Utilization of dental services among secondary school students in Lagos, Nigeria

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Abstract

Objective: This study was carried out to determine the prevalence of dental visits among secondary school students in Lagos State and to identify factors influencing the use of these services.
Materials and Method: The study was a cross- sectional one comprising of secondary school students aged 10-19 years in Lagos State. They were selected by a multistage sampling method from 4 secondary schools in 2 (1 Urban and 1 Rural) Local Government Areas of the state. After obtaining an informed consent, a pre-tested self-administered questionnaire was filled after by each student. Data were collected on their demographic characteristics, visit(s) to the dentist in the previous 12 months, reasons for these dental visits, factors preventing subsequent dental visit and barriers to visiting the dentist for those who made no previous visit. The data collected were analyzed with an SPSS version 11.5 using Chi square statistics to test for association and differences.
Results: Five hundred and two students aged 10-19 years (mean 14.1 ± 0.22) participated in the study. The students had a dental visit prevalence of 14.9% in the previous 12 months, with 69.3% of the visits prompted by pain. The dental visit prevalence varied significantly with age (p = 0.019), being higher (18.1%) in the younger age group (10-14 years) than 10.5% in the older age group (15-19 years). Reasons for no previous visits ranged from "No dental problem" to "fear of the dentist. Eighteen out of the 75 who made previous dental visits were dissatisfied with the treatment received hence refused to visit again.
Conclusion: The level of utilization of dental services was very low and the standard measure of one visit per year to the dentist was not met. There is need for a "School oral health program" which will promote oral health awareness and encourage routine dental checkups among these students.

Keywords: Dental services, utilization, students, Nigeria.

Introduction

Adequate knowledge of the way an individual utilizes health care services and factors predicting this behaviour help to improve health outcomes. Oral health, an essential and integral part of the overall health and quality of life across the life span needs to be closely monitored for appropriate advice and early treatment where necessary [1-5]. In developing societies where the practice of visiting the dentist is low, at least one visit to the dentist a year is considered a standard measure of appropriate utilization of dental care services [2,3,11-16]

Utilization of dental services is defined as the percentage of the population who accessed dental services over a specified period of time. It incorporates the whole population as denominator, so it is weighted by people who did not visit the dentist over the time in question [6-8]. A number of factors have been noted to influence the use of dental services in both developed and developing countries. They include socio-demographic characteristics of the individual, perceived dental need, people's health beliefs, and attitude towards the dental problems, dental fear, financial incapacity and organization of dental services [1-9]. Adapting a Health Behaviour model proposed by Aday and Anderson, [10] these factors can be categorized into predisposing, enabling and need factors reflecting the characteristics of the population, resources and organization of health services. Predisposing factors are those existing prior to the disease including age, gender, family composition, health care related beliefs and attitude. Enabling factors refer to conditions that affect one's ability to access health care system, such as family income, health insurance, availability of regular source of care and physical accessibility to health facility. Need factors are the most proximal and immediate cause of health service utilization. They include the burden of illness as perceived by the

individual (self-rated health status) and the objective assessment by experts.

In Nigeria, few studies have been done on one or two aspects of utilization of dental services [11-17]. Regular use of dental services by the youths (at least once a year) is less well documented due to a poor health information system especially in Lagos State which is the commercial nerve centre of the country [18]. Data from a study of utilization of dental services by students will give first hand information directly from the students; since the use dental services by the youths is closely related to the use of dental services by their parents and most adults who visit the dentist regularly were regular attendees of dental clinics in childhood and adolescence, [19-21] the findings could be useful in projecting the pattern of health seeking behaviour for future generations.

The aim of this study was to determine the utilization of dental care services among secondary school students in Lagos State in the previous 12 months, and the reasons for the visits and identification of which of the listed above factors influenced the utilization of dental services among those who had used or never used dental services.

Materials and Method

Secondary schools in Lagos State comprise of students of different cultural, moral, religious and social background hence served best for our study. The schools are under different Local Education District (LED) in the Local Government Areas. Since this study was cross sectional, a multistage sampling method was used to get a representative sample of students from 4 schools under 2 Local Government Areas of the State.

The minimum sample size needed for searching an unknown prevalence at the 95% confidence level and with an absolute precision of 5% was approximated to 400. With an anticipated response rate of 80%, an adjustment was made to the minimum sample size set at 500 [22-23]. The local governments (LG) in the states were categorized into urban and rural based on existing infrastructures and level of industrialization there. One LG was selected from each category (Lagos mainland and Epe respectively). Lists of public and private secondary schools were obtained from the Local Education District (LED) office of the selected LG.

From the list in each LG, one public and one private secondary school were selected bringing the total to 4 schools (2 public and 2 private). Each school had six classes (JSS 1-3, and SSS 1-3) and an arm from each class was selected by simple random technique. Twenty- three pupils were selected from each arm in the public schools bringing the total number to 276 (138 per public school). From the private schools, nineteen pupils were selected from each arm with a total number of 228 (114 per private school).

Data collection was done by the use of a self - administered questionnaire. Ethical clearance for this study was obtained from the Ethical Committee of Lagos University Teaching Hospital. Informed consent was obtained from the LED in each LG, the Principals of the respective schools and from the students who participated in the study. Data weres collected between January 2005 and March 2005 on the following:

- Socio-demographic characteristics of the study group. The socioeconomic class was determined using the parent's occupation.
- Visit(s) to the dentist in the previous 12 months
- Reasons for the dental visit(s)
- Factors preventing subsequent dental visit
- Factor influencing or barrier(s) to visiting a dentist for those who made no previous visit.

The collected data were analyzed using the SPSS (version 11.5). Frequency distribution tables were generated for categorical variables using Chi square statistics to test for significance. Associations and differences were considered significant when p-values were equal to or less than 0.05.

Prior to the main study, a pre-test was conducted on students in the teenage class of a Church who were not part of the main study.

Result

Five hundred and two secondary school students out of the 504 selected completed the questionnaire fully giving a 99.6% participation in this study. The total number of the males and females were 257(51.2%) and 245 (48.8%) respectively. Their ages ranged from 10 to 19 years with a mean age of 14.1(± 0.22) years. Two hundred and ninety-three (58.4%) of them were aged 10 -14years while 209(41.6%) were 15-19years. The majority of the study population (77.9%) was from the middle socio- economic class and only 3% were of the high socio-economic class. Seventy-five of the 502 secondary school students had been to the dentist in the last year representing 14.9% dental visit prevalence for the whole group.

The distribution of the study group according to their socio-demographic characteristics and prevalence of dental visit in the previous 12 months is presented in Table 1. Dental visit prevalence in the previous 12 months varied significantly with age ($p = 0.019$). It was higher in the younger (10-14years) age group than in the older (15-19years) age group. Table 1 also shows that the males had visited the dentist more than the females though the difference was not statistically significant ($p > 0.05$).

Table 2 shows that pain was the commonest (69.3%) presenting complaint among the students who visited the dentist while 4% of them presented with bleeding gum. Of the 75 students who made previous visits to the dentist, 18 (24%) were dissatisfied with the treatment received hence did not make a subsequent dental visit. Reasons for their dissatisfaction are shown in Table 3.

Various reasons proffered by the 427 students who made no previous dental visit within the previous 12 months are as shown in Table 4.

Table 1. Prevalence of dental visit in the last year according to socio-demographic characteristic of the study group.

Reason for dental visit	n	(%)
Pain	52	69.3
Cavities	12	16.0
Mouth odour	6	8.0
Bleeding gum	3	4.0
Others	2	2.7
Total	**75**	**100**

Discussion

Our study recorded a 14.9% prevalence of dental visits within the previous 12 months among the selected secondary school students in Lagos State. This is low when compared to figures obtained from studies with similar age groups in both developed and other developing nations [1-7,9,20]. That a higher number of males visited the dentist than the females is surprising, as reports have shown that females utilize dental services more than males. This finding is so consistent with findings from countries where this factor has been studied and has become a universal belief [8].

The variation observed here may be attributed to the higher number of male than female participants in this study.

Table 2. Reasons for dental visits in the last year (n=75)

Socio-demographic characteristics	n	(%)	Dental visit prevalence in the last year n (%)	X^2 (p value)
Age groups				
10-14 years	293	58.4	53 (18.1%)	5.490 (p = 0.019)
15-19 years	209	41.6	22 (10.5%)	
Gender				
Males	257	51.2	42 (16.3%)	0.815 (p = 0.367)
Females	245	48.8	33 (13.5%)	
Residence				
Urban	276	55.0	43 (15.6%)	0.197 (p = 0.626)
Rural	226	45.0	32 (14.2%)	
Social class				
Low	96	19.1	12 (12.5%)	0.615 (p = 0.735)
Middle	391	77.9	61 (15.6%)	
High	15	3.0	2 (13.3%)	
Total	**502**	**100**	**75 (14.9%)**	

Table 3. Factors preventing subsequent dental visit by those who were dissatisfied (n=18)

Factors	n	%
Waited for too long	5	27.8
Painful treatment	5	27.8
Inconvenient appointment	3	16.6
Rude dental personnel	1	5.6
Other reasons	4	22.2
Total	**18**	**100.0**

Table 4. Barriers to dental service utilization for those who had never visited a dentist (n = 427)

Factors	n	%
No dental problem	329	77.0
No parental support	54	12.6
Don't know dental clinic	17	4.0
No Time	9	2.1
Financial reason	8	1.9
Multiple reasons	6	1.4
Not bothered	2	0.5
Afraid of a dentist	2	0.5
Total	**427**	**100.0**

Majority of the students claimed they visit the dentist only when they had a dental need. This is an indication of incorrect self-assessment of dental needs implying the influence of a low perception of dental needs on the use of dental services among the selected secondary school students in Lagos State. Findings of similar studies on perceived oral health needs showed a very high self-assessment and the tendency for most people to assess their dental need and come to the erroneous conclusion that they are not in need of dental care [11,24-26]. Our observation infers that many of the students did not visit the dentist in a whole year because they perceived no dental need.

Parental support and commitment to their children's dental health is another important factor that influenced the use of dental service in our study. A good number of the students indicated that their parents had not taken them to the dental clinic. It is possible that the parents were not regular attendees at the dental clinics so will not likely take their children routinely for check ups or treatment. This agrees with reports of studies on influence of parental factor on utilization of dental services among households [19-21]. The students' dependence on their parents for financial support is a notable factor, as those who cannot get such support may not afford dental care services.

Availability and accessibility of dental clinic(s) also influenced the use of dental services in this study. Some students said they did not know where to get a dentist nor locate a dental clinic. It is pertinent to mention here, that Epe LGA, had only one Government dental centre and one registered private dental clinic located at about 3km from the school which was quite a distance from where the students resided hence discouraging dental visit.

The hours the clinics were opened for services also influenced the use of dental care services in our study. Reports from hospital based studies show that attendance by school children was higher when on vacation as those who had symptoms would most likely visit the dentist at that period [12-14]. Other factors which stemmed from dissatisfaction of treatment received at the previous visit include lengthy waiting time and fear of pain. The former may affect the patient's general tolerance to treatment while the latter may be linked with fear of the dentist or dental treatment [12,16].

Some students had dental appointments, which clashed with school period(s). These individuals were torn between the choices of attending school or clinic and unless they were in pain (which prompted the dental visit of the majority) or had other pressing symptoms would most likely choose the former.

The dentist's or dental staff's behaviour (verbal or otherwise) could affect the young patient's behaviour and perception of dentistry as a whole. This factor invariably influenced the use of the dental services by the some of the students.

Conclusion

The prevalence of dental visits within the previous 12 months was very low among the students in this study. The standard measure of one visit to the dentist per year was also not met. There is need to develop a "School Oral Health Program" which will incorporate oral health talks and

students' enlightenment program and the promotion of routine dental visits. A forum to enhance parental commitment to the oral healthcare of their children should also be encouraged so that while bringing their children/wards, the parents' dental needs could also be met hence improving the level of utilization of dental services.

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