

# KNOWLEDGE AND PRACTICES ON ORAL HEALTH AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN ILORIN WEST LOCAL GOVERNMENT AREA OF NIGERIA

Sa'adu Lateefat<sup>1</sup>, Musa O.I.<sup>2</sup>, Abu-Saeed Kamaldeen<sup>3</sup>, Abu-Saeed Muhammad Buhari<sup>1</sup>

<sup>1</sup>Microbiology Department, University of Ilorin Teaching Hospital, Ilorin. Nigeria.

<sup>2</sup>Department of Epidemiology and Community health, University of Ilorin. Nigeria

<sup>3</sup>Research unit, Peace Standard Pharmaceuticals, Ilorin. Nigeria.

**Correspondence:** Abu-Saeed Kamaldeen, Research unit, Peace Standard Pharmaceuticals, Ilorin. Nigeria.

Email:kamal.abusaeed@yahoo.com

Received April 4, 2012; Revised May 9, 2012; Accepted June 28, 2012

## ABSTRACT

**Aim and objective:** Tooth decay is one of the most common chronic childhood diseases. It is a ready indicator of children's health. This study is aimed at assessing the knowledge and practices among Junior Secondary School students on oral health.

**Method:** This is a descriptive cross sectional carried out among Junior Secondary School students in Ilorin West LGA. Using Fischer's formula, 399 students were used for the study. Multi stage sampling technique was used in selecting participants for the study. A semi- structured interviewer administered questionnaire was used to collect data. The collected data was analysed using EPI-INFO 2007 software package. Results obtained were presented on frequency distribution tables and percentages.

**Result:** This study reveals that the knowledge and practices of respondents as regards oral health was generally below average in many aspects. Far less than half of the respondents could not identify the types of oral disease and the prevention of oral diseases. More than half (67.4%) of the respondents could not also attempt the definition of oral health. Close to half (46.6%) of the children change their toothbrush only when it get frayed and very few (9.3%) of them do not engage in consumption of confectioneries. Majority (83%) had also never visited a dentist. Although it is also worthy to mention that almost all (94.7%) said that brushing of teeth is to prevent mouth disease and all the respondents could mention one cause of oral disease. All respondents also brush their teeth at least once a day.

**Conclusion:** Findings from this study show that education on oral health in schools needs to be intensified in order to enhance oral health among students. Parents should also be educated on oral health so that their children can maintain a good oral hygiene.

**KEYWORDS :** Oral health, Knowledge, Practices

## INTRODUCTION

Oral health means being free of chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affects the mouth and oral cavity.<sup>[1]</sup> Oral health is fundamental to general health and well-being, it is the practice of keeping the mouth and the teeth clean in order to prevent dental problems such as dental caries, gingivitis, periodontitis, tooth loss, oral mucosal lesions, oropharyngeal cancers, necrotising ulcerative stomatitis (noma), orodental trauma, and bad breath (halitosis).<sup>[2]</sup>

Oral health is a determinant of general health and quality of life. A combination of measures that includes water fluori-

dation, brushing, flossing, sealants, good nutrition and regular visits to the dentists can prevent 80-90% of dental problems.<sup>[3]</sup>

Oral health affects people physically and psychologically and influences how they grow, enjoy life, look, speak, chew, taste food and socialize as well as their feelings of wellbeing.<sup>[4]</sup> The new model of care focuses on the reintegration of oral health care into primary health care. This concept is being explored in both the dental and medical communities. One of the keys to improving access to care is making dental services available, affordable, and accessible for underserved populations. Primary care medicine has more routine contact with these populations, providing opportunities for preliminary dental screening and education as well as integration of clinical services.<sup>[5]</sup>

Tooth decay (dental caries) is one of the most common chronic childhood diseases, five times more common than asthma and seven times more common than hay fever. Toothache leads to school absenteeism, which is a ready indicator of children's health, worldwide more than fifty one million (51,000,000) school hours are lost each year to dental- related illness.<sup>[6]</sup> Studies that involved children of other ages including 12 years of age in Nigeria gave caries prevalence of 13.9% and caries free level of 86.1%. However, this is significant because of the population size.<sup>[7]</sup>

Junior Secondary School pupils are children of ages 9- 15. This age is especially important, as it is generally the age at which children leave primary school, and thus in most countries, is the last age at which a reliable sample may be obtained easily through the school system. For this reason, it has been chosen as the global monitoring age for caries for international comparisons and monitoring of disease trends.<sup>[8]</sup>

Therefore, this study is aimed at assessing the knowledge and practices of Junior Secondary School students towards oral health.

## METHOD

### Description of Study area

The study was carried out in Ilorin West Local Government Area. Ilorin West is one of the 16 Local Government Areas in Kwara State, Nigeria and is one of the three LGAs that constitutes Ilorin metropolis. It is located along latitude 8°30 North and longitude 4°35 East of the equator. It has a land mass of 54°2km<sup>2</sup>. There are 58 primary schools, 17 Government owned (public) senior secondary schools and 24 government-owned junior secondary schools of which 20 are unisex, 1 boys-only and 3 girls-only schools. However, there are 56 private secondary schools in the LGA. Altogether there are 11,034 enrolees in the senior secondary schools with male population of 5,486 and female population of 5,548, the total number of enrolees in the junior secondary schools is 15,232 with male population of 7,686 and female population of 7,546.

There are several health facilities in the Local Government, which are manned by the local Government, State Government and some Private bodies. The University of Ilorin Teaching Hospital temporary site owned and manned by the Federal Government is also situated in the Local Government Area. The Government Dental centre owned by the State Government is also situated within the University of Ilorin Teaching Hospital premises. There are four private dental clinics within the local Government.

### Study design and study population

This is a descriptive cross sectional study. The study populations were junior secondary schools in Ilorin West Local Government Area. The sample populations were junior secondary school students of the selected schools from the list of schools in Ilorin West Local Government Area, both public and private unisex schools.

### Sample size determination

Sample size was determined using the Fischer's formula for populations greater than 10,000<sup>[9]</sup>. And 399 respondents were used for the study.

### Sample technique

Multi stage sampling technique was used in selecting participants for the study.

1. Simple random sampling using table of random numbers was used to select two public schools (Government owned) out of the 21 mixed junior secondary schools and two private schools out of the 56 private secondary schools.

2. Proportionate allocation was used to select the number of students in each school using the population of junior secondary school(JSS) students in the school as a determinant factor, i.e school A with a population of 94 JSS students, the number of participants in the school was calculated as

$$\frac{94}{\text{Total no of students in JSS in the four selected schools}} \times \text{Sample size}$$

Total no of students in JSS in the four selected schools

3. Proportionate allocation was also used to select the number of participants in each level. i.e. JSS1, JSS 2 and JSS3.

4. In each level, each arm was used as a cluster and simple random sampling technique using balloting method was used to select 2 arms in each level. i.e. two arms was selected from JSS1, two arms from JSS2 and two arms from JSS3.

5. Systematic sampling was used to select participants' required in each arm using a pre- determined sampling interval and the class register as the sampling frame, and the participants were selected at interval.

## Data Collection and analysis

A semi- structured interviewer administered questionnaire was used to collect data on socio-demographic characteristics, oral health knowledge, oral health practices. Pre-testing of the questionnaire was carried out in a junior secondary school in Ilorin East Local Government Area. 40 (10%) of the sample population was used; this led to the modification of ambiguous phrases and ensures the validity and reliability of the instrument. The collected data was analysed using EPI-INFO 2007 software package. Results obtained were presented on frequency distribution tables and percentages.

**TABLE 1: AGE DISTRIBUTION OF RESPONDENTS**

AGE GROUP (YEARS)	FREQUENCY (%)
Less than 12	99 (24.8)
12-13	188 (47.1)
14-15	102 (25.6)
16-18	10 (2.5)
<b>TOTAL</b>	<b>399 (100)</b>

## Respondents' knowledge on oral health

About half of the respondent, 202 (50.9%) have heard about oral health while 197 (49.4%) had never had of it. Sources of information among the respondents' who have heard of oral health include through their teachers (73, 36.1%), through TV (70, 34.7%), through relatives (26, 12.9%), through newspapers (17, 8.4%), through radio (9, 4.4%), through friends (6, 3%) and through the hospital (1, 0.5%).

When questioned on the definition of oral health, greater than half 269 (67.4%) of the respondents could not attempt the definition of oral health, 76 (19%) attempted but gave a fair definition of oral health while 52 (13.1%) were able to define oral health correctly. The types of oral diseases,

## RESULTS

### Respondents' demographic information

Age distribution of respondents is as shown on table 1. The mean age of the respondents was 12.6years, median age was 13 and modal age was 13 while the standard deviation was 1.56 years. Majority 222 (55.6%) of respondents were males while the rest 177 (44.4%) were females. The distribution of student by class shows that 128 (32.1%) of respondents were in JSS 1, 115 (39.3%) were in JSS 2 while 114 (28.6%) were in JSS 3.

causes of oral diseases and prevention of oral diseases according to respondents are shown on table 2.

The reasons for brushing the teeth according to respondents were to prevent mouth diseases (378; 94.7%) and to make the teeth beautiful (10; 2.5%). Eleven (2.8%) of the respondents could not give any reason for teeth brushing.

Sixty seven (16.8%) of the students agreed that brushing of teeth should be haphazard in direction, 255 (63.9%) said it should be brushed horizontally, 67 (16.8%) chose vertical direction of brushing while 10 (2.5%) said that they did not know the correct direction for brushing the teeth.

**TABLE 2: RESPONDENTS' KNOWLEDGE ON ORAL HEALTH**

KNOWLEDGE	Frequency (%)
<b>TYPES OF ORAL DISEASE (Multiple response)</b>	
Tooth decay	127 (28.5)
Mouth odour	46 (10.3)
Gingivitis (Gum disease)	14 (3.1)
No response	259 (58.1)

**CAUSES OF ORAL DISEASE**

Consumption of too much sweets	258 (67.2)
Mouth neglect	66 (16.5)
Sharing of spoons	43 (10.8)
Consumption of too much snacks	14 (3.5)
Some other types of food	8 (2.0)
	<b>N= 399 (100%)</b>

**PREVENTION OF ORAL DISEASES (Multiple response)**

Brushing of teeth	109 (27.3)
Regular visits to the dentist	67 (16.8)
Reduction of sweet intake	20 (5)

**Oral health practices of respondents**

Majority (287; 71.9%) of respondents had no history of oral disease while the remaining 112 (28.1%) had had one oral disease or the other. Among the 112 respondents who had had oral disease, 51 (45.5%) of them believed that the cause of the oral disease was as a result of consumption of

too much sweets, 27 (24.1%) mouth neglect, 8 (7.2%) tooth eruption and 26 (23.2%) said that they did not know the cause of their oral disease. Actions taken by those who had oral diseases included visit to the hospital (58; 51.8%), home treatment (25, 22.3%), purchase of drug from a chemist shop (9, 8%), use of traditional herb (1, 0.9%) while 19 (17%) respondents said they did nothing.

**TABLE 3: ORAL HEALTH PRACTICES AMONG RESPONDENTS**

<b>PRACTICE</b>	<b>FREQUENCY (%)</b>
<b>TIME OF THE DAY RESPONDENTS CLEAN THEIR TEETH</b>	
First in the morning	380 (95.2)
After breakfast	6 (1.5)
Last thing at night	2 (0.5)
Anytime of the day	3 (0.8)
Twice daily	8 (2)
	<b>N= 399 (100%)</b>
<b>FREQUENCY OF TOOTHBRUSH REPLACEMENT BY RESPONDENTS</b>	
Within three months	71 (17.8)
3-6 months	74 (18.5)
Over 6 months	50 (12.5)
When the bristles become frayed	186 (46.6)
Anytime	18 (4.5)
	<b>N= 399 (100%)</b>
<b>FREQUENCY OF CONSUMPTION OF CONFECTIONERIES</b>	
Everyday	155 (38.8)
Thrice in a week	119 (29.8)
Once in a week	88 (22.1)
Rarely	23 (5.8)
Never	14 (3.5)
	<b>N= 399 (100%)</b>

Three hundred and thirty one (83%) of respondents had never visited a dentist while 68 (17%) had and the respondents' reason for visiting the dentist include treatment (40, 58.8%), check-up (20, 29.4%) and cleaning/polishing (8, 11.8%). Table 3 also shows other oral health practices by respondents.

## DISCUSSION

The age range of the respondents was between 9 and 18 years. Majority of the students sampled 188 (47.1%) were in the 12-13 years age group. The mean age of the students was 12.6. This is however slightly different from Bamigboye and Akande in their study of oral hygiene status of students in selected secondary schools in Osogbo, Nigeria where the age range of the students were between 9-21 years.<sup>[10]</sup> It is also different from Akpata et.al in their study of Oral hygiene practices among Nigerian children where samples was drawn from less than 4 years (pre-school) and 4-12 years old (school-aged) children.<sup>[11]</sup> It is also in agreement with Denloye in his study of oral hygiene status of mentally handicapped school children in Ibadan, Nigeria in which students age range is 8-15 years were used.<sup>[12]</sup> Good numbers of male and female students were represented in this study. This gives room for ideas to be sort among the two sexes. Similarly, a good percentage of students from JSS1, JSS2 and JSS3 were also represented in this study which also provides a sample size cutting across all the classes.

About half of the respondent said they have heard of oral health and among their source of information, teachers seem to have the highest percentage. This shows that teaching of oral health in school goes a long way in educating students and promoting good oral hygiene. Majority of the students had good knowledge of why the teeth should be brushed, and their reason was to prevent oral diseases. This also helps in preventing oral diseases in these children. This finding is in agreement with Bamigboye and Akande in their study of oral hygiene status of students in selected secondary schools in Osogbo, Nigeria where all the 322 respondents have good knowledge of why the teeth should be cleaned.<sup>[10]</sup> This is however contrary to Okpala in her study of Knowledge, Attitude and Practice of Secondary School on Oral hygiene where the students have moderate knowledge.<sup>[13]</sup>

Although students were able to identify preventive measures to combat oral diseases, the percentages of those recognising the preventive measures were low with the highest being 27.3% of the respondents (Brushing of teeth). More enlightenment activities need to be done in this area to educate students on way by which they can prevent

oral diseases. Similar observation was made when respondents were asked about the type of oral diseases. Percentage of students who responded positively was low.

On the knowledge on how the teeth should be properly brushed, majority of the respondents agreed that the teeth should be brushed along the horizontal motion. This is however contrary to the result of Bamigboye O. and Akande T.M in their study of oral hygiene status of students in selected secondary schools in Osogbo, Nigeria where majority of the respondents agreed that the teeth should be brushed along the vertical motion.<sup>[10]</sup> Students should also be educated on the correct motion for teeth brushing to ensure that the teeth is thoroughly brushed which reduces or eliminate the chances of oral diseases.

Majority of respondents had no history of oral disease. This could be traced to the fact that a good number of them had good knowledge on oral hygiene and majority (95.2%) of them brush their teeth first thing in the morning which is the acceptable popular habit of brushing the teeth. The result is in agreement with Bamigboye and Akande in their study of oral hygiene status of students in selected secondary schools in Osogbo, Nigeria where majority of the respondents also brushed their teeth first thing in the morning.<sup>[10]</sup> This is however better and contrary to Olaitan in his study of Oral hygiene practices and Prevalence of dental caries among school children in Oyo State where majority of the respondents do not even brush their teeth at all.<sup>[14]</sup>

The practice of changing of toothbrush only when the bristle becomes frayed by majority of students needs to be addressed. Respondents should be made to know the importance of changing toothbrush at most every six months. There is every possibility that when toothbrushes are in the process of fraying, they do not clean the teeth well as much as new ones and thus predisposes the teeth to harmful microorganisms. A good percentage (38.8%) of students also said that they consume confectionaries every day. This practice harbours germs in the mouth and teeth and encourage oral diseases like tooth decay. A move to discourage students in this regards should also be made. It is important to also educate students to know that with this habit, brushing once a day is not enough to keep the oral cavity safe all through the day.

Visiting a dentist often is a good practice to ensure that the oral cavity is of good health. Studies have shown that regular visit to dentist among other ways can prevent dental problem greatly.<sup>[6]</sup> This study revealed that majority of student had never visited a dentist. Oral disease takes a gradual course which can easily be detected on time by the dentist. Therefore, educating the students in this regard is also

important. Frequent visiting of dentist is also determined by the parents of these children. The parents too should be made to understand why it is important to take the children for dental check-up from time to time.

## CONCLUSION

This study reveals that the knowledge and practices of respondents as regards oral health was generally below average in many aspects. Far less than half of the respondents could not identify the types of oral disease and the prevention of oral diseases. More than half of the respondents could not also attempt the definition of oral health. Close to half of the children only change their toothbrush when it gets frayed and majority of them engage in consumption of confectioneries. Majority had also never visited a dentist. Although it is also worthy to mention that almost all the respondents gave good reasons for brushing the teeth and could mention causes of oral disease. All respondents also brush at least once a day.

Findings from this study show that education on oral health in schools needs to be intensified in order to enhance oral health among students. Parents should also be educated on oral health so that their children can maintain a good oral hygiene.

## REFERENCES

1. WHO. Oral health fact sheets, 2007: 318
2. Oladimeji SN. Oral health practices among people of Ganmo in Ifelodun Local Government Area of Kwara state. A research project submitted to the Department of Epidemiology and community Health, University of Ilorin. 2007.(unpublished)
3. Petersen PE. World Health Organizations' global policy for improvement of oral health. *International Dental Journal*.2008;58: 115-121
4. Sheiham A. Oral health, general health and quality of life. *Bulletin of World Health Organization*. 2005. 83 (9): 644
5. Mertz E, O'Neil E. The Growing Challenge Of Providing Oral Health Care Services To All Americans. *The policy journal of the health sphere*, 2004
6. Petersen PE, Etsupinan-Day S, Ndiaye C.WHO's action for continuous improvement in oral health. *Bulletin of the World Health Organization*, 2005 (83) :9
7. Gift H C, Reisine S T, Larach D C. The social impact of dental problems and visits. *American Journal of Public Health*.1992. 82: 1663-8.
8. WHO."Oral Health Surveys - Basic methods", Geneva 1987. Assessed 21<sup>st</sup> May, 2009.
9. Araoye M O. Research methodology with statistics for health and social sciences. Nathadex publishers, 2003.117-122.
10. Bamigboye O. Akande T M. Oral hygiene status of students in selected secondary schools in Osogbo, Nigeria. *Nigerian Medical practitioner*.2007.51(4):71-75
11. Akpata E.S, Otoh E, Adeleke A, Danfilo I. Oral Hygiene Practices among Nigerian Children. *Oral Health Research*, 2004. 26-28.
12. Denloye O.O. Oral hygiene status of mentally handicapped school children in Ibadan. *Odonto-Stomatologie Tropicale*, 1995 ;19-21.
13. Okpala P.U. Knowledge, Attitude and Practice of Secondary School on Oral hygiene- A case study of Enugu Urban. University of Nigeria Virtual library.
14. Olaitan O.O. Oral hygiene practices and prevalence of dental caries among school children in Oyo State. *Ilorin Journal of health physical education and recreation*.2005, vol. 4:74-76.

Source of Support : Nil, Conflict of Interest : Nil

Copyright of E-Journal of Dentistry is the property of E-Journal of Dentistry and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.