Oral hygiene practices and oral health care seeking behaviours among primary school teachers in Ndola, Zambia

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Abstract
Aim: To determine the oral hygiene practices and oral health care seeking behaviours among primary school teachers.
Materials and Methods: A cross sectional descriptive study was conducted among primary school teachers from public schools in Ndola district, Zambia.The primary schools were selected using stratified random sampling method. Chi square test was used to determine differences in oral hygiene practices and oral health care seeking behaviours between males and females teachers. The level of significance set at 5%.
Results: Most of the respondents (92.7%) brushed their teeth at least twice daily. Toothpick and flossing were used to clean in between the teeth by 68.5% and 23.5% of the respondents respectively. About three quarters reported that regular dental visits were important. About three quarters (71.6%) reported to have paid dental visit during the last one year. The most common reasons for dental visit were relief of pain (66.2%), regular (preventive) visit (28.9%), and bleeding gums (17.4%). Regular visit to the dentist were thought to be important by 71.6% respondents.
Conclusion: Most of the respondents reported brushing teeth twice or more per day. Two third reported to use tooth picking to clean in between teeth. Toothache was the main reason for dental attendance. A quarter of respondents reported regular dental visits. It is recommended that oral health staff give information to clients seeking treatment on the importance of regular dental visits.

Key words: Oral hygiene practices; health seeking behaviours; School teacher; Zambia

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Introduction

Schools provide an effective forum to enhance general as well as oral health awareness among children (1). School teachers with their education experience and contact with students can actively contribute to student's health promotion provided that they receive enough training and support (2, 3). A teacher with positive oral health practices and health seeking behaviors can play a key role in health education of school children and be a role model for children, lay people and the community at large (4). Since pupils spend most of their active hours of a day at school interacting with their teachers, oral health behaviour of the teachers may impact positively or negatively the future oral health behaviour of pupils.

Oral health education and promotion is considered as a priority for school children since they are at a high risk for dental diseases predominantly dental caries and gingival diseases at the age of mixed dentition (5). Dental caries and periodontal diseases are the most common preventable oral diseases affecting all ages and socioeconomic groups worldwide (6). Global oral health data shows a decrease in dental caries in developed and an increase in developing countries, especially where preventive programs have not been established (6, 7). Prevalence of dentalcaries among school children in developing countries range between 60% to 90% (6). Gingivitis is the second most common oral condition among school children. Both dental caries and gingivitis can be prevented by imparting pupils with knowledge on proper oral hygiene practices and health seeking behaviours (8).

Several studies on teacher's oral hygiene practices and health seeking behaviours have been conducted worldwide (9-13). Published literature on oral

hygiene practices and health seeking behaviours among school teachers in Zambia is lacking. Therefore, the aim of this study was to determine oral hygiene practices and health seeking behaviours among primary school teachers in Ndola, Zambia.

Methodology

A cross sectional descriptive study was done involving primary school teachers in urban area of Ndola. Ethical clearance was granted by Copperbelt University and permission to conduct the survey was obtained from the Ministry of Education.

The sample size was derived from Epi Info StatCalc version 7, considering a population of 2,173 teachers in Ndola urban district; a prevalence of 50% (unknown estimate) to give the largest sample size; confidence limits of 5%; design effect of 1.5; and 63 clusters (schools); a total of 504 teachers was thought to be sufficient for the survey. The district had an average of 35 teachers per school, giving 14 clusters to be sampled. Schools were grouped into 9 zones. The number of schools picked in each zone was proportional to the number of schools in each zone and sex. All teachers present at the time of data collection were requested to participate in the survey.

A structured questionnaire modified to suite the study objectives was adopted from a previous study done in Zambia [14]. The questionnaire included items on oral hygiene practices and health seeking behaviours. Health seeking behaviours were assessed using questions that pertained to how often participants visited the dentist and reasons for the visit or for not visiting. Practices relating to oral hygiene, mainly brushing and how often they do it, what they use for cleaning their teeth and in between their teeth were assessed.

Data was entered in Epi data version 7 and later exported to SPSS version 16.0 for analysis. The Chi-square test was used to determine associations with the level of significance set at 5%.

Results

A total of 426 out of 509 teachers participated in the study, giving a response rate of 83.7%. Of the 426 teachers who participated in this study, 326 (76.5%) were females. The majority of the respondents were in the age group 30-39 years (45.1%) and diploma holders (58.2%) as shown in Table 1.

Table 1 Sociodemographic characteristics of participants (n=426)

Factor	Total n (%)
Sex	
Male	100 (23.5)
Female	326 (76.5)
Age(years)	
<30	89 (20.9)
30-39	192 (45.1)
40-49	90 (21.1)
50+	55 (12.9)
Education	
Certificate	118 (27.7)
Diploma	248 (58.2)
Degree	60 (14.1)

Generally, 71.6% of the participants felt that regular dental check-up was important but only 28.9% sought care for dental check-ups within the past one year. Close to three quarter (71.6%) had been to the dental clinic for dental care with no statistically significant differences between sex (p=0.061). Reasons for seeking dental care were toothache (66.2%), dental check-ups (28.9%), bleeding gums (17.4%) and tooth filling (10.2%). Tooth injury (8.0% and loose tooth (6.2%) were the least causes of dental attendance. Proportionately more females (69.5%) than males (57.0%) reported to have sought dental care due to toothache (p= 0.043) (Table 2).

Table 2 Oral health care seeking behaviours among teachers by sex

Factor	Total n (%)	Male n (%)	Female n (%)	χ^2	p value
Are regular visits to dentist important?				0.13	0.722
Yes	305 (71.6)	73 (73.0)	232 (71.2)		
No	121 (28.4)	27 (27.0)	94 (28.8)		
Ever sought dental care during past 1 year?				3.52	0.061
Yes	305 (71.6)	79 (79.0)	226 (69.3)		
No	121 (28.4)	21 (21.0)	100 (30.7)		
Reasons for seeking dental care					
Toothache				4.09	0.043
Yes	202 (66.2)	45 (57.0)	157 (69.5)		
No	103 (33.8)	34 (43.0)	69 (30.0)		
Bleeding				0.06	0.802
Yes	53 (17.4)	13 (13.0)	40 (17.7)		
No	252 (82.6)	66 (66.0)	186 (82.3)		
Loose tooth				-	1.000*
Yes	19 (6.2)	5 (6.3)	14 (6.2)		
No	286 (93.8)	74 (93.7)	212 (93.8)		
Tooth injury				0.51	0.475
Yes	34 (11.1)	11 (13.3)	23 (10.4)		
No	271 (88.9)	72 (86.7)	199 (89.6)		
Tooth filling				0.20	0.656
Yes	31 (10.2)	7 (8.9)	24 (10.6)		
No	274 (89.8)	72 (91.1)	202 (89.4)		
Regular visit				0.86	0.355
Yes	88 (28.9)	26 (32.9)	62 (27.4)		
No	217 (71.1)	53 (67.1)	164 (72.6)		

On oral hygiene practices, 92.7% of the participants reported brushing their teeth two times or more per day. The most frequently reported times for tooth brushing were before breakfast (84.5%) and before retiring to bed (bedtime) (91.3%). Most of the participants used a toothbrush (99.3%) to clean their teeth, of whom (97.4%) reported to use fluoridated toothpaste. The participants were also asked on what they used to clean in between their teeth, whereby 68.5% reported to tooth pick (68.5%) and only 23.5% used dental floss (Table 3).

Table 3 Teachers' oral hygiene practices by sex

	Sex				
Oral hygiene practice	**Totaln (%)**	**Male n (%)**	**Female n (%)**	χ^2	**p value**
Frequency of tooth brushing				2.91	0.234
Once	31 (7.3)	9 (9.0)	22 (6.7)		
Twice	260 (61.0)	66 (66.0)	194 (59.5)		
3 times or more	135 (31.7)	25 (25.0)	110 (33.7)		
Time of tooth brushing					
Before breakfast				1.23	0.268
Yes	360 (84.5)	81 (81.0)	279 (85.6)		
No	66 (15.5)	19 (19.0)	47 (14.4)		
After breakfast				0.34	0.561
Yes	103 (24.2)	22 (22.0)	81 (24.8)		
No	323 (75.8)	78 (78.0)	245 (75.2)		
After lunch				2.53	0.112
Yes	135 (31.5)	25 (25.0)	109 (33.4)		
No	292 (68.5)	75 (75.0)	217 (66.6)		
Bedtime				0.08	0.781
Yes	389 (91.3)	92 (92.0)	297 (91.1)		
No	37 (8.7)	8 (8.0)	29 (8.9)		
Use a toothbrush				-	1.000*
Yes	423 (99.3)	100 (100)	326 (99.1)		
No	3 (0.7)	0 (0.0)	3 (0.9)		
Use of fluoride toothpaste				-	1.000*
Yes	415 (97.4)	98 (98.0)	317 (97.2)		
No	11 (2.6)	2 (2.0)	9 (2.8)		
Gadget used to clean in-between teeth				5.86	0.053
Floss	100 (23.5)	15 (15.0)	85 (26.1)		
Toothpick	292 (68.5)	78 (78.0)	214 (65.6)		
Nothing	34 (8.0)	7 (7.0)	27 (8.3)		

Discussion

Relevance of primary school teacher's oral hygiene practices and health seeking behaviours on oral health for pupils cannot be ignored. To pupils, a teacher is a most trusted role model whose behaviour can easily be translated to pupils (4). This study was done to assess oral hygiene practices and health seeking behaviours among government primary school teachers in Ndola.

Despite of the majority reporting regular dental check-ups as necessary, actual dental check-ups was low similar to others studies (4, 15-17). The reason for this observation could be due to long distance and cost barriers which are reported by several authors in developing countries (18) Toothache relief was the most reported reason for visiting a dentist similar to other studies (4, 19, 20). There was a statistical significant difference in seeking treatment where females sought treatment due to toothache than did the males. This may be due to the fact that most African societies, males often do hesitate to report ailments. It could also be explained by the fact that females are more affected by dental caries than males (21) hence more likely to seek dental treatment.

Most participants used a tooth brush to brush their teeth two times or more per day using fluoridated toothpaste. This indicates that oral hygiene behaviours among teachers in Ndola are acceptably good. Our results are in agreement with studies conducted in China and India(19, 22). The fact that almost all participants reported to use tooth brush for cleaning their teeth indicate that the traditional tools for tooth cleaning like "mswaki" or chewing sticks are no longer common in this studied population. These findings comparewell with the findings of the studies conducted in Indiaand Saudi Arabia (9, 22). Use of tooth pick was reported by two thirds of the respondentsand few reported using dental floss to clean between teeth. This indicates that dental floss is uncommon tool for interdental cleaning in the studied population. Our findings are higher than those reported in India and Syria where only 24.6%and 3.8% reported to use toothpicks (20, 23). Low use of dental floss can be explained by the high cost of the gadgets. The minimum cost of dental floss in Zambia is 17 Kwacha (equivalent to 8 USDs) hence toothpick becomes a cheaper alternative. The non-significant differences between males and females in all aspects of oral hygiene practices indicate the predictors of oral hygiene behaviours and therefore oral hygiene status among the studied population are likely to be similar in males and females. These findings differ from those reported by Halboub et al 2013 where sex was a predictor of tooth brushing behaviour among university students (24) and Ghasemi et al 2007 who showed that female dentists were more likely to report favourable oral hygiene behaviours than male dentists (25).

Conclusion

Majority of teachers (92.7%) reported to brush their teeth at least twice a day. Two thirds of teachers reported to use tooth picks to clean in between teeth. Three quarter of teachers reported that regular dental visits were important. Similar proportion reported to have visited dentist during the past one year. Toothache was the most reported reason for dental visit. Only a third of teachers reported to have made regular visit (preventive) during the last one year.

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