health Dent* 2016;14:292-7.
15. Yaragani A, Sushuma K, Guduri V, Thirumalasetty SSMK, Vishnubhotla G, Kandikatla P, *et al.* The influence of tobacco consumption on periodontal health: A stratified analysis based on type of tobacco use. *J Family Med Prim Care* 2020;9:2061-6.
16. Muthukrishnan A, Warnakulasuriya S. Oral health consequences of smokeless tobacco use. *Indian J Med Res* 2018;148:35-40.
17. Niaz K, Maqbool F, Khan F, Bahadar H, Ismail Hassan F, Abdollahi M. Smokeless tobacco (paan and gutkha) consumption, prevalence, and contribution to oral cancer. *Epidemiol Health* 2017;39:e2017009.
18. Kumar RM, Ingle NA, Chaly PE, Reddy VC. Oral health status and treatment needs of match-box factory workers in Gudiyatham Taluk, Vellore District. *J Indian Assoc Public Health Dent* 2011;9:525-35.
19. Prajapati D, Lama SR, Mahanta S, Subedi S, Mahat S. Oral health status and practice among Buddhist monk and nun students: Monastery based study in Nepal. *J Nepal Assoc Pediatr Dent* 2021;2:51-6.