

## AN ASSESSMENT OF DENTAL CARE PRACTICES AMONG UNDERGRADUATE STUDENTS OF ADELEKE UNIVERSITY, EDE, OSUN STATE, NIGERIA

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### ABSTRACT

**Background:** Dental care is an important aspect of oral health which deals with the maintenance of healthy teeth and it is an important aspect of general oral health. Dental care practices include regular tooth brushing and flossing, healthy nutritional habits and regular visits to the dentists.

**Objective:** This was to determine the practice of dental hygiene among undergraduate students of Adeleke University.

**Methodology:** This was a cross-sectional survey conducted among Adeleke University undergraduate students between February and March, 2017. A stratified sampling technique was used to select study participants. A semi structured questionnaire was used for data collection and data were analyzed using SPSS version 21. Bivariate analysis was done with chi squared test. Level of significance was set at 5%.

**Results:** Mean age of respondents was  $20.18 \pm 2.61$  years. Half of the respondents (53.6%) brushed their teeth twice daily. Most (79.2%) of the respondents used toothpick to remove food debris from their teeth and only 9.1% used dental floss. Only 54.7% had ever visited the dentist in their lifetime. Respondents who were single had good dental practice compared to respondents that were married ( $p > 0.05$ ).

**Conclusion:** The practice of dental hygiene among the students is not adequate. There is a need to inform and educate the students on dental hygiene practices and the benefits.

**Keywords:** Dental care practices, Undergraduate students, Adeleke University

### INTRODUCTION

Oral health is a state of being free from mouth and facial pain, oral sores and infections, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.<sup>1</sup> Dental care is an important aspect of oral health which deals with the maintenance of healthy teeth and it is an important aspect of general oral health. The mouth is the major gateway to the body hence, oral health is essential to the general health and quality of life.<sup>2</sup>

The practice of regular dental care, otherwise known as oral hygiene, helps in keeping the mouth and teeth clean in order to prevent dental diseases.<sup>3</sup> Basic dental care involves brushing and flossing of the teeth regularly, seeing a dentist for regular checkups and cleanings. In a broader perspective, 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.<sup>4</sup>

Oral care practices such as brushing with fluoride toothpaste, dental flossing, regular dental checkup

including cleaning the teeth professionally at least twice a year, are recommended measures for maintaining good oral health.<sup>5</sup> Studies by Kempe *et al.* showed that poor oral hygiene, such as not brushing, not flossing, or not rinsing enough can lead to gum disease and tooth decay.<sup>6</sup> The longer food particles are allowed to stay in the mouth, the greater the chance of decay. So the mouth should be rinsed immediately after eating, especially sugary substances to prevent the formation of plaque.<sup>7</sup>

In a study conducted by Ogunrinde *et al.*, it was documented that students and adolescents in Nigeria faced challenges regarding their oral health because of the daily high consumption of sugary foods and drinks, which predisposed them to dental caries and periodontal disease coupled with poor oral hygiene.<sup>8,9</sup> According to Akpata, dental caries constitutes one of the major oral health problems with its prevalence as high as 20 to 45% among school children and adolescents in Nigeria.<sup>10</sup> Periodontal diseases was found in 15–58% in those aged above 15 years, while a national survey involving 7630 persons from the 6 geo political zones in Nigeria reported that only 26.4%

had visited the dentist, 10.5%, used dental floss and 42.0% brushed twice daily.<sup>11</sup>

It is recommended that the teeth be brushed regularly with tooth brush using fluoride containing toothpaste at least twice a day in order to prevent dental caries and maintain good oral hygiene.<sup>12</sup> However, there is limited data on dental care practices among undergraduate students especially of private institutions in Nigeria. This study was therefore designed to provide baseline data on the dental care practices among undergraduate students of Adeleke University, Osun State, Nigeria.

## MATERIALS AND METHODS

### Study area

This study was conducted in Adeleke University, Ede, Osun State. Adeleke University (AU) is situated in an ambient and serene environment at Ede, Osun State, Nigeria. The University has six faculties and twenty departments. These faculties are; Faculty of Business and Social Sciences (FBSS), Faculty of Arts (FOA), Faculty of Science (FOS), Faculty of Law (FOL), Faculty of Engineering (FOE) and Faculty of Basic Medical Sciences (FBMS). The departments are; Accounting, Business Administration, Economics, Library and Information Science, Mass Communication, Political Science and Public Administration, History and International Studies, English Language and Literary Studies, Religious Studies, Microbiology, Biochemistry, Computer Science, Computer Information Science (CIS), Law, Agricultural Engineering, Civil Engineering, Electronic and Electrical Engineering, Mechanical Engineering, and Public Health, Nursing, Anatomy and physiology.

### Study design

This was a cross sectional study.

### Study participants

Three hundred and seventy-five undergraduate students participated in the study.

### Sampling technique

Stratified random sampling was used to select study respondents. Each faculty represented a stratum and proportional allocation was employed to determine the copies of questionnaire to be distributed in each faculty.

### Methods of data collection and data collection tools

Quantitative method of data collection was employed and data was collected using a semi structured self-administered questionnaire.

## Data analysis

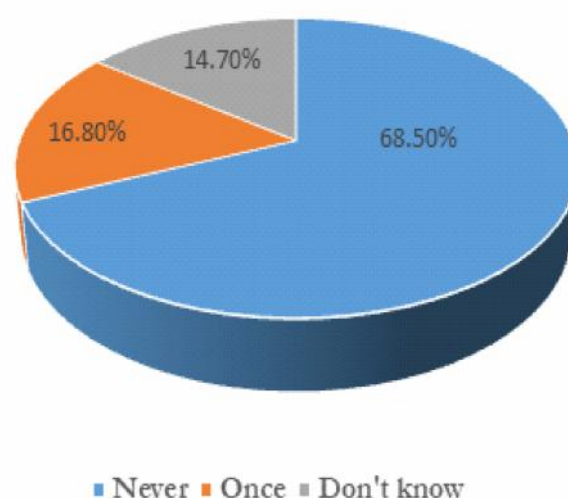
Data was inspected, cleaned, checked for completeness and entered into the computer using Statistical Package for Social Sciences (SPSS) version 21. A total of 11 questions covering dental practices were asked and every correct answer was scored 1 and every wrong answer was scored 0. The mean score was computed and respondents scoring below the mean were classified as having poor dental care practice while respondents who had scores above the mean were classified as having good dental care practice. The results were presented using proportions, tables and charts. Chi squared test was used to test for associations and level of significance was set at 5%.

## RESULTS

Three hundred and seventy-five respondents participated in the study. Socio-demographic information of respondents is shown in Table 1. Respondents aged 20 to 24 years constituted 54.4% of respondents. Forty-one percent of the respondents were aged 15 to 19 years, 4.5% of the respondents were aged 25 to 29 years. The mean age of respondents was  $20.18 \pm 2.61$  years. About fifty one percent (50.7%) female students. Most of the respondents (70.4%) were Christians. Respondents who were of Yoruba ethnicity constituted 62.7% of the respondents. The majority of the respondents (96.3%) were never married.

### Respondents' practice of dental care

Respondents' practice of dental care is shown in Table 2a. Half of the respondents (53.6%) brushed morning and night, 44.5% brushed only in the morning and 5% brushed only at night. Almost eighty percent (79.2%) of the respondents used toothpick to remove food



**Figure 1:** Respondents' visit to the dentist a year prior to the study

**Table 1: Socio-demographic information of respondents**

<b>Variables</b>	<b>Frequency (%)</b>
<b>Age (years)</b>	
15-19	154(41.1)
20-24	204(54.4)
25-29	17(4.5)
Mean age (years)	20.18±2.61
<b>Sex</b>	
Male	185(49.3)
Female	190(50.7)
<b>Religion</b>	
Islam	100(26.7)
Christianity	264(70.4)
Tradition	11(2.9)
<b>Tribe</b>	
Yoruba	235(62.7)
Ibo	89(23.7)
Hausa	51(13.6)
<b>Marital status</b>	
Single	361(96.3)
Married	14(3.7)
<b>Faculty</b>	
Faculty of Basic Medical Science (FBMS)	77(20.5)
Faculty of Business and Social Sciences (FBSS)	144(30.4)
Faculty of Art (FOA)	36(9.6)
Faculty of Engineering (FOE)	26(6.9)
Faculty of Law (FOL)	20(5.3)
Faculty of Science (FOS)	102(27.2)

**Table 2a: Practice of dental care**

<b>Variables</b>	<b>Frequency (%)</b>
<b>When do you brush?</b>	
Morning	167(44.5)
Night	2(0.5)
Afternoon	5(1.3)
Morning and night	201(53.6)
<b>What do you use to remove food debris in-between your teeth?</b>	
Toothpick	297(79.2)
Broomstick	44(11.7)
Dental floss	34(9.1)
<b>Have you ever heard of dental floss?</b>	
Yes	236(62.9)
No	139(37.1)
<b>If yes to the above question, how often do you floss your teeth?</b>	
Always	24(6.4)
Often	51(13.6)
Sometimes	161(42.9)
<b>How often do you use a mouth wash?</b>	
Always	68(18.1)
Sometimes	235(62.7)
Never	72(19.2)
<b>Ever visited a Dentist</b>	
Yes	205(54.7)
No	170(45.3)
<b>If yes to the above, how often do you visit a dental clinic?</b>	
Once in 6 month	12(3.2)
Once in a year	33(8.8)
Twice in a year	28(7.5)
Only when I have complaint	132(35.2)

**Table 2b:** Practice of dental care

Variables	Frequency (%)
<b>What do you use to brush your teeth?</b>	
Tooth brush and tooth paste	361(96.3)
Chewing stick	6(1.6)
Tooth brush and chewing stick	3(0.8)
Cotton wool/paste	5(1.3)
<b>If you use toothbrush, what kind of brush do you use?</b>	
Soft bristles	101(26.9)
Medium bristles	165(44.0)
Hard bristles	73(19.5)
Very hard bristles	23(6.1)
Don't know	13(3.5)
<b>Do you make use of fluoridated toothpaste?</b>	
Yes	189(50.4)
No	65(17.3)
Don't know	121(32.3)

debris from in-between the teeth, 11.7% of the respondent made use of broomstick and only 9.1% made use of dental floss.

A total of 62.9% of the respondents had heard about dental floss, while 37.1% had never heard about dental floss. About half (54.7%) of the respondents had ever visited a dentist for treatment and examination of their mouth, while 45.3% had never visited a dentist.

Majority of the respondents (96.3%) used tooth brush and tooth paste to brush their teeth while 1.6% used

chewing stick. A total of 50.4% of the respondents made use of fluoridated tooth paste. This is shown in **table 2b**.

Figure 1 showed 68.5% of the respondent never visited a dentist the previous year while 16.8% visited only once.

### Factors associated with good dental care practice

Table 3 shows the bivariate analysis of respondents' sociodemographic characteristics and dental practice. Respondents who were singles had good dental practice compared to respondents that were married ( $p>0.05$ ). Those of the Yoruba ethnicity had good dental practice compared to the other ethnic groups  $p>0.05$ .

### DISCUSSION

This study documented baseline data on dental care practices among Adeleke University undergraduate students.

This study showed that half of the respondents brushed their teeth twice daily. This proportion is just slightly higher than the report documented by Olusile *et al*<sup>11</sup> in a study among adults in Nigeria which stated that 42% of the respondents reported brushing their teeth twice daily. However, the result is much higher than 8.1% of respondents who brushed twice daily as reported in a study by Braimoh in a study on oral self-care practices among university students in Port

**Table 3:** Bivariate analysis of socio-demographic characteristics and dental care practice

Variables	Dental Practice		X <sup>2</sup>	P value
	Good (%)	Poor (%)		
<b>Sex</b>				
Female	50 (47.6%)	135 (50.0%)	0.171	0.679
Male	55 (52.4%)	135 (50.0%)		
<b>Age</b>				
15-19	50 (47.6%)	104 (38.5%)	2.604	0.272
20-24	51 (48.6%)	153 (56.7%)		
25-29	4 (3.8%)	13 (4.8%)		
<b>Religion</b>				
Islam	26 (24.8%)	74 (27.4%)	4.961	0.084
Christian	79 (75.2%)	185 (68.5%)		
Tradition	0 (0.0%)	11 (4.1%)		
<b>Tribe</b>				
Yoruba	64 (61.0%)	171 (63.3%)	2.878	0.411
Ibo	22 (21.0%)	67 (24.8%)		
Hausa	19 (18.0%)	32 (11.9%)		
<b>Marital status</b>				
Single	101 (96.1%)	260 (96.2%)	0.740	0.691
Married	1(1.0%)	5 (1.9%)		
Divorced/Separated	3(2.9%)	5 (1.9%)		

Harcourt and 14.6% reported by Kumar in a study on oral awareness among college students in India.<sup>13,14</sup>

This could be because students rush through the routine of cleaning the mouth and teeth because of their class schedule and at the end of the day, they get so tired that they don't bother to clean the teeth after dinner. Most of the respondents used toothbrush and toothpaste as oral hygiene tools. This is similar to the study by Ogunrinde *et al* on dental care knowledge and practice among adolescents which showed that 93.0% of the respondents used tooth brush and paste and also the study by Olusile *et al* which documented that the vast majority of the study respondents used toothbrush and toothpaste as oral hygiene tools.<sup>8,11</sup>

More than half of the respondents never visited a dentist the year prior to the survey. This is similar to a study by Sofola *et al* where majority of the respondents never visited a dentist and also in a study by Okoye *et al* where over half of the respondents never visited a dentist. Similarly, a national study documented that less than 20% Nigerians visit a dentist.<sup>15,16,17</sup>

About two fifth of the respondents (44.0%) used medium bristles, 26.9% used soft bristles and 19.5% used hard bristles. The proportion of respondents who used medium and hard bristles in this report is slightly lower than what was documented in a study by Braimoh *et al* on oral self-care practices among university students which stated that 52.2% of his respondents used medium bristles, 30% used hard bristles. However, more respondents used soft bristles in our report as compared with the study by Braimoh (17.5%).<sup>13</sup>

About 50.4% of the participants used fluoridated toothpaste, 17.3% used toothpastes without fluoride while 32.3% were not sure if the toothpaste they use contained fluoride. This report showed that more than half of the respondents were aware of the fluoride content of the toothpaste they used unlike in a study by Adeyemi *et al* which documented that 20% of the study respondents used fluoride-containing toothpastes, 10.5% used toothpastes without fluoride while more than half (69.6%) of the respondents were not sure if the toothpaste they used contain fluoride.<sup>18</sup> Only 9.1% of the respondents used dental floss out of 62.9% that had heard of dental floss. This is similar to a report by Braimoh *et al* in a study among university students in Port Harcourt which documented that 6% of the respondents used dental floss; however, this report is lower than 19% reported by Ayanbadejo in a study among College of Medicine students.<sup>13,19</sup> This could probably be because the College of Medicine students had access to information and better

knowledge about dental care practices through their field of study.

## CONCLUSION

This study revealed that the practice of dental hygiene among undergraduate students of Adeleke University is inadequate. In view of the importance of good dental hygiene and the poor health impact of dental problems, we recommend that the university medical center should provide the students with dental health education in order to instill good dental hygiene information and practice in the students.

## REFERENCES

1. World Health Organization (2012). WHO Fact Sheet: Oral Health. Available online at <http://www.who.int/mediacentre/factsheets/fs318.en/>
2. **Mehrotra V.,** Garg K., Sharma P., *et al.* (2015) A Study Based on Dental Awareness, Knowledge and Attitudes among the Medical Practitioners in and around Kanpur city (India). *J. Interdiscipl Med Dent Sci* 3: 183. Doi: 10.4172/2376-032X.1000183
3. United States Department of Health and Human Services. (2008). Oral health in American: A Report of the Surgeon General. *Journal of the California Dental Association.* 28(9): 685-695
4. World Health Organization (2015). Health topics: Oral Health. Available online at <http://www.who.int/mediacentre/factsheets/fs318.en/>.
5. **Bansal M,** Khatri M, Taneja V. (2013) Potential role of periodontal infection in respiratory diseases – A review. *J Med Life;* 6:244 8.
6. **Kempe, C.H.,** Silver H.K., O'Brien D., (2006). (eds.) *Current pediatric diagnosis and treatment* 7th ed. Los Altos. CA. Large medical publishers.
7. American Dental Hygienist, Association (2006). *Standards for Clinical Dental Hygiene Practice.* [www.adha.org](http://www.adha.org)
8. **Ogunrinde TJ,** Oyewole OE, Dosumu OO (2015). Dental care knowledge and practices among secondary school adolescents in Ibadan North Local Government Areas of Oyo State, Nigeria. *European Journal of General Dentistry;* 4:68-73
9. **Adeniyi AA,** Sofola OO, Kalliecharan RV. An appraisal of the oral health system in Nigeria. *Int Dent J.* 2012;62(6):292–300. doi: 10.1111/j.1875-595X.2012.00122.x. [PubMed] [Cross Ref]
10. **Akpata E.S.** (2004). Oral health in Nigeria. *International Dental Journal;* 54:361 6.
11. **Olusile AO,** Adeniyi AA, Orebanjo O (2014). Self rated oral health status, oral health service Utilization, and oral hygiene practices among adult Nigerians. *BMC Oral Health;* 14:140.
12. (FDI) World Dental Federation. Report of the global oral health planning workshop. 2003.

13. **Braimoh O.B.**, Ilochonwu N.A. (2014). Oral self-care practices. Center for Disease Control (2009). Hygiene-related Diseases-Hygiene – Healthy Water.
14. **Kumar S.** (2012) Oral Hygiene Awareness among Two Non Professional College Students in Chennai, India - a Pilot Study. *Advances in Life Science and Technology*, 5, 31-36.
15. Federal Ministry of Health. National Oral Health Policy. Abuja: FMOH; 2012.
16. **Okoye L**, Ekwueme O. (2011). Prevalence of dental caries in a Nigerian rural community: A Preliminary local survey. *Ann Med Health Science Research*; 1:187-95.
17. **Sofola O.O**, Jeboda S.O, Shaba O.P. (2004). Dental caries status of primary school children aged 4-16 years in southwest Nigeria. *Odontostomatol Tropical journal*; 27:19-22.
18. **Adeyemi O.O.** Abiola A.A. Olufemi Orebanjo (2014). Self-rated oral health status, oral health service utilization, and oral hygiene practices. *Journal oral health*.
19. **Ayanbadejo PO**, Sofola OO. Primary oral preventive practices: Knowledge and practice among College of Medicine University of Lagos students. *Niger J Health Biomed Sci.* 2005; 4:130–133.