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Oral Health Status and Treatment Needs of School Teachers in a Capital City of a Developing Country

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ABSTRACT

Introduction: Oral health is an integral part of general health. The high prevalence of dental diseases and conditions like dental caries, periodontitis, and malocclusion may lead to absenteeism from work as well as economic loss.

Objective: To assess the oral health status and treatment needs of school teachers in Kathmandu district.

Methods: An analytical cross-sectional study was conducted from January-June 2022 among the school teachers of Kathmandu after getting approval from the institutional review committee of Kantipur Dental College. Informed consent was also obtained before the study. Data were entered in Microsoft Excel and analysed using SPSS version 20. P value <0.05 was considered statistically significant.

Results: A total of 165 teachers participated in the study out of which 125 (75.80%) were females and 40 (24.20%) were males with a mean age of 36.29±10 years. The prevalence of dental caries was 98 (59.40%), gingivitis 138 (83.60%), periodontal pocket 40 (24.20%), and 39 (23.60%) had 4-5 mm pocket but only one (0.60%) had more than 6 mm pocket, two (1.20%) had upper and 14 (8.50%) had lower dentures. There was no significant difference in dental caries and periodontal status among the government and private school teachers (P=0.081), (P=0.101) respectively but a significant difference in gingivitis status (P=0.001)

Conclusions: The oral health status of the teachers was not satisfactory since there was a high prevalence of dental diseases. So, it can be improved by periodically conducting oral health education programs at schools and motivating them

Keywords: Oral health status; school teachers; treatment needs.

INTRODUCTION

Oral cavity being the gateway for the human body is an integral part of general health. School-based oral health education can be more effective when delivered by classroom teachers.[1] Teachers shape the future of the country and prepare the young ones for life. Therefore they should be the role models for children. To aware the children regarding their oral health, teachers should be well informed first.[2] Poor health, a lesser understanding of prevention, maintenance, and self-care instructions is associated with a lower level of health literacy.[3] The assessment of the oral health status and treatment needs of school teachers will reflect upon their efforts in maintaining their oral health as well as educating others including students, their parents or guardians, and the community. Since very little research has been done in Nepal regarding this topic, this study will serve as baseline data for planning further programs in the future.

METHODS

An analytical cross-sectional study was conducted for six months (January-June 2022) after taking ethical clearance from the institutional review committee of Kantipur Dental College (Ref. 36/022). Informed consent was taken from the participants before the study. All the teachers of six schools belonging to primary teaching grades to high school teaching grades were included in the study. The teachers who were not willing to participate in the study were excluded. A convenience sampling technique was used for the data collection. The sample size was determined using the formula $n=z^2pq/e^2$. A pilot study was conducted among 15 school teachers who

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were not included in the final analysis. The prevalence of dental caries was found to be 30%

$N= z^2pq/e^2 = (1.96)^2 x0.3x0.7/ (0.07)^2 = 165$

Data collection was used by using the predesigned proforma. Decayed Missing Filled Surfaces/Teeth (DMFS) index, gingivitis, periodontal pocket, and denture status were recorded using the WHO basic oral health survey form 2013.[4] Single trained examiner was used for the data collection purposes. Data were entered in Microsoft Excel and analysed using Statistical Package for Social Science (IBM SPSS Statistics for Windows, version XX (IBM Corp., Armonk, N.Y., USA). The P value <0.05 was considered statistically significant.

RESULTS

A total of 165 teachers participated in the study out of which 125 (75.8%) were female and 40 (24.2%) were male with a mean age of 36.29±10.77 years (Table 1).

The prevalence of dental caries was 98 (59.40%), gingivitis was seen in 138 (83.60%), periodontal pocket in 40 (24.20%), and 39 (23.60%) participants had 4-5 mm pocket but only one (0.60%) had more than 6 mm pocket, two (1.20%) had upper dentures, and 14 (8.50%) had lower dentures (Figure 1). Mean DMFS score of the teachers was 4.48±6.02.

Table1: Demographic details of the participants.

Variable		Frequency (%)
Gender	Male	40 (24.2)
	Female	125 (75.8)
Age (years)	16-35	89 (53.9)
	36 and above	76 (46.1)
School type	Government school	73 (44.4)
	Private school	92 (55.5)
Teaching grades	Primary	90 (54.5)
	Secondary	60 (36.4)
	High school	15 (9.1)
Academic qualification	SLC to intermediate	60 (36.4)
	Bachelors and above	105 (63.7)

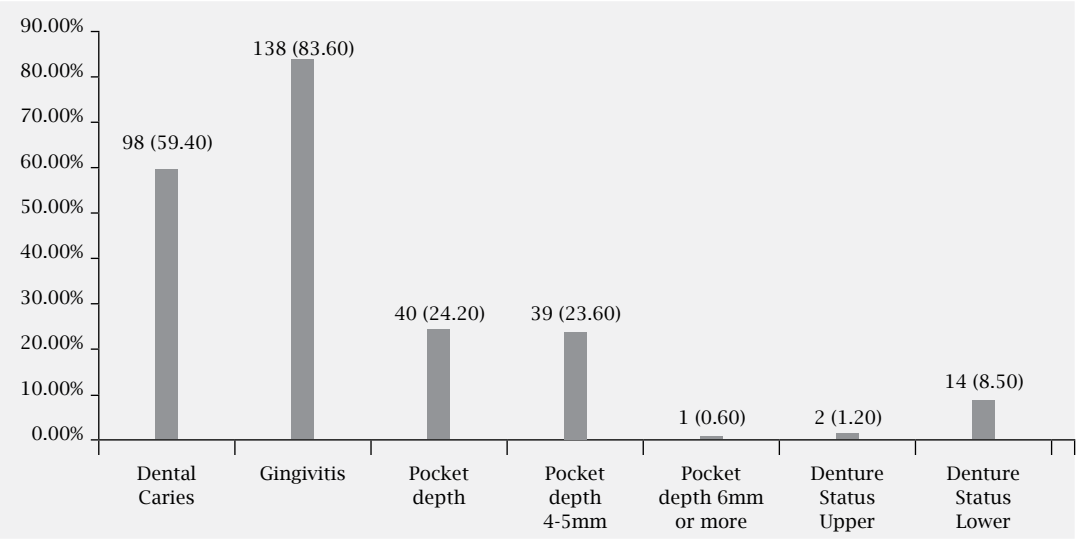

Figure 1: Showing the status of dental disease and conditions, n (%).

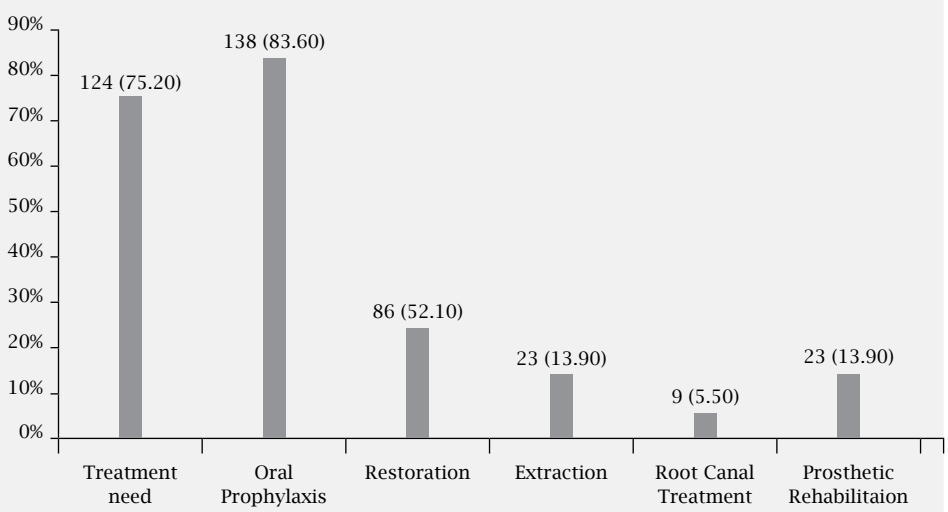

Figure 2: Showing the treatment needs of the teachers, n (%).

Dental treatment was required in 124 (75.20%) participants. The majority (138, 83.60%) of the participants required oral prophylaxis followed by restoration (86, 52.10%), extraction (23, 13.90%), root canal treatment by nine (5.50%), and prosthetic rehabilitation was required by 23 (13.90%) participants (Figure 2).

Due to unequal sample size distribution, the genderwise comparison between the parameters was not done. On applying Chi-square test, there was no statistically significant difference between the occurrence of dental caries (P value = 0.081) and pocket depth (P value = 0.083) but a significant difference in the occurrence of gingivitis (P value = 0.101) in the government and private school teachers (Table 2).

Similarly, on applying Chi-square test, there was a statistically significant difference in the treatment needs of government and private school teachers for oral prophylaxis (P value = 0.005) but not in other treatment needs categories (Table 3).

Table 2: Showing the schoolwise comparison of dental diseases.

Disease status and conditions	Government school n (%)		Private school n (%)		P value
Dental caries	Yes	49 (67.12)	Yes	49 (53.26)	0.081
	No	24 (32.87)	No	43 (46.73)	
Gingivitis	Yes	57 (78.08)	Yes	88 (95.65)	**0.001**
	No	16 (21.91)	No	4 (4.35)	
Periodontal pocket	Yes	13 (17.80)	Yes	27 (29.34)	0.101
	No	60 (82.19)	No	65 (70.65)	

where P value <0.05 = statistically significant.

Table 3: Showing the schoolwise comparison of treatment needs.

Disease status and conditions	Government school n (%)		Private school n (%)		P value
Oral prophylaxis	Yes	54 (73.9)	Yes	84 (91.30)	0.005*
	No	19 (26.02)	No	8 (8.69)	
Restoration	Yes	38 (52.05)	Yes	48 (52.17)	1.00
	No	35 (47.94)	No	44 (47.82)	
Extraction	Yes	12 (16.40)	Yes	11 (11.90)	0.499
	No	61 (83.56)	No	81 (88.04)	
Root canal treatment	Yes	7 (9.58)	Yes	2 (2.17)	0.079
	No	66 (90.41)	No	90 (97.82)	
Prosthetic rehabilitation	Yes	14 (19.10)	Yes	9 (9.78)	0.113
	No	59 (80.80)	No	83 (90.23)	

where P value <0.05 = statistically significant

DISCUSSION

One of the most commonly and extensively affecting diseases of mankind, regardless of age, sex, location, or employment of an individual is oral disease. To reduce the dental problems affecting the man, an attempt has been made for years.[5] In creating awareness about oral health in school children, a teacher with good oral health status and a positive attitude towards oral health is a cornerstone.[6] In the present study, there were more female 125 (75.8%) participants compared to male 40 (24.2%) participants with a mean age 36.29±10 years. These findings are similar to the studies conducted by Harender et al., Swamy et al., Mary et al, and Simon et al.[6-9] Since many private schools prefer female teachers there is a difference in the distribution of male and female teachers. The oral health status and treatment needs of a sample of school teachers of the Kathmandu district were assessed and it was found that the prevalence of dental caries was 98 (59.4%) which is in accordance with the findings of Mary et al.[6] but in contrast to the study done by Sunitha et al.[10] Although studies[11,12] have shown that teachers have good knowledge about aetiology of dental caries, the prevalence is still high. This may be because they are not motivated enough to follow better oral hygiene practices. The prevalence of gingivitis was 138 (83.60%) in the current study which is similar to other studies.[6] But in contrast to the study done by Sunitha et al.[5] and Simon et al.[9] where the prevalence of gingival bleeding was just 15.7% and 8.8% respectively. The greater prevalence of gingivitis in the present study could be not visiting the dentist at regular intervals and not doing the oral prophylaxis routinely. Shallow periodontal pockets were found in 39 (23.6%) and deep pockets among 1 (0.6%) which is in accordance with other studies.[5,8,9,13] The lesser prevalence of periodontal disease in this study may be due to the age factor since the mean age of the participants is 36 years and the literature have already proved that the severity of periodontal disease increases with age.[13]

In the present study, only 41 (24.8%) of study participants did not require any treatment 124 (75.2%) required some form of treatment. This finding is in accordance with other findings.[5,8] Although the teachers already knew that they had problems they could not visit the dentists due to expensive dental treatment, overlapping work timings with dental hospital timings, long waiting hours in dental hospital, dental anxiety and not giving priority to oral health. Only 16 (9.70%) were denture wearers. A similar finding was observed in a study conducted by Sunitha et al.[10] This finding may be due to the age of the participants since the maximum age was 61 years.

Similar to other findings[5,13] oral prophylaxis was required by the majority of the participants 83.6%. Restoration was required in 86 (52.1%) which is similar to other studies.[6]

Prosthetic rehabilitation was required by 23 (13.90%). Similar finding was reported in other studies[6,10] but only 23 (13.9%) required extraction and nine (5.5%)

required root canal treatment which is in accordance with the studies conducted by Sunitha et al. and Mary et al.[6,10]

Since this was a cross-sectional study causal inference cannot be generated. Also, findings cannot be generalised from this study since very few schools were covered and a convenience sampling technique was used for the data collection.

CONCLUSION

The prevalence of dental diseases was high among school teachers and the majority of them required some form of oral treatments. There is an utmost need to increase oral health knowledge and attitudes among school teachers regarding various oral diseases and conditions and their prevention. This is possible only by visiting the school regularly conducting awareness programs at schools and encouraging them to visit the dentist at regular intervals.

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Conflict of interest: None.

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