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Dental Floss Use in a Diverse Population

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ABSTRACT

Objective: To compare the use of dental floss among diverse groups in Benin City and to determine their knowledge of what a dental floss is.

Methods: The data for this study was generated from three different questionnaire based surveys carried out among Nigerian primary school teachers (n=620), oral health workers (n=109) and university undergraduates (n=372). The oral health workers were considered the group with formal dental training and they were used to compare the other two groups without any formal dental training. The questionnaire elicited the used of dental floss in the three groups and determined what the primary school teachers and undergraduate think a dental floss is.

Results: A vast majority of the primary school teachers (91.5%) and the university undergraduates (79.9%) did not make use of dental floss when compared to the high proportion (87.2%) of oral health workers who make use of it. (P=0.001). Greater proportion of the primary school teachers (59.5%) had no knowledge of what a dental floss is and 43.3% of the university undergraduates gave responses reflecting poor knowledge. The proportion of the school teachers and undergraduates who felt that dental floss was a drink used to prevent dental caries was 5.0% and 12.1% respectively. A few of the primary school teachers (7.1%) and undergraduates (31.1%) also felt dental floss is a drug given to patient with gum problems while 59.5% of primary school teachers and 15.0% of the undergraduate did not have any idea what dental floss is.

Conclusion: This study showed that the knowledge of what a dental floss is and its use, among primary school teachers and university undergraduates, is very poor when compared with oral health workers.

Keywords: Dental floss, use, diverse population, knowledge

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INTRODUCTION

Periodontal health can be attained through the effort of both the patients and the oral health care givers. A model for periodontal health has identified patient dependent layers of factors that can influence periodontal health.¹ These factors include biological, environmental and systemic, factors as well as personal characteristics capable of influencing them.¹ Apart from the traditional mechanical plaque removal with tooth brushing,, proper use of interdental cleaning agents is a desirable personal characteristic that should be encouraged among the populace.

Dental floss is a common interdental cleaning agent that is effective for cleaning plaque and debris from interproximal surfaces of the teeth. It has been found to be effective for the prevention and control of periodontal diseases because of its ability to reduce the level of plaque accumulation

and degree of inflammation.² The use of dental floss has been found to be effective in the prevention of gingivitis, periodontitis and interproximal caries.³ Although systematic review did not report a strong evidence of these oral health benefits,^{3,4} whatever benefit that may be achieved from regular use of dental floss may still be helpful in the prevention of oral diseases. The use of dental floss should therefore be encouraged, especially since no benefit-risk analysis has documented harms from its use and its cost to patient is minimal.⁵

The use of dental floss is still not optimal despite its potential benefit. This may be due to the mixed evidence of its effectiveness, lack of knowledge of what dental floss is, and limited availability. To change or improve health beliefs and behaviours, a culturally competent approach is always preferred.⁶ This will take into consideration the diversity and peculiarity of the population and discourage the "one cap fits all" preventive approach.⁷ To provide a culturally competent preventive methods, several stages of assessment and fact finding will be involved to elicit differences in values, beliefs, and health behaviours among diverse populations.⁸ The objective of this study was therefore to compare the use of dental floss

among diverse groups in our environment and to determine their knowledge of what a dental floss is.

MATERIALS AND METHODS

The data for this study was generated from three different questionnaire based surveys, carried out among Nigerian primary school teachers⁹ (n=620), oral health workers¹⁰ (n=109) and university undergraduates (n=372). The oral health workers were considered the group with formal dental training and they were used to compare the other two groups without any formal dental training. The questionnaire elicited the use of dental floss in the three groups. The question used to determine what the primary school teachers and undergraduate think a dental floss is, was assessed with the following options (a) a drink used to prevent dental caries (b) a drug given to patient with gum problems (c) a thread-like material used to remove food packed between teeth (d) No idea (e) others (please specify). Data analysis was done using SPSS version 21.0. Data was presented as cross tabulations and bar chart. Bivariate analyses was done, using chi-square test to determine any statistically significant difference in the groups on the use of dental floss and knowledge of dental floss. Level of significance was set at $p < 0.05$.

RESULTS

A total of 602 primary school teachers, 373 university undergraduates and 109 oral health workers participated in this study. A vast majority (91.5%) of the primary school teachers and 79.9% of the university undergraduates did not make use of dental floss while 87.2% of oral health workers make use of it ($P=0.001$) (Table 1). The result of this study revealed that the entire population of the oral health workers had a good knowledge of dental floss followed by 41.8% of university undergraduates and 28.4% of primary school teachers. Greater proportion of the primary school teachers (59.5%) had no knowledge of dental floss and 43.3% of the university undergraduates gave responses reflecting poor knowledge (Figure 1). The proportion of the primary school teachers and undergraduates who felt that dental floss was a drink used to prevent dental caries was 5.0% and 12.1% respectively. A few of the primary school teachers (7.1%) and undergraduates (31.1%) felt dental floss is a drug given to patient with gum problems while 59.5% of primary school teachers and 15.0% of the undergraduate did not have any idea what dental floss is. However, 28.4% of primary school teachers and 41.8% of the undergraduates knew that dental floss is a thread-like material used to remove food packed between teeth ($P=0.001$) (Table 2).

Table 1: Use of dental floss among study participants

Group	Use of floss			P value
	Yes n (%)	No n (%)	Total n (%)	
Primary School teachers	53 (8.5)	567 (91.5)	620 (100.0)	0.001
Undergraduates	75 (20.1)	298 (79.9)	373 (100.0)	
Oral Health Workers	95 (87.2)	14 (12.8)	109 (100.0)	
Total	223 (20.2)	879 (79.8)	1102(100.0)	

Table 2: Participants' opinion of what dental floss is

Participants' opinion of what dental floss is	Groups			P value
	Primary Schoolteachers n (%)	Undergraduates n (%)	Total n (%)	
A drink used to prevent dental caries	31 (5.0)	45 (12.1)	76 (7.7)	0.001
A drug given to patient with gum problems	44 (7.1)	116 (31.1)	160 (16.1)	
A thread-like material used to remove food packed between teeth	176 (28.4)	156 (41.8)	332 (33.4)	
No idea	369 (59.5)	56 (15.0)	425 (42.8)	
Total	620 (100.0)	373 (100.0)	993 (100.0)	

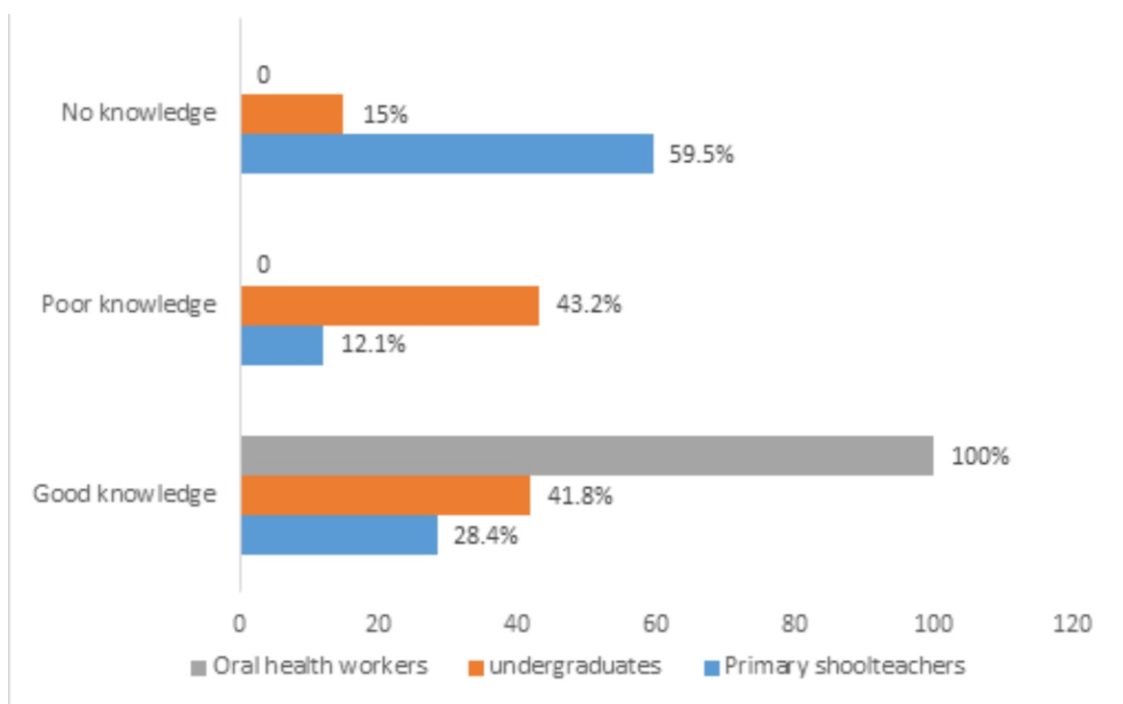


Figure 1: Participants' level of knowledge of what a dental floss is

DISCUSSION

The choice of the three studied groups was made to compare dental floss use in a diverse population. The oral health workers represented a group with formal training on oral health. The group consist of dentists, dental nurses, dental therapists, dental students and dental nursing students and served as a standard to compare with the other two groups who had no formal training on oral health. The primary school teachers are a known group with great potentials for effective oral health education. This is because they help in the formation of children. The inclusion of this group was therefore to ascertain if the oral health information on the use of dental floss at their disposal is accurate. This is to prevent the recycling of inaccurate knowledge on this potentially beneficial interdental cleaning agent. The undergraduates represent a group with the highest level of education with capacity to influence others in their environment. It was therefore also important to assess the accuracy of their knowledge.

The result of this study revealed that not everyone amongst the oral health group, who had undergone a formal training on how to use dental floss and the benefits of its use, took up the practice. It has been reported that not all health professionals will completely embrace a new practice or method, even if there is evidence that the new practice is effective and there is an official directive instructing the change.¹¹ It is possible that

some health professionals, who understanding why and how certain health choices should be made, will still not make them.¹²

Most of the studied primary school teachers did not have any idea what a dental floss is. This may have been the reason for the low prevalence of the use of dental floss among them. This implication of this, is that, the studied primary school teachers are unsuitable as oral health co-educators in this present state. Training of these teachers by oral health professionals will be required because of the important role, they are positioned to play in the formative years of children life. Therefore, the need to organize continuing education seminars and provision of relevant teaching aids and literature resources, which are needed to equip and motivate the teachers to perform the important role of effective oral health education of the young ones under their supervision, becomes very necessary.¹³

This study also revealed that the group representing highest level of education i.e. university undergraduates, had poor knowledge of use of dental floss. Their incorrect definitions of dental floss showed that many of them have never seen a dental floss before or used one. This could be attributed to lack of organized oral health education programmes at both primary and secondary levels of education. Therefore, this emphasizes the importance of the World Health Organization's Global School Health Initiative based on the health-promoting school

framework.¹⁴

This framework accommodates inclusion of oral health education in the school curriculum and daily supervised mechanical plaque control in schools.¹⁴ Flossing drills can be added to the traditional tooth brushing drills recommended by the health-promoting school framework. This will be a good way to properly train, not only the school children, but their families and the community as a whole.

CONCLUSION

It can be concluded that the knowledge and use of dental floss among primary school teachers and university undergraduates is very poor when compared to the knowledge and use of dental floss among oral hygiene workers.

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