KNOWLEDGE, ATTITUDE AND PRACTICE OF GOOD ORAL HYGIENE AMONG SECONDARY SCHOOL STUDENTS OF YABA LOCAL COUNCIL DEVELOPMENT AREA OF LAGOS STATE

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Abstract
Secondary school students in Nigeria face challenges regarding their oral health because of the daily high consumption of sugary foods and drinks, which predisposes them to dental caries and periodontal disease. This study investigates the Knowledge, Attitude and Practice of Good Oral Hygiene among Secondary School Students of Yaba local council development area of Lagos State. Descriptive survey research design was employed by this study. The population of this research comprised of 3,216 secondary school students in Yaba local council area, a self-developed questionnaire was used to elicit information, frequency count and sample percentages were used for data analysis and presentation. A multistage sampling technique was used in this study. The findings revealed that 65.5% of the school students have good knowledge of oral hygiene. It was revealed that 64.0% of school students in the study area have positive attitude towards dental health, in addition, the practice of good oral hygiene is well above average as 70.5% among respondents. It was also revealed that level of education does not significantly determine the practice of good oral hygiene among secondary school students. It was recommended that enlightenment programme and public awareness on good oral hygiene by the government and non-governmental organizations should be done regularly. Regular radio and online programme on good oral hygiene should be made available to Adolescent

Keywords: Oral hygiene, Secondary school students, knowledge, Attitude and Practice

Introduction

Oral health is a state of being free from chronic or acute or facial pain, oral cancer, oral infection, periodontal (gum) disease, tooth decay, tooth loss and other diseases that limit an individual's capacity in biting, chewing, smiling, and speaking, as well as psychosocial well-being (Peterson, 2004). Good oral health maintains general health (Togoo, Yaseen, Zakirulla, Nasim and Zamzami, 2012). It was asserted that the mouth is the major gateway to the body; whatever affects oral health, may also affect general health (Nyamuryekunge, 2012).

Oral health can be defined as 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 affect the mouth and oral cavity (World Health Organization, 2009). The oral tissue forms an integral part of every human being and is extremely vulnerable to disease as it is in an intimate relationship with the external environment, and it is also subjected to mechanical, chemical and bacterial interactions (Dilip, 2005).

According to Petersen (2004), oral diseases may be considered a public health problem due to their high prevalence and significant social impact. Singh, Preeti. Vivek, Pradeep, and Shilpi Singh(2012) explained that the most common oral health issues across the world are tooth decay, periodontal disease, and halitosis. There are various environmental and life style factors such as nutritional status, tobacco smoking, alcohol, poor oral hygiene, stress and systemic conditions linked to the oral diseases (Sheiham and Watt, 2000). Singh, Preeti, Vivek, Pradeep, and Shilpi Singh (2012) explained that a lot of people suffer from poor oral health without being aware of their situation, therefore, chewing and digestion of food as well as quality of life are negatively affected. Singh et al. further reported that the oral health care of an individual depends on his or her oral health attitude and behavior, which reflect one's experiences, cultural perception, familial beliefs, and other life style situations.

Oral health is an essential aspect of general health, as such, oral health knowledge is considered to be an essential prerequisite for health-related practices (Carneiro, Kabulwa, Makyao, Mrosso, and Choum, 2011). Carneiro et al. (2011) also explained that there is an association between increased knowledge and better oral health

because people who assimilate oral health knowledge most probably have a sense of personal control over their oral health, and they are more likely to adopt self-care practice. Oral hygiene represents measures taken to keep the mouth clean and healthy by maintaining plaque- and calculus-free tooth surfaces.

The state of oral cleanliness is very important in the promotion of oral health, general health and quality of life (Peterson, 2004). Poor oral hygiene leads to the accumulation of dental plaque, which harbors bacteria and their toxins. Bacteria plaque plays an important role in the etiology of oral diseases, such as dental caries, gingivitis and periodontitis. Periodontitis resulting from poor oral hygiene is associated with the production of a significant amount of pro-inflammatory cytokines, which may have systemic adverse effects on the host, such as premature labour, low-birth-weight infants, and low sperm counts in men.

Multiple factors can influence oral hygiene. These include factors at the individual, family and community levels (Castilho, Mialhe, Barbosa, Puppin-Rontani,2013) Individual factors that influence oral hygiene practices and beliefs are equally influenced by family-related factors and social factors derived from communal norms, beliefs, values and practices.12 Multiple risk factors at the individual level have been identified for poor oral hygiene in children residing in Nigeria. These risk factors include socioeconomic status, age, maternal age and maternal attitude (Abiola, Eyitope, Sonny and Morenike, 2009). Reports have shown that oral hygiene is poorer among children from the lower socioeconomic strata, which has also been observed in low and middle-income countries such as Tanzania and India (Sogi and Bhaskar, 2002).

Birth rank, which is an identified risk factor for caries (Folayan, Owotade, Oziegbe, Fadeyibi 2010), may also be a risk factor for poor oral hygiene, as an association between caries and poor oral hygiene has been established. In addition, (Agbaje, 2016) demonstrated that age was a significant determinant of oral hygiene; the older age group exhibited poorer oral hygiene when compared with the younger age group, which may be because oral hygiene supervision by parents stops when children are approximately 8 years old In addition, women and girls have been consistently shown to exhibit a better oral hygiene status compared with their male counterparts in Nigeria (Olabisi, Udo, Ehimen, Bashiru, and Adeniyi, 2015). This finding may be because

women and girls have more positive dental health attitudes and behaviours compared with their male counterparts.

In developing county of the world, Mehta and Kaur (2012) assessed the oral health related knowledge and practices among 12-year-old school children studying in rural areas of Punchkula, India. A low level of knowledge and practices among the children was observed, as only 25% of the participants cleaned their mouth more than once a day; 45.5% of the children had some problem with their teeth and/or gums, and only 35.9% visited the dentist for treatment (Mehta and Kaur, 2012). Coming back home to Nigeria, Ogundele and Ogunsile (2008) carried out a cross sectional survey among adolescents in Oyo State, Nigeria, to assess their dental health knowledge, attitude, and practice on the occurrence of dental caries, and a low level of dental health knowledge was found. Ogundele and Ogunsile (2008) observed that secondary school students and adolescents in Nigeria regularly consumed sugary foods and drinks, which are widely identified as risk factors for dental caries.

There are seems to be dearth in empirical data as to what the current situation as regards oral health knowledge, attitudes, and practices of adolescents, specifically those in secondary schools aged 10-18yrs of Onike Girls High School Onike Saba Yaba Local Government Lagos State who has been discovered to consume more of sugary foods and drinks data in, Plus there is a lack of researcher that investigated this particular topic regarding most of the states in Nigeria. Hence this study intends to look at Knowledge Attitude and Practice of Good Oral Hygiene among Secondary School Students Age 10-18yrs of Onike Girls High School Onike Saba Yaba Local Government Lagos State.

Statement of Problem

Good oral health knowledge, attitude and practice play a fundamental role for general wellbeing by preventing common oral diseases. This behaviour/attitude includes regular tooth brushing and flossing (though majority does not do this properly in our environment), preventive measures such as fluoridation and sealants, healthy nutritional habits, and regular visits to the dentists. Secondary school students and adolescents in Nigeria face challenges regarding their oral health because of the daily high consumption of sugary foods and drinks, which predisposes them to dental caries and periodontal disease.

Among other diseases which was observed among school children. In a study carried out in the south western state of Oyo by Onawola (2017) reported that poor personal hygiene practices such as keeping long finger nails, not brushing regularly, keeping overgrown and dirty hair and wearing of dirty uniforms are common among public school pupils. More specifically, according to Akpata (2004) poor general hygiene inclusive of oral hygiene resulting into dental cavities constitute one of the major oral health problems with its prevalence as high as 30 to 45% among young children and adolescents in Nigeria, between the ages of 12 and 15 years respectively. According to Sofola (2010), chronic periodontal disease has been found to be highly prevalent among Nigerians, right from the 1960s until today; over 75% of Nigerians suffer from gingivitis and periodontitis due to accumulation of dental plaque on their teeth and gum. Significant prevalence and the severity of periodontal disease has been reported with increasing age among secondary school children in Nigeria. Ogundele and Ogunsile (2008) also reported that the prevalence of destructive periodontal disease among Nigerians aged 15 to 19 years ranges between 15% in Northern Nigeria and 10% in Western Nigeria. Akpata (2004) also explained that the curriculum used in most schools in Nigeria does not accommodate oral health education; therefore, the awareness of level on the negative effects of poor oral health among Nigerian students is low (Petersen, 2004). The negative impacts of poor oral health itemized by Peterson (2004) included pain and suffering, functional impairments, and reduced quality of life. An empirical search of online literature on Knowledge Attitude and Practice of Good Oral Hygiene among Secondary School Students Age 10-18yrs in Nigeria returned unsatisfactory results on the topic; thus, there was a literature gap that this research intended to fill. It is against this background that researcher aim to conduct the study on Knowledge Attitude and Practice of Good Oral Hygiene among Secondary School Students Age 10-18yrs of Yaba Local council Area Lagos State.

Objectives of the Study

The general aim of this research is to assess the Knowledge Attitude and Practice of Good Oral Hygiene among Secondary School Students Age 10-18yrs of Yaba Local council Area Lagos

i. To assess knowledge of good oral hygiene among Secondary School Students age 10-18yrs of Yaba Local Government Lagos State
ii. To examine the attitude of secondary school students age 10-18yrs of Yaba Local Government Lagos State towards good oral hygiene.
iii. To verify the practice of good oral hygiene among Secondary School Students age 10-18yrs of Yaba Local Government Lagos State
iv. To identify demographic factors determining knowledge of good oral hygiene among Secondary School Students age 10-18yrs of Yaba Local Government Lagos State

Research Questions

1. Do Secondary School Students ages 10-18yrs of Yaba Local Government Lagos State have the knowledge of good oral hygiene?
2. What is the attitude of secondary school students' ages 10-18yrs of Yaba Local Government Lagos State towards good oral hygiene?
3. What is the good oral hygiene practice pattern of Secondary School Students of age 10-18yrs of Yaba Local Government Lagos State?
4. Will class level of education of Secondary School Students age 10-18yrs of Yaba Local Government Lagos State determine their knowledge of good oral hygiene?

Methodology

Research Design

Descriptive survey research design was adopted for this study. This design was selected because there will be no manipulation of any variable.

Population of the study

The population for this study comprised of two hundred and twelve thousand seven hundred secondary school students (212,700) of Yaba local council area.

Sample and Sampling Technique

A multistage sampling technique was used in this study. At stage one, total sampling techniques was adopted to select all the existing 7 wards in yaba council area of Lagos state.

At the second stage, simple random sampling techniques with replacement was adopted to pick 200 houses in each of the selected street to give each house an equal chance of being picking.

At the third stage, purposive was used to pick volunteers respondent from each of the selected houses. Specific residential areas were drafted from all the areas in the Yaba local council development area and they include: Jibowu, Makoko, Ebute Metta, Pearl View Estate and Jacob Mews Estates. In stage two, 30 secondary school students were approached in each of the areas by using convenient sampling technique to make a total of 200 sample needed from the areas picked for the study.

Research Instrument

The instrument for data collection used for this study was a researcher's designed Knowledge, Attitude and Practice of Good Oral Hygiene (KAPGOR) questionnaire which was divided into four sections: Section A sought for information on demographic characteristics of the respondent, Section B was based on knowledge of oral hygiene and attitude of respondents to oral hygiene. Section C requested information on practice pattern of oral hygiene. Reliability of this instrument was carried out using test-retest technique through pilot study whereby twenty copies of the questionnaire was given to twenty secondary school students in the Ikorodu area of Lagos state who are not part of the study but share the same characteristics with the intended respondents for this study and their twenty copies were re-administered to the same respondents at interval of two weeks. The result of the first and second administration were compared using Pearson Product Moment Correlation Co-efficient statistical analysis. A reliability result of the correlation co-efficient that fell between r = 0.60 - 0.90 was adjudged to make the instrument reliable.

Data Analysis and Presentation

Table 1: Analysis of Research Questions 1- Knowledge of Good Oral Hygiene

Items	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**	**Mean**
In other to keep teeth healthy it is necessary to brush after breakfast in the morning & after dinner	-	-	69(34.5%)	131(65.5%)	3.66
It is necessary to always rinse our mouth with water after each meal	-	38(19.0%)		162(81.0%)	3.62
Foods and drinks with sugar such as sweets, chewing gums, and soft drinks destroy the teeth	-	-	69(34.5%)	131(65.5%)	3.66
Poor oral health causes periodontal disease such as swollen and bleeding gum	-	-	72(36.0%)	128(64.0%)	3.64
It is necessary to go for dental check-up at least once in a year	-	-	69(34.5%)	131(65.5%)	3.66

It was revealed from the above table that 69(34.5%) of respondents in this study agreed that in order to keep teeth healthy, it is necessary to brush our teeth after breakfast in the morning and after dinner.131(65.5%) strongly agreed that our teeth should be brush twice a day, and a mean score of 3.66 was obtained. 38(19.0%) of respondents disagreed to the necessity to always rinse our mouth with water after each meal while 162(81.0%) strongly agreed with the statement, and a mean score of 3.62 was obtained. 69(34.5%) agreed

that Foods and drinks with sugar such as sweets, chewing gums, and soft drinks destroy the teeth while 131(65.5%) strongly agreed, 72(36.0%) agree that Poor oral health causes periodontal disease such as swollen and bleeding gum while 128(64.0%) And the last item revealed that 69(34.5%) agreed that it is necessary to go for dental check-up at least once in a year while 131(65.5%) strongly agreed to the same item. Summarily it can be deduced that majority of secondary school students in this study know about good oral hygiene.

Table 2: Attitude of respondents to dental hygiene

Attitude items	Strongly disagree	Disagree	Agree	Strongly Agree	Mean
Caring for the mouth is as important as caring for other parts of the body	-	-	72(36.0%)	128(64.0%)	3.64
It is important to brush the teeth in the morning after your breakfast and last thing before you sleep	-	-	69(34.5%)	131(65.5%)	3.66

The above table revealed that 72(30.0%) agreed to the fact that caring for the mouth is as important as caring for other parts of the body while 128(64.0%) strongly agreed and a mean score of 3.64 was obtained. Although 69(34.5%) of respondents agreed that It is important to brush the teeth in the morning after breakfast and last thing before sleep and a mean score of 3.66 was obtained.

Table 3: Attitude of respondents to dental visit

Attitude to dental visit	**7-12months**	**1year and above**
When was your last dental visit	128(64.0%)	72(36.0%)
	pain/treatment	**Check-up/tooth cleaning**
Why do you usually visit	200(100%)	-

the dentist		
	Yes	**No**
Did you ever receive a professional fluoridation in a dental office	200(100%)	-

Attitude to dental visit revealed that 128(64.0%) of respondents visited the dentist between 7-12 months while 72(36.0%) of the respondents visit to the dental clinic was between one year and above. 200(100%) of respondents usually visit the dentist to check up or have tooth cleaning while 200(100%) has never received professional fluoride addition to their teeth. summarily it can be concluded that respondents had positive attitude to oral health.

Table 4: Practice of Good oral hygiene among respondents

Practice of Good oral hygiene items	***Once a day***	***Twice a day***	***Sometimes a week***	***Never***	***Mean***
How often do you brush your teeth	141(70.5%)	59(29.5%)	-	-	1.30
Do you rinse your mouth with water after each meal	59(29.5%)		141(70.5%)	-	2.41
Do you use toothbrush and fluoride toothpaste for tooth brushing	141(70.5%)	59(29.5%)	-	-	1.30

Do you brush your teeth using up, down and sideways technique	72(36.0%)	69(34.5%)	59(29.5%)		1.94
Do you use chewing stick to clean your teeth			38(19.0%)	162(81.0%)	3.81

From table 4, as regards how often respondents brush their teeth, 141(70.5%) brushed once a day while 59(29.5%) brush twice a day. 59(29.5%) of respondents rinsed mouth with water after each meal but 141(70.5%) do the same sometimes once a week. 141(70.5%) also used toothbrush and fluoride toothpaste for tooth brushing once in a day while 59(29.5%) do that twice a day while 72(36.0%) brushed their teeth using up, down and sideways technique. 69(34.5%) used the technique twice a day while 59(29.5%) used the technique sometimes once a week. 38(19.0 %) used chewing stick to clean teeth but 162(81.0%) never use chewing stick to clean their teeth.

Table 5: Crosstab of level of education and practice of good oral hygiene among respondents

		Do you use toothbrush and fluoride toothpaste for tooth brushing?		
		Once a day	Twice a day	χ2 195.272 Df.(4)
Level of Education	JSS1	7	0	
	JSS2	78	0	Sig. Value 0.00
	JSS3	45	0	
	SS2	1	59	
	SS3	10	0	
Total		141	59	200

		Do you brush your teeth using up, down and sideways technique?			
		Once a day	Twice a day	Sometimes a week	χ2 348.743 Df.(4)
Level of Education	JSS1	7	0	0	
	JSS2	9	69	0	
	JSS3	45	0	0	Sig. Value 0.00
	SS2	1	0	59	
	SS3	10	0	0	
Total		72	69	59	200

From table 5: showing Chi-square test of association between the level of education of respondents and respondents practice of good oral hygiene, it was revealed that level of education does not in any way significantly determine practice of good oral hygiene as the calculation revealed χ2 Value of 195.272 with a Df. (4) and also χ2 value of 348.743 Df. (4) significant values < 0.05 it was decided that level of education does not significantly determine practice of good oral hygiene.

Discussion of findings

Socio demographic profile of respondents

Analysis of obtained data revealed that respondents between ages 10-13yrs are 41.0% of study respondents, respondents between ages 14-17yrs are 28.5%, and those between ages 18 and above are 30.5% Summarily, it was discovered that respondents between ages of 10- 13 years participated more in this study than other ages that partook in the study. Home set up of respondents were shared between monogamous and polygamous family, up to 65.5% of respondents in this study were from monogamous setup, while respondents of polygamous set up were 34.5% also none of the respondents in this study area are from divorced family set up. Summarily, respondents from monogamous family set up were more in this study. This is consistent with the findings of Saad, Pervez and Siraj (2020) in a study on Knowledge and Practice of Preventive Measures for Oral Health Care among Male Intermediate School children in Abha, Saudi Arabia who findout that school children are either from monogamous or polygamous family.

Academic level in terms of classroom placement showed that respondents in Junior secondary school 1 were 3.5% those in JSS 2 are 39.0% while those in JSS3 are 22.5%. Respondents in SS2 are 30.0% while those in SS3 are 5.0%. Majority of respondents in this study were from JSS2 Occupation status of parents and caregivers of respondents showed that 29.5% of respondents are civil servants, 30.5% are Traders while larger majority of respondents up to 40.0% are Artisans. Concerning religion analysis revealed that 61.0% of respondents in this study are Christians while 39%) are Muslims; none of respondents in this study are traditional worshippers.

Question 1 sought to: Assess knowledge of good oral hygiene among Secondary School Students of Onike Girls High School Onike Saba Yaba Local Government Lagos State

Analysis revealed that 34.5% of respondents in this study agreed that in other to keep teeth healthy it is necessary to brush after breakfast in the morning and after dinner, 65.5% strongly agreed that in other to keep teeth healthy it is necessary to brush after breakfast in the morning & after dinner, a mean of 3.66 was obtained. Additionally, 19.0% of respondents disagreed to the necessity to always rinse our mouth with water after each meal while 81.0% strongly agreed, 3.62 was obtained as the mean. 34.5% of respondents agreed that foods and drinks with sugar such as sweets, chewing gums, and soft drinks destroy the teeth while 65.5% strongly agreed, 36.0% agree that poor oral health causes periodontal disease such as swollen and bleeding gum.

64.0% strongly agreed that oral health causes periodontal disease such as swollen and bleeding gum, the last item revealed that 34.5% agreed that it is necessary to go for dental check-up at least once in a year while 65.5% strongly agreed to the same item. Summarily, it could be deduced that majority of secondary school students in this study knew about good oral hygiene quite well and this is consistent with the findings of Saad, Pervez and Siraj (2020) in a study on Knowledge and Practice of Preventive Measures for Oral Health Care among Male Intermediate School children in Abha, Saudi Arabia vast majority of the school children in this study had satisfactorily understood the importance of good oral hygiene.

Question 2 focused on examining the attitude of secondary school students' age 10-18yrs towards good oral hygiene in Yaba Local Government Lagos State.

Analysis showed that attitude of respondents towards caring for the mouth is as important as caring for other parts of the body as 30.0% agreed and 64.0% strongly agreed that caring for the mouth is as important as caring for other parts of the body, and a mean of 3.64 was obtained 34.5% of respondents agreed that it is important to brush the teeth in the morning after breakfast and last thing before sleep and a mean score of 3.66 was obtained. concerning attitude of respondents to dental visit, it was revealed that 64.0% of respondents visited the dentist between 7-12 months while 36.0% visited the dentist between one year and above, 100% of respondents usually visit the dentist to check up or have tooth cleaning likewise 100% has never received professional fluoride addition to their teeth in a dental office. Summarily it can be concluded that respondents way of thinking is positively tilted to good dental health, this findings is in agreement with the findings of Yakubu, Okeigbemen, Osamwonyi and Eromosele (2017) in a study on Knowledge, attitude towards and practice of oral hygiene among antenatal clinic attendees in public secondary health facilities in Benin City Majority of the respondents had a positive attitude towards oral hygiene.

Question 3 examined the good oral hygiene practice pattern of Secondary School Students of age 10-18yrs of Yaba Local Government Lagos State

Findings of this study revealed how often respondents brush their teeth, 70.5% brush their teeth once a day while 29.5% brush twice a day, 29.5% of respondents rinse mouth with water after each mealwhile 70.5% do the same sometimes once a week, 70.5% also use toothbrush and fluoride toothpaste for tooth brushing once in a day while 29.5% do that twice a day, 36.0% brush teeth using up, down and sideways technique, 34.5% use the technique twice a day while 29.5% use the technique sometimes once a week. 19.0% use chewing stick to clean teeth but 81.0% never use chewing stick to clean their teeth. It can also be concluded that the practice of good oral hygiene is well above average as majority of respondents engaged in good oral hygiene practices.

Question 4 was more of hypotheses to determine association of class level of Secondary School Students age 10-18yrs and their knowledge of good oral hygiene in Yaba Local Government Lagos State.

Chi-square test of association between the level of education of respondents and respondents practice of good oral hygiene it was revealed that level of education does not in any way significantly determine practice of good oral hygiene as the calculation revealed $\chi 2$ Value of 195.272 with a Df. (4) and also $\chi 2$ value of 348.743 Df. (4) significant values < 0.05 it was decided that level of education does not significantly determine practice of good oral hygiene. Contrary to this findings is the findings of Yakubu, Okeigbemen, Osamwonyi and Eromosele (2017) where respondents level of education was statistically significant with practice of good oral health.

Recommendations

There should be enlightenment programs and public awareness in the Yaba local council development area on by the government and non-governmental organizations to inform the populace on consisting of adolescents like those focused in this study on good oral hygiene and its accompanied benefits, Students aged 10-18 in Yaba local council development.

Informed on the early recognition of bad oral health practices so as to be able to prevent oral diseases from occurring rather than spending more of curing oral diseases that should have been easily prevented by good oral hygiene.

The government at the local council development authority level should through the mass media organize a radio or online program where everything about oral hygiene and oral diseases should be exposed, there should also be enlightenment programs for students on ways of preventing and managing early sings of oral diseases that is preventable not just for recognition but for requisite treatment. Non-governmental and governmental agencies should ensure that the cost of preventive and curative dental services is maintained at an affordable level for people to able to continue with good patronage of the service most especially at the Primary Health Care Level

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