
Level of knowledge of Oral Hygiene and The Practices of Oral Hygiene of Primary School Pupils in Borno State, Nigeria

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ABSTRACT

This study determined the level of knowledge of oral hygiene and the practices of oral hygiene of primary school pupils in Borno state, Nigeria. The study was guided by four objectives, and four research questions were answered. Related literature was reviewed on the concept of oral hygiene, knowledge of oral hygiene among primary school pupils, levels of practice of oral hygiene among primary school pupils, factors that promote oral hygiene practices among primary school pupils. Survey research design was adopted for the study, Population for the study comprised all selected male and female pupils in Konduga primary. Simple random sampling technique was used to select one hundred and twenty-five (125) respondents as sample for the study. The research instrument used for the study was self-developed questionnaire with twenty items. Data collected were analysed using frequency count and percentage scores. The study revealed that, the respondents have good knowledge and experience of taking care for their teeth, which is significantly important in reducing teeth disease, the level of practice of oral hygiene of the respondents was moderate which has less significant effect on the health status of the respondents, the factors that promote oral hygiene practices is good which is significantly useful in preventing disease and incidence of mouth cancer and also in conclusion based on the findings of the study it was recommended among others that schools should provide suitable facilities such as safe and adequate water supply and wash basins to promote positive oral hygiene practices among school children.

1. Introduction

Oral disease qualifies as major public health problems owing to their higher prevalence and significant social impact (WHO 2003). Oral health is considered as fundamental to general health and well-being. A healthy mouth enables an individual to speak, eat and socialize without experiencing any active disease, discomfort or embarrassment (Staller, 2005). Oral hygiene knowledge is considered to be an essential prerequisite for health-related behavior and it has been shown that primary school children have low level of oral health awareness and practice as compared to their high school counterparts (Mishra, 2004). Health promotions in developing country like Nigeria, where the geo-socio-political and economic factors offer meager and inadequate health care resources to its rapidly growing population, make this an uphill task.

However, a number of factors such as diet, smoking, alcohol, hygiene, stress and exercise are linked to a wide range of important diseases forming the fundamental basis of common risk factor approach to prevent a range of conditions developing oral diseases (WHO 2010). Oral hygiene is the single but most significant factor when it comes to the prevention of its diseases. However, little is known about oral health knowledge and practice among children from developing countries

as comparison with developed countries (Al- Omiri, 2005), although such knowledge is an indication of the efficacy of applied oral health education programs.

Furthermore, oral hygiene is essential to good health in general and preventing occurrence of many diseases, dental caries and its periodontal problems are due to poor oral hygiene practices (Folayan *et al*, 2008). According to Stone in 2010 dental caries presented a major problem for people in the developed countries, affecting 60-90% of school children compared to those in the developing countries. However, during the past few decades, the prevalence of dental caries has declined in many developed countries and the reverse is happening in the developing countries (Kasila *et al*, 2006). In many developing countries the practice of oral hygiene caries is increasing and has been associated with healthy dietary habits, used of fluoride and access to oral health services. The practice of oral hygiene caries was believed to be low in Africa World Health Organization (2003). However, World Health Organization (WHO) indicates that in the light of changing living conditions and dietary habits, the practice of oral hygiene is increasing in many developing countries.

Oral health knowledge is considered to be an essential prerequisite for health-related practices (Okemwa, 2010), and a studies have shown that there is an association between increased knowledge and better oral health (Garz, 2008). Those who have assimilated the knowledge and feel a sense of personal control over their oral health are more likely to adopt self-care practices (Al Ansari, 2011). Oral health education has been part of the primary school curriculum in many developing countries and implemented by teachers at primary schools (Khan, 2013), however, the oral health education sessions addressed oral hygiene by lectures, and it was observed to be deficient in content and in methods (Khan, 2013). The level of oral health knowledge and practices of primary school pupils is unknown and need worthy of investigation.

2. Objectives of the Study

The objectives of the study were to:

- a. Assess the levels of knowledge of oral hygiene among primary school pupils
- b. Determine the levels of compliance on practice of oral hygiene among primary school pupils
- c. Identify the factors that promote the levels of practice of oral hygiene among primary school pupils
- d. Determine the impact of oral hygiene among primary school pupils

3. Research Questions

The following are the research questions guided the study:

- a. What are the levels of knowledge of oral hygiene among primary school pupils?
- b. What are the levels of compliance on practice of oral hygiene among primary school pupils?
- c. What are the factors that promote the levels of practice of oral hygiene among primary school pupils?
- d. What are the benefits of hygiene among primary school pupils?

4. Literature Review

Knowledge of Oral Hygiene Among Primary School Pupils: Oral hygiene knowledge is considered to be an essential prerequisite for health-related behavior and it has been shown that primary school children have low level of oral health awareness and practice as compared to their high school counterparts (Mishra, 2004). Health promotions in developing country like Nigeria, where the geo-socio-political and economic factors offer meager and inadequate health care resources to its rapidly growing population, make this an uphill task. Oral health as an essential aspect of general health can be defined as a standard of health of the oral and related tissues which enables an individual to eat, speak, and socialize without active disease, discomfort or embarrassment and which contributes to general well-being (Kazemnejad, 2009). Hygiene is the single most significant factor when it comes to the prevention of oral diseases, however, little is known about oral health attitudes and behaviors of primary school pupils from developing countries as comparison with developed countries, although such knowledge is an indication of the efficacy of applied dental health education programs (Okemwa, 2014).

Furthermore, policy guidelines for Oral Health Care in developed countries are aims at improving the oral health of pupils with focus on those most at risk by sensitizing communities on preventable oral health problems (Siringi, 2010). As part of the Essential Package of Oral Health Care in developed worlds includes prevention of oral diseases through provision of oral health education in primary schools, at the Reproductive and Child Health Clinics, and the general public (Kibosia, 2009). Oral health education has been part of the primary school curriculum in developed worlds since 1982 and implemented by teachers at primary schools (Petersen, 2013), however, the oral health education sessions addressed oral hygiene by lectures, and it was observed to be deficient in content and in methods (Petersen, 2013). As part of the curriculum a simple oral health

education manual was designed to answer the educational needs of the pupils, and using it as a framework, sessions taught both the concepts and the skills of oral health care in a manner that actively involved the pupils in the learning process (Petersen, 2013).

However, knowledge of oral hygiene varies across the different part of Nigeria. Studies on primary school children reported the knowledge and awareness to be between 48% and 64% with later studies showing a increased knowledge compared to older studies due to regular visit to school by the dental staff from the health services (Rotich, 2010). The high knowlege indicates the increase nature of dental caries among young children. Although dental services are provided both by government and private sectors, utilization patterns are still poor, twelve years olds represent a standard age category used by the World Health Organization (WHO) to assess and compare dental caries levels in the permanent dentition of children worldwide, oral health practice and oral health knowledge is important to know for the implementation of prevention of dental caries (Sam, 2014).

Levels of Practices of Oral Hygiene Among Primary School Pupils: Oral disease qualifies as major public health problems owing to their higher prevalence and significant social impact (WHO 2003). Oral health is considered as fundamental to general health and well-being. A healthy mouth enables an individual to speak, eat and socialize without experiencing any active disease, discomfort or embarrassment (Stallar, 2005). Oral hygiene knowledge is considered to be an essential prerequisite for health related behavior and it has been shown that primary school children have low level of oral health awareness and practice as compared to their high school counterparts (Mishra, 2004). Health promotions in developing country like Nigeria, where the geo-socio-political and economic factors offer meager and inadequate health care resources to its rapidly growing population, make this an uphill task.

However, health promotions in developing country like Nigeria, where the geo-socio-political and economic factors offer meager and inadequate health care resources to its rapidly growing population, make this an uphill task (Sam, 2014). Numbers of factors namely, diet, smoking, alcohol, oral hygiene, stress and exercise are linked to a wide range of important diseases forming the fundamental basis of common risk factor approach (WHO 2010), to prevent a range of conditions including oral diseases, Oral disease can be considered as a public health problem due to it is high prevalence and significant social impact (Sheiham, 2001). Evidence had showed that strong knowledge of oral health leads to a better oral care practice (Al-Wahadni, 2009). A positive attitude towards oral health is influenced by better knowledge in taking care of the teeth, appropriate oral health education can help to cultivate healthy oral health practice (Farsi, 2004).

Furthermore, it is the chief concern of oral health care providers to impact a positive oral health knowledge and behavior in the society. Improving oral health in the children living in special circumstances and social circumstances is still a challenging task in any developing country (El-Qaderi,2014). The behavior and attitudes of the children are a result of the social, ethnic, cultural and economic factors, and is influenced by their knowledge of health and prevention of diseases. Family support also plays an important role in the development of oral health practices and prevention (Rowden, 2011). The children residing out of schools are tend to be more susceptible to dental diseases due lack of awareness, limited access to professional dental care in-comparison to the advantaged population, social, cultural, economical and ethnic factors (Sarkar, 2013).

Factors that Promote Oral Hygiene Practices Among Primary School Pupils: Oral hygiene is essential to good health in general and preventing occurrence of many diseases, dental caries and its periodontal problems are due to poor oral hygiene practices (Folayan, 2008). According to (Stone, 2010) reported that dental caries presented a major problem for people in the developed countries, affecting 60-90% of school children compared to those in the developing countries. However, during the past few decades, the prevalence of dental caries has declined in many developed countries and the reverse is happening in the developing countries (Kasila et al, 2006). In many developing countries the practice of oral hygiene caries is increasing and has been associated with healthy dietary habits, used of fluoride and access to oral health services. The practice of oral hygiene caries was believed to be low in Africa World Health Organization (2003). However, World Health Organization (WHO) indicates that in the light of changing living conditions and dietary habits, the practice of oral hygiene is increasing in many developing countries.

Furthermore, (Kasila et al., 2006) assert that maintaining good oral hygiene and using fluoride toothpaste for regular tooth brushing (twice a day) are essential in preventing dental caries and periodontal diseases. Compliance with these practices is influenced by a number of factors. According to (Sufia, 2009), a number of maternal factors have been suggested to influence child's oral hygiene practices. These include mother's age, her level of education, and her domicile of residence, cultural

perceptions and the family’s income. The personal characteristics that influence compliance in the children include self-esteem, motivation, knowledge/awareness, values and behavior of the peers.

However, environmental factors on the other hand include mass media, industries and community institutions influences oral hygiene practices (Kwan, 2012). A young person with high self-esteem and good social skills who is clear about her/his values and has access to relevant information is likely to make positive decisions about health. External factors have a tremendous impact on how adolescents think and behave, the values and behaviors of their peers are increasingly important while parents and other family members continue to be influential. Many countries around the globe have been conducting health education and awareness programs in their educational organizations in order to provide awareness on personal hygiene, oral hygiene, suitable nutrition and environmental sanitation (Sarkar, 2013). Mouth serves as a mirror of the body (Grewal and Kaur, 2007) and therefore, has a direct impact on general health (Al-Zamzami, 2012). Parents at home observe the oral hygiene and eating habits of their children; however, children residing in hostels may neglect the oral hygiene as an important issue.

Benefits of Oral Hygiene to Primary School Pupils: Children who suffer from poor oral health are twelve times more likely to have restricted activity daily, including missing school, than those who do not. Annually, more than 50 million hours are lost worldwide from schools due to oral diseases (Carlson, 2010). A school is not just a place for a student to receive education, but an institute which molds the behavior, attitude and perceptions towards life. The World Health Organizations Global School Health Initiative encourages “Health-Promoting Schools” to create a healthy setting for living, learning and working. This initiative is designed to improve the health of students, school personnel, families and other members of the community through schools (Pallavi, 2014). Oral disease can be considered a public health problem due to its high prevalence and significant social impact. Chronic oral disease typically leads to tooth loss, and in some cases has physical, emotional and economic impacts: physical appearance and diet failure to incorporate oral health into general health promotion, millions suffer intractable toothache and poor quality of life, and end up with few teeth (Sheiham, 2012).

Furthermore, elementary schools are suitable for the presentation of oral health information. Children, the potential recipients, spend a considerable amount of time in this setting. They can be reached at a time when their health habits are forming. Oral health information can be made available to all children, including those who may not have access to other sources of health information (Parameswaran and Bowers, 2014). Primary should organize health programs for residential student/pupils (Lipson, 2010). A study reported that health literacy and oral health are associated with each other and recommended that education on oral health should be based on the needs of the students. Similarly, audience friendly materials should be designed to increase information regarding oral hygiene and its related practices (Guo et al., 2014).

5. Methodology

The research design used for this study is a survey research design. The survey research design is used when researchers want to describe trends in a large population. According to (Creswell, 2012) survey research design is the quantitative research in which researchers administer a survey to a sample or to the entire population of people to describe the attitude, opinion, behavior, or the characteristic of the population. Therefore, the survey research design is appropriate for this study.

6. Results and Discussion

Demographic Information of the Respondents

n=125				
S/N	Variables	Categories	Frequency	Percentages (%)
1	Age.	6 – 8	17	13.6
		9 – 11	74	59.2
		12 and above	34	27.2
2	Gender.	Male	29	23.2
		Female	96	76.8
3	Classes	Primary 1-2	40	32
		Primary 3-4	40	32
		Primary 5-6	45	36

4	Name of School	Mandrari Primary School	60	48
		IDPs Primary School	65	52

The result in Table 4.1 above item 1 shows that majority of the respondents 74 representing (54.2%) falls within the age range 9 – 11 years, while 17 representing (13.6%) falls within the age 6 – 8 years, while 34 representing (27.2%) are 12 years and above. Item 2 in the table shows that majority of the respondents 96 representing (76.8%) were female, while 29 representing (23.2%) were male. Item 3 show classes of the pupils 40 representing (32%) are from primary 1-2, and 40 representing (32%) are from primary 3-4 while, 45 representing (36%) are from primary 5-6 class. Item 4 show the schools of the pupil, 60 representing (48%) are from Mandrari Primary School, while 65 representing (52%) are from IDPs primary school.

Research Question 1 What are the knowledge of oral hygiene practices among primary school pupils?

Table 4.2: Knowledge of Oral Hygiene Practices among Primary School Pupils

n=125

S/N	Items	Responses	Freq.	Percentages (%)
5	I know caring for the teeth is good?	Yes	114	91.2
		No	11	8.8
6	I know caring for my teeth keep my teeth in good health?	Yes	112	89.6
		No	13	10.4
7	I know caring for my teeth reduce mouth odor?	Yes	102	81.6
		No	23	18.4
8	I know health education classes teach us importance of teeth brushing?	Yes	111	88.8
		No	14	11.2

The result in Table 4.2 above item 5 shows that the majority of respondents 114 representing (91.2%) know that caring for the teeth is good, while only 11 representing (8.8%) disagreed. Item 6 also show the majority of respondents 112 representing (89.6%), agree that caring of teeth keep my teeth in good health, while only 13 representing (10.4%) disagree that caring of cannot teeth keep the teeth in good health. Item 7 in the table also show that majority of respondents 102 representing (81.6%) agree that caring of teeth reduce mouth odor, while only 23 representing (18.4%) disagreed. Item 8 in the table also shows that the majority of respondents 111 representing (88.8%) agreed that health education classes teach us importance of teeth brushing, while only 14 representing (11.2%) disagreed with the statement.

Research Question 2: What are the levels of practice of oral hygiene practice among primary school pupils?

Table 4.3: Levels of Practice of Oral Hygiene Practice among Primary School Pupils

n=125

S/N	Items	Responses	Freq.	Percentages (%)
9	Do you brush your teeth daily?	Yes	74	59.2
		No	51	40.8
10	Do you brush your teeth twice in a day?	Yes	64	51.2
		No	61	48.8
11	Do you use tooth brush to brush your teeth?	Yes	100	80
		No	25	20

12	Do you use chewing stick to clean your teeth?	Yes	86	68.8
		No	39	31.2

The result in Table 4.3 above item 9 show that majority of respondents 74 representing (59.2%) agree that they brush their teeth daily, while 49 representing (39.2%) disagree. Item 10 show majority of the respondents 64 representing (51.2%) agree that they brush their teeth twice in a day, where 61 representing (48.8%) disagree. Item 11 show that majority of the respondents 100 representing (80%) agree that they you use tooth brush to brush their teeth, while, only 25 representing (20%) disagree. Item 12 also show 86 representing (68.8%) agree that they used chewing stick to clean their teeth, while 39 representing (31.2%) disagree.

Research Question 3: what are the factors that promote oral hygiene practices among primary school pupils?

Table 4.4: Factors that Promote Oral Hygiene Practices among Primary School Pupils

n=125

S/N	Items	Responses	Freq.	Percentages (%)
13	I love advertisement on television how to clean the teeth?	Yes	80	64
		No	45	36
14	I learn to care for my teeth from my peer group?	Yes	84	67.2
		No	41	32.8
15	I am encouraged by my brothers and sisters to care for my teeth?	Yes	104	83.2
		No	21	16.8
16	I am taught in the school to care for my teeth?	Yes	110	88
		No	15	12

The result in Table 4.4 above item 13 show that majority of the respondents 80 representing (64%) agree that their love advertisement in television on how to clean the teeth, while 45 representing (36%) disagree. Item 14 in the table also show that majority of respondents 84 representing (67.2%) agree that they learn to care for their teeth from their peer group, while 41 representing (32.8%) disagree. Item 15 in the table also shows that majority of respondents 104 representing (83.2%) agree that they are been encouraged by their brothers and sisters to care for their teeth, while 21 representing (16.8%) disagreed. Item 16 in the table also show that majority of respondents 110 representing (88%) agree that they are taught in the school to care for their teeth, while only 15 representing (12%) disagreed with the statement.

Research Question 4: What are the health benefits of oral hygiene to primary school pupils?

Table 4.5: Health Benefits of Oral Hygiene to Primary School pupils

n=125

S/N	Items	Responses	Freq.	Percentages (%)
17	Brushing of one’s teeth prevents mouth smelling?	Yes	90	72
		No	35	28
18	Brushing of one’s teeth improve teeth strength?	Yes	67	53.6
		No	58	46.4
19	Brushing of one’s teeth reduces mouth diseases?	Yes	102	81.6
		No	23	18.4

20	Brushing of one's teeth improves taste of food?	Yes	70	56
		No	55	44

The result in Table 4.5 above item 17 shows that majority of respondents 90 representing (72%) agree that brushing of one's teeth prevents mouth smelling, while 35 representing (28%) disagree. Item 18 in the table also shows that majority of the respondents 67 representing (53.6%) agree that brushing of one's teeth improve teeth strength, while only 58 representing (46.4%) disagreed. Item 19 in the table also shows that majority of respondents 102 representing (81.6%) agree that brushing of one's teeth reduces mouth diseases, while only 23 representing (18.4%) disagreed. Item 20 also shows that majority of respondents 70 representing (56%) agreed that brushing of one's teeth improves taste of food, while 55 representing (44%) disagreed with the statement.

7. Discussion

The finding of this study on the knowledge of oral hygiene practices among primary school pupils, the study discoverer that the majority of respondents revealed that know that they caring for the teeth is good, this findings is in line with the work of (Okemwa, 2014) on the study of Oral Health Knowledge, Attitude and Practice among Primary School Children in Rural Area of Assiut Governorate, where the researcher discovered that majority of his respondents (82%) revealed that they know that caring for the teeth is good. The study also discovered that majority of respondents agree that caring of teeth reduce mouth odor, this finding is also in line with the work of (Asmaa, 2015) on the study of Oral Health Knowledge, Attitude and Practice among Primary School Children In Rural Areas of Assiut Governorate, where the researcher discovered that (62%) of the respondents have agree that caring of teeth reduce mouth odor.

The finding of this study on the levels of practice of oral hygiene practice among primary school pupils, the study discovered that majority of respondents revealed that they brush their teeth twice in a day, this finding is also in line with the study of (Stallar, 2005) on the study of Knowledge, attitude and practice regarding oral hygiene measures among government school in Uganda, where the researcher discovered (74%) of his respondents agree that they brush their teeth twice in a day. The study also discovered that majority of respondents revealed that they used chewing stick to clean their teeth, this finding is in contract with that of Drafer (2015) on the study of benefits of oral hygiene and it is practices among primary school pupils, where the researcher discovered that (62%) of the respondents used teeth brush to clean they teeth.

The finding of this study on the factors that promote oral hygiene practices among primary school pupils, the study discovered that majority of respondents revealed that their love advertisement in television on how to clean the teeth, while this finding is in contract with the work of (Kwan, 2012) on the study of causes and consequences of on the non-practices of oral hygiene, where the researcher discovered (56%) of his respondents revealed that they do not love advertisement in television on how to clean the teeth. Also this study discovered that majority of respondents agree that they are been encouraged by their brothers and sisters to care for their teeth, this finding is in line with that of Davis (2011) on the study of the roles of family on oral hygiene practice on their children, where the researcher discovered that (78%) of his respondents agree that they are been encouraged by their brothers and sisters to care for their teeth.

The finding of this study on the health benefits of oral hygiene to primary school pupils, the study discovered that majority of respondents agree that brushing of one's teeth prevents mouth smelling, this finding is in line with that of Hinscont (2015) on the study of the impact of oral hygiene practice to students health among undergraduate students, where the researcher discovered (89%) of his respondents agreed that brushing of one's teeth prevents mouth smelling. This study also discovered that the majority of respondents agree that brushing of one's teeth reduces mouth diseases while, this finding is in line with that of Garz (2011) on the study of health implication of non-practice of oral hygiene among youths, where the researcher discovered that (56%) of his respondents agreed that brushing of one's teeth reduces mouth diseases.

8. Conclusion

Based on the findings of this study, the following conclusions have been drawn about on the knowledge of oral hygiene among primary school pupils it was revealed the respondents have good knowledge and experience of taking care for their teeth, which is significantly in reducing teeth disease, the level of practice of oral hygiene of the respondents was moderate which has less significant effect on the health status, the factors that promote oral hygiene practices is good which is significantly in preventing disease and incidence of mouth cancer.

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