

## DENTAL VISIT BEHAVIOUR AMONG PRIMARY SCHOOL CHILDREN IN PORT HARCOURT, NIGERIA

J.O. Eigbobo<sup>1\*</sup>, C.L. Nzomiwu<sup>2</sup>

1. Department of Child Dental Health, Faculty of Dentistry, University of Port Harcourt, Port Harcourt, Nigeria.
2. Department of Child Dental Health, Faculty of Dentistry, College of Medicine, University of Lagos, Lagos, Nigeria.

### Abstract

To assess the types and pattern of dental visits among children in public and private primary schools.

A comparative cross sectional study carried out among public and private primary school pupils in Port Harcourt, Nigeria. Selection was done from schools using the multistage sampling method. Information was obtained from the school records and parents by means of structured questionnaires. Demographic information; (age, sex, ethnic group, religion, parent or guardian's level of education) and history of previous dental visits were elicited. Data was analysed using SSPSS version 20. Demographic variables and associations were tested using chi-squared tests with the level of statistical significance set at  $p < 0.05$ .

Four hundred and thirty pupils; 200 (46.5%) males and 230 (53.5%) females with a mean age of 7.6 (+2.7) years from two private and two public schools participated. Majority (87.2%) of the pupils had never visited the dental clinic. Three quarters (74%) of those who accessed dental care did because of symptoms. Utilisation of dental services and frequency of dental visits varied significantly with schools, being higher among those in private schools. There were statistical significant differences in the level of education of the parents of the pupils who attended private and the public schools ( $p=0.001$ ).

There was poor utilisation of dental services among respondents with those in private schools attending more frequently. Oral health enlightenment programmes should be fashioned for parents/caregivers on the importance of good oral health since they bear the responsibility for the health of these children.

*Clinical article (J Int Dent Med Res 2015; 8: (3), pp. 104-109)*

**Keywords:** Dental visits, primary school, routine visits, port harcourt.

**Received date:** 22 October 2015

**Accept date:** 25 November 2015

### Introduction

The role of dental visits in optimizing oral health cannot be overemphasized. Dental visits are essential among other things to guide parents on good oral hygiene, good dietary habits, routine checks for oral diseases and monitor occlusion.<sup>1</sup> Dental visits may be routine or episodic/follow up. Routine and regular visits are essential for achieving optimal oral health by

means of preventive dental care, however, irregular or episodic visits occur when patients visit for symptomatic/emergency dental care. Follow up or re-care visits are necessary in dentistry after treatments as ongoing, continual, long term scheduled (once or twice a year) maintenance phase of dental treatments.<sup>2</sup>

Paediatric dental organisations<sup>1,3-7</sup> have recommended that the first dental visit should be as early as within 6 months of eruption of the first primary tooth which falls within the first year of the child so as to establish a dental home. Subsequent visits at regular six monthly intervals or shorter intervals if the oral health status demands are then encouraged. Primary teeth are vulnerable to tooth decay from their very first appearance, which occurs on average between the ages of 6 and 12 months, consequently their

#### \*Corresponding author:

Dr. J.O. Eigbobo  
Department of Child Dental Health, Faculty of Dentistry,  
University of Port Harcourt, Port Harcourt, Nigeria  
Phone: +234-8034738582  
E-mail: odegwabobo@yahoo.com

first oral examination by the dentist is recommended at the time of eruption of the first tooth and no later than 12 months of age.<sup>1</sup>

Dental visits at regular intervals could prevent the occurrence of common dental diseases such as dental caries and periodontal diseases since routine care serves many functions where dietary advice, proper oral hygiene instructions and preventive procedures are carried out. Regular dental checkups or routine dental visits have been reported to help identify early stages of dental caries<sup>1</sup> and when appropriate interventions are applied, the process can be reversed. The importance of routine check-ups is being emphasized since it has been shown to reduce severity of disease and save cost of oral health care<sup>10,11</sup> while problem based dental visit was associated with a poorer oral health related quality of life.<sup>12</sup>

Routine dental visit is not one of the practices of developing countries. Pain and emergency care have been reported as motivation for dental visits.<sup>9,13,14</sup> In a clinic based study done in Port Harcourt, Nigeria it was observed that majority (95.9%) of the subjects that attended the Paediatric dental clinic attended because they had symptoms and only few attended for routine dental check-up.<sup>13</sup> The responsibility for the health of young children is usually borne by adults who generally make decisions about their health, therefore these school children depend on their parents/caregiver to take them to the dental clinic both for routine check up and treatment of their oral conditions. Studies have also shown that parental oral health-seeking behaviours may have an important effect on oral health seeking behaviours of their children.<sup>16</sup>

In Nigeria, several studies<sup>14,17,18</sup> have been done to determine the utilisation of dental services among children, yet there is limited information among the primary school children whose health seeking abilities lie in the hands of their parents and care givers. This is because primary school children in Nigeria are usually between the ages of 6- 11 years and are therefore not old enough to go to the health centres on their own but rely on their parents /caregivers.

The aim of this study therefore was to assess the dental visit behaviour among primary school pupil and ascertain the difference between the private and public school pupils.

## Methods

This was a comparative cross sectional study carried out among public and private primary school pupils in Obio/Akpor Local Government Area of Rivers State, Nigeria. A representative sample was chosen by a multistage sample design. All 3-12 year old children with signed consent forms in selected schools were eligible. The first stage was selection of a local government area (LGA) from Port Harcourt city by simple random sampling by means of ballot.

The second stage was a simple random sampling technique: two private and two public primary schools in Obio/ Akpor LGA were selected randomly by ballot using the list of schools obtained from the Local Education District, as a sampling frame. The third stage was systematic sampling technique within the schools; Children (Nursery –primary 5) were selected from each arm of the classes after determining Sampling fraction

Information was obtained from the school records and parents by means of a structured questionnaire developed by the World Health Organisation 2013. The parents filled the modified structured questionnaires which were sent to them through their children. Information elicited include socio-demographic information (age as at last birthday, sex, ethnic group, religion, parent or guardian's level of education were obtained and recorded) and the history of previous dental visits.

Data collected were analysed using Statistical Package of Social Sciences (SPSS) version 20. Descriptive summary statistics was obtained for demographic variables and associations were tested using chi-squared tests with the level of statistical significance set at  $p < 0.05$  at 95% confidence interval

## Ethical Clearance

Approval was sought and obtained from Research and Ethics committee of the University of Port Harcourt, Rivers State to carry out the study. The Rivers State Universal Basic Education Board also gave approval while informed consent were obtained from the head teachers at the schools and written consent was obtained from the parents

## Results

### Socio-demographic characteristics

Out of the 480 questionnaires given out, 430 (89.6%) pupils from two public and two private primary schools in Obio/Akpor Local Government area in Rivers State participated in the study; 215 children in private schools and 215 in public schools. There were 200 (46.5%) males and 230 (53.5%) females. Their mean age was 7.6 ( $\pm 2.7$ ) years; the mean age among private school children was 7.1 ( $\pm 2.6$ ) years while that of the public school children was 8.2 ( $\pm 2.7$ ) years (Table 1).

	Private school pupils	Public school pupils	X <sup>2</sup> ; df; p value
<b>Sex</b>			
Male	107 (49.8)	93(43.2)	1.832; 1; 0.176
Female	108 (51.2)	122 (56.8)	
Total	215 (100.0)	215 (100.0)	
<b>Age (Years)</b>			
3	15 (7.0)	9 (4.2)	136.118;5;0.001*
4	26 (12.1)	11 (5.1)	
5	31 (14.4)	25 (11.6)	
6	24 (11.2)	19 (8.8)	
7	25 (11.6)	29 (13.5)	
8	25 (11.6)	20 (9.3)	
9	23 (10.7)	21 (9.8)	
10	15 (7.0)	27 (12.6)	
11	21 (9.8)	27 (12.6)	
12	10 (4.7)	27 (12.6)	
Total	215 (100.0)	215 (100.0)	
<b>Mean age</b>	<b>7.6</b>	<b>8.2</b>	
<b>(<math>\pm 2.7</math>)years</b>	<b>(<math>\pm 2.6</math>)years</b>	<b>(<math>\pm 2.7</math>)years</b>	
<b>Fathers Education</b>			
< primary school	0	4 (1.9)	144.888; 5; 0.001
Primary school	3 (1.5)	29 (13.9)	
Secondary	22 (10.7)	91 (43.8)	
University	170 (82.5)	57 (27.4)	
Don't know	11 (5.3)	15 (7.2)	
<b>Mothers education</b>			
No formal schooling	0	17 (8.1)	144.888; 5; 0.001
< primary school	0	5 (2.4)	
Primary school	6 (2.9)	34 (16.3)	
Secondary	42 (20.0)	105 (50.2)	
University	151 (71.9)	33 (15.8)	
Don't know	11 (5.2)	15 (7.2)	
Total	210	209	

\*p < 0.05 is significant

**Table 1.** Socio Demographic Characteristics of the Subjects

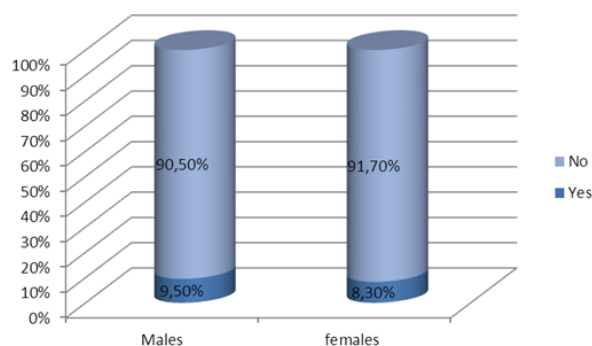
There were statistical significant differences in the level of education of the

parents of the pupils who attended private and the public schools (p=0.001).

### Utilisation of dental facilities by public school pupils

Of the study population, 375(87.2%) had never been to the dentist before and this consisted of 174 (87%) males and 201 (87.4%) females. Within the last 12 months 392 (91.2%) of the children had not been to the dentist. More private school pupils 31.6% had tooth discomfort or pain than public school pupils (23.3%) and this difference was statistically significant. P=0.03). For those that had been to the dental clinic in the last 12 months, 74% of them had symptomatic visits, while 15% had routine visits/dental check-up. (Table 1) There were statistical significant differences between the private and public school pupils in their dental visit behaviour within the last 12 months and frequency of visits (Table 2).

When the gender was compared there was a statistical significant difference (p=0.04) between the males 19 (9.5%) and females 19 (8.3%) that utilized dental facilities within the last 12 months.(Figure 1)



**Figure 1.** Utilization of dental services in the past 12 months among the males and females

### Utilization of dental facilities by Public school pupils

Among the pupils in public schools, 95.8% had never been to a dental clinic. Those that had visited had such visits within the last one year of the 4.2% of the pupils that had been to a dental clinic 87.5% of the dental visits were as a result of pain (symptoms). There was no child that visited the clinic for routine check up. (Table 2)

Utilization of dental service	Private school pupils n (%)	Public school pupils n (%)	Total n (%)
<b>During the past 12 months, did your child's teeth or mouth cause any pain or discomfort?</b>			
Yes	65 (30.4)	47 (23.6)	112 (27.1)
No	149 (69.7)	152 (76.4)	301 (72.9)
$\chi^2=2.381, df=1, p=0.123$			
<b>How often during the past 12 months did your child have toothache or feel discomfort due to his/her teeth?</b>			
Often	16 (7.4)	19 (8.8)	35 (8.1)
Occasionally	31 (14.4)	25 (11.6)	56 (13.0)
Rarely	19 (8.8)	6 (2.8)	25 (5.8)
Never	147 (68.4)	165 (76.7)	312 (72.6)
Don't know	2 (0.9)	0	2 (0.5)
$\chi^2=10.698, df=4, p=0.03^*$			
<b>Did you take your child to the dentist in the last 12 months?</b>			
Yes	29 (13.5)	9 (4.2)	38 (8.8)
No	186 (86.5)	206 (95.8)	392 (91.2)
$\chi^2=11.547; df=1; p=0.001^*$			
<b>How often did your child go to the dentist during the past 12 months?</b>			
Once	17 (7.9)	6 (2.8)	23 (5.3)
Twice	7 (3.3)	3 (1.4)	10 (2.3)
Three times	3 (1.4)	0	3 (0.7)
Four times	1 (0.5)	0	1 (0.2)
More than four times	1 (0.5)	0	1 (0.2)
No visit to dentist during the past 12 months	17 (7.9)	0	17 (4.0)
Never received dental care/visited a dentist	169 (78.6)	206 (95.8)	375 (87.2)
$\chi^2=32.512, df=6, p<0.001^*$			
<b>Reason for your child's last visit to the dentist?</b>			
Pain or trouble with teeth, gums or mouth	23 (60.53)	7 (87.5)	30 (65.22)
Treatment follow-up treatment	4 (10.53)	0	4 (8.70)
Routine check-up of teeth/treatment	7 (18.42)	0	7 (15.22)
Don't know/don't remember	4 (10.53)	1 (12.5)	5 (10.87)
$\chi^2=24.842, df=3, p<0.001^*$			

\*p < 0.05 is significant

**Table 2.** The Utilization of Dental Services among the Private and Public School Pupils

### Utilization of dental facilities by Private school pupils

Over three quarter (78.6%) pupils in the private schools had never been to a dentist and 7.9% had not been to a dental clinic in the last 12 months. However 18.4% pupils from private schools that had dental visits were for routine and preventive treatment.

### Discussion

In this study, the dental visit behaviour of the pupils was generally poor but worse in those that attended public schools. It is recommended that a child sees a dentist by age one. Although the mean age of the children in this study was  $7.6 \pm 2.6$  years, majority of the pupils had never been taken to a dental clinic for oral care despite the recommendation<sup>1,3-8</sup> of the different paediatric organisations, that a child should have their first visit to the dental clinic by their first birthday. This

is poor, given the fact that there is a dental school involved in dental awareness programme in the city.

This finding is similar to and corroborates other studies in Nigeria<sup>13,14,17,18</sup> where dental service utilization was reported low. This maybe so because they are done in similar environment (Nigeria), The proportion of pupils in public and private school that utilized dental services was similar to the 9.4% and 16.9% reported among public and private school pupils respectively, in Ile-Ife,<sup>17</sup> According to the report by Adekoya-Sofowora et al<sup>17</sup>, dental visit behaviour of school children in both public schools and private schools were poor. This level of utilization was attributed to the children's satisfaction with their oral health status and perceived need for dental care.<sup>19,20,21</sup> Other studies showing poor utilization include that reported among adolescents in Lagos,<sup>18</sup> Benin<sup>22</sup> and Ibadan<sup>14</sup> where 14.9%, 18.6%, and less than 20% were reported, respectively

Most of those who visited the dental clinic, did so mostly as a result of pain and this is similar to the report of other studies<sup>13,19</sup>, in the same city where very few attended for routine check-ups. However the proportion that attended for routine visits is higher than the 4.1% reported on a clinic based study.<sup>13</sup> This is understandable since most people access dental care when there are symptoms. Routine visits help prevent and detect early carious lesions. Studies have shown that children who had their first preventive visits by age one have less dentally related expenditure when compared with those who did not have such visits at age 1.<sup>11</sup>

Though over a quarter of the parents claimed their children and ward had tooth discomfort or pain, only 8.8% children were taken to dental clinics for assessment and management of the discomfort or pain. This probably was because of poor awareness, ignorance, financial constraints or misconceptions on oral healthcare. Also, parental attitude towards oral healthcare would have played a significant role to this.

Akaji et al<sup>18</sup> noted parental support and commitment as important factors that influenced the use of dental services among children. In this study it is noted that majority of the mothers did not have university education and it has been reported that women and individuals with higher levels of education use dental services more than

others.<sup>23</sup> Therefore poor dental awareness could probably be one of the reasons for poor dental visit behaviour among these children as knowledge empowers an individual to action.

In the Nordic welfare states, health services for adults as well as children are publicly arranged, widely available and most often free or subsidised for all<sup>24,25</sup>.

In Nigeria, this is not so, rather direct user fees are charged for dental services in both the public and private sectors. Again the national health insurance scheme introduced in 2005 is expected to provide additional funding for health care, and to a limited extent, oral health care<sup>26</sup> because oral health is considered as secondary care on the scheme.<sup>27</sup> In spite of this, majority of the populace still have limited financial access to oral health care because the main method of financing oral health care services remains out-of-pocket payment.<sup>28,29</sup>

### Conclusion/Recommendation

Though routine visits are encouraged by the Paediatric Dental organisations', routine visits was reported particularly low and no public school pupils visited the clinic for dental checkups. In this study, private and public school pupils had poor dental visit behaviours but the utilization of dental services was worse in public schools. The finding is similar to what has been reported among secondary school pupils in other studies conducted in Nigeria. There were statistically significant differences between public and private school pupils in their dental visit behaviour.

Oral health campaigns tailored to parents on importance of good oral health. campaigns in health centres especially in the ante/ post natal clinics and children well clinics will go a long way in enlightening the populace on the role of dental visits in achieving and maintaining an excellent oral health. There should be effective school oral health programme where the children and their teachers are enlightened on oral health.

### Declaration of Interest

The authors report no conflict of interest and the article is not funded or supported by any research grant.

### References

1. American Academy of Pediatric Dentistry. Guideline on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance/Counseling, and Oral Treatment for Infants, Children, and Adolescents. Revised 2013. [http://www.aapd.org/media/Policies\\_Guidelines/G\\_Periodicity](http://www.aapd.org/media/Policies_Guidelines/G_Periodicity) Accessed Nov.11, 2015.
2. Griffin AP, Harrison Jr LM, Lewis Jr JL .Practice management. Dentistry for the Child and Adolescent. Edited by McDonald RE, Avery DR, Dean JA. Eight Edition Mosby Elsevier. 2004; Pp725.
3. American Academy of Pediatric Dentistry. Policy on the dental home. *Pediatr Dent*. 2012; 34:24-25.
4. American Academy of Pediatrics. Oral health risk assessment timing and establishment of the dental home. *Pediatr*.2003; 11:1113-1116. Re-affirmed 2009; 124:845.
5. Berg JH, Stapleton FB. Physician and dentist: New initiatives to jointly mitigate early childhood oral disease. *Clin Pediatr*.2012; 51:531-537.
6. American Dental Association. Statement on Early Childhood Caries. <http://www.ada.org/2057>. Accessed Nov. 11, 2015.
7. American Academy of Pediatrics. Oral Health in Children. <http://www2.aap.org/oralhealth/>. Accessed Nov 13, 2015
8. Academy of General Dentistry. Tips for Tots' Teeth. Press release, Jan. 30, 2013. [http://www.agd.org/media/123391/agd\\_press\\_release\\_1\\_30\\_13.pdf](http://www.agd.org/media/123391/agd_press_release_1_30_13.pdf)
9. Ekanayake L, Ando Y, Miyazaki H. Pattern and factors affecting dental utilization among adolescents in Sri Lanka. *Int Dent J* 2001; 51: 353-358.
10. Lee JY, Bouwens TJ, Savage MF, Vann WF Jr. Examining the cost-effectiveness of early dental visits. *Pediatr Dent* 2006; 28:102-105.
11. Savage MF, Lee JY, Kotch JB, Vann WF, Jr .Early preventive dental visits: effects on subsequent utilization and costs. *Pediatrics* 2004; 114:418-423.
12. Kressin NR, Spiro III, Bosse R, Garcia R. Assessing oral health related quality of life: findings from the normative aging study. *Medical Care*. 1996; 34:416-427.
13. Eigbobo JO, Onyeaso CO, Okolo NI Pattern of Presentation of Oral Health Conditions among Children at the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, Nigeria. *Pesquisa Brasileira em Odontopediatria e Clínica Integrada*, 2011; 11:105-109.
14. Denloye O, Ajayi D, Bankole O, Popoola B. Dental service utilization among junior secondary school students in Ibadan, Nigeria. *Pediatric Dent J* 2010; 20: 177-181.
15. Pahel BT, Rozier RG, Slade GD. Parental perceptions of children's oral health: the Early Childhood Oral Health Impact Scale (ECOHIS). *Health Qual Life Outcomes* 2007; 5: 6 -15.
16. Isong IA, Zuckerman KE, Rao SR, Kuhlthau KA, Winickoff JP, Perrin JM. Association between parents' and children's use of oral health services. *Pediatrics*. 2010; 12:502-508.
17. Adekoya Sofowora. Dental caries in 12- year old Suburban Nigerian School. *Afr Health Sci*. 2006; 6:145-150.
18. Akaji EA, Oredugba FA, Jeboda SO. Utilization of dental services among secondary school students in Lagos, Nigeria. *Nig Dent J* 2007; 15; 87-90.
19. Eigbobo JO, Onyeaso CO. Maternal knowledge and awareness of factors affecting oral health in the paediatric population. *Odontostomatol Trop*. 2013; 36:15-24.
20. Al-Hussaini R, Al-Kandari M, Hamadi T, Al-Mutawa A, Honkala S, Memon A. Dental health knowledge , attitudes and behaviour among students at the Kuwait University Health Sciences Centre. *Medical Principles and Practice*. 2003;12:260-265
21. Vigild M, Petersen PE, Hadi R. Oral health behaviour of 12 year - old children in Kuwait. *International Journal of Paediatric Dentistry*. 1999; 9:23-29.
22. Okeigbemen SA. The prevalence of dental caries among 12 to 15-year-old school children in Nigeria: report of a local survey and campaign. *Oral Health Prev Dent* 2004; 2, 27-31.

23. Mumcu G, Sur H, Yildirim C, Soylemez D, Atli H, Hayran O. Utilisation of dental services in Turkey: a cross-sectional survey. *Int Dent J*. 2004;54:90-96
24. Kristiansen I S, Pedersen K M. Health care systems in the Nordic countries – more similarities than differences? *Tidskr Nor Laegeforen* 2000;120:2023–2029.
25. Rostgaard T, Lehto J. Health and social care systems: how different is the Nordic model? In: Kautto M, Fritzell J, Hvinden B, *et al* eds. *Nordic welfare states in the NHIS European context*. London: Routledge, 2001:137–167.
26. Federal Ministry of Health. A report of the technical Working Group for the development of a Road Map for the Improvement of Oral Health In Nigeria. Abuja: FMOH; 2011.
27. Adeniyi AA, Onajole AT. The National Health Insurance Scheme (NHIS): a survey of knowledge and opinions of Nigerian dentists in Lagos. *Afr J Med Med Sci* 2010 39:29-35.
28. Osibogun A. Crises and challenges in the Nigerian health sector. *J Community Med Prim Health Care* 2004 16:1-7.
29. Adegbembo AO. Household utilisation of dental services in Ibadan, Nigeria. *Community Dent Oral Epidemiol* 1994; 22:338-339.