



Utilization of dental services in a population of Nigerian University students

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Abstract

Objective: The aim of this study was to assess the utilisation of dental services among Nigerian university students.

Method: A questionnaire based on modified World Health Organisation questions on utilisation was administered to 375 second-year undergraduate students of the college of medical sciences of the University of Benin to determine their utilisation of dental services.

Results: The results revealed only 14.1% of the subjects had utilised dental services in the past one year with a significant higher dental care use by the females than males ($p < 0.01$). The major reasons for visiting dentist in the past 12 months among the subjects were pain from teeth (20.8%) and the need for cleaning of teeth (18.9%). The commonest reason given for not obtaining dental care was that nothing was wrong to necessitate a visit (77.3%) while 7.5% could not afford dental treatment. There was a gender difference in self-perception of oral status with 29.9% indicated something was wrong with their teeth, gums or mouth while more than half felt nothing was wrong ($p < 0.05$). However, 77.9% of the subjects indicated they need dental treatment or advice of which 37% wanted cleaning of their teeth.

Conclusion: This study revealed low utilisation of dental services among this sample of Nigerian university students with a gender difference in utilisation. The majority of the subjects seek dental care for symptomatic reasons. The implementation of oral health education programme to improve dental awareness among the university students is recommended.

Key words: Utilisation, dental services, Nigerian students.

Introduction

The assessment of utilisation of dental services among a population is an important parameter in the planning of oral health care⁽¹⁾. The assessment of utilisation of dental services provides information on the percentage of persons visiting a dentist, the reasons for the visit and the types of treatment received and the provider of the treatment. It is also a good indicator of disparities in provision of dental care within a populace.

A regular visit to the dentists is not a well-established tradition in the developing countries as dental visits are often motivated by pain and need for emergency care.² There have been various reasons adduced for low dental care utilisation in developing countries which ranged from low levels of perceived need for dental services to limited availability of dental care⁽²⁾. Generally, utilisation of health services among individuals within a population has been defined as function of predisposing factors such as age, gender, education, attitudes and knowledge with also facilitating factors such as income, place of residence, distance and travel time to health care facility and need characteristics of the individual⁽³⁾.

Several surveys have been conducted to determine dental care utilisation rates among different races, age, gender and income groups and the factors that influenced utilisation of dental care and services^(1,4,5). Dental care utilisation is defined as the percentage of the population who access dental services over a specified period⁽⁴⁾. There is limited information on the utilisation of dental services in Nigeria⁶⁻⁸ and at present no survey has evaluated uses of dental services among undergraduate students in the Nigerian university. Therefore, the aim of this study was to assess the utilisation of dental services among a population of Nigerian university students in Benin City.

Materials and Method

The study population comprised second-year undergraduate students of the Schools of Basic Medical Sciences, Medicine and Dentistry, which constituted the College of Medical Sciences of the University of Benin, Benin City, Nigeria.

A questionnaire based on modified World Health Organisation recommended questions on utilisation as contained in the combined oral health and treatment



assessment form⁹ was administered to all the students during their combined lecture hours after their resumption for 1st semester of 200 level academic year 2007. The questionnaire was self-administered and all the students who had spent one complete academic session in the college were included in the study. The questionnaire was re-administered weekly for a month to ensure that all the students of the college who fulfilled selection criteria responded to the questionnaire. None of the students declined to participate in the study and there was one hundred percent response rate to the questionnaire.

The data analysis was performed with Statistical Package for Social Sciences software version 11 (SPSS, Chicago, Ill). Statistical significance between frequencies and gender differences were evaluated with the chi-square test and $p < 0.05$ was regarded as significant.

Results

There were 375 subjects, 245 males (65.3 %) and 130 females (34.7 %) aged 17-33 years (mean 21.2 years \pm 2.5) who participated in this study. The distribution of the subjects by their course of study in the College of Medical Sciences shows that medical students constituted the majority (74.1%), dentistry (12.5%), medical biochemistry (5.6%), physiology (5.1%) and anatomy (2.7%).

Table 1. Distribution of visit to a dentist in the past 12 months

	Male (n=245)		Female (n=130)		Total (n=375)	
	n	(%)	n	(%)	n	(%)
Yes	25	10.2	28	21.5	53	14.1
No	220	89.8	102	78.5	322	85.9

$X^2 = 8.99$
 $p < 0.05$

Table 2. Distribution of reasons for visiting a dentist in the past 12 months

	Male (n=25)		Female (n=28)		Total (n=53)	
	n	(%)	n	(%)	n	(%)
Routine dental check-up	2	8.0	4	14.3	6	11.3
Pain from my tooth	7	28.0	4	14.3	11	20.8
Pain from my gum	1	4.0	3	10.7	4	7.5
Have my teeth cleaned	6	24.0	4	14.3	10	18.9
Have my teeth filled	1	4.0	3	10.7	4	7.5
Have my teeth removed	3	12.0	6	21.4	9	17.0
Have artificial teeth	1	4.0	3	10.7	4	7.5
Wanted a dental advice	4	16.0	1	3.6	5	9.4
Referred to a dentist	-	-	-	-	-	-

$X^2 = 7.54$
 $p > 0.05$

Table 1 shows only 14.1% of the subjects had utilised dental services in the past one year while 85.9% did not visit a dentist within this period. There was an associated gender difference in utilisation of dental services with a highly significant higher dental use found among the females than males ($p < 0.01$). The major reasons for visiting dentist in the past 12 months among the subjects was pain from the teeth

(20.8%), cleaning of teeth (18.9%) and extraction of teeth (17%) (Table 2). The majority of the subjects visited University of Benin Teaching hospital Dental Centre (67.9%) and were mostly treated by a dentist (73.6%) while 24.5% were attended to by dental students and 1.9% by dental hygienist.

The commonest reason given by those who had not visited a dentist within the previous 12 months to obtain dental care was that nothing was wrong to necessitate a visit (77.3%) while 7.5% indicated they could not afford dental treatment (Table 3).

Table 4 shows the gender difference in subjective perception of oral health status. A total of 29.9% of the subjects indicated there was a problem with their teeth, gums or mouth, of which females are of higher proportion while more than half felt nothing was wrong ($p < 0.05$). Majority of the subjects (57.1%) indicated something was wrong with their teeth, 16.1% considered gums while 23.2% indicated teeth and gums (Table 5). Only 22.1% of the subjects did not think they needed dental treatment or advice while 77.9% perceived the need for dental treatment or advice (Table 6) of which 37% wanted their teeth cleaned and 28.8% wanted advice on preventive measures (Table 7).

Table 3. Distribution of reasons for not visiting a dentist in the past 12 months

	Male (n=220)		Female (n=102)		Total (n=322)	
	n	(%)	n	(%)	n	(%)
Could not afford dental treatment	14	6.4	10	9.8	24	7.5
Fear of dental treatment	8	3.6	7	6.9	15	4.7
Nothing was wrong to necessitate a visit	172	78.2	77	75.5	249	77.3
Non availability of dental clinic	4	1.8	-	-	4	1.2
Too busy to visit a dental clinic	10	4.5	3	2.9	13	4.0
Do not want to spend money my on dental care	4	1.8	-	-	4	1.2
Other reasons	8	3.6	5	4.9	13	4.0

$X^2 = 7.16$
 $p > 0.05$

Table 4. Subjective opinion on whether anything was wrong with own teeth, gums or mouth

	Male (n=245)		Female (n=130)		Total (n=375)	
	n	(%)	n	(%)	n	(%)
Yes	61	24.9	51	39.2	112	29.9
No	141	57.6	60	46.2	201	53.6
Don't Know	43	17.6	19	14.6	62	16.5

$X^2 = 8.34$
 $p < 0.05$

Discussion

The study population in this survey gave a perspective of utilisation of dental services among students of the College of Medical Sciences of the University of Benin in south-southern region of Nigeria. It does not represent a complete overview of utilisation of dental care among



students in Nigerian universities but a preliminary report of a broader attempt to evaluate dental care use among students in different faculties of Nigerian universities. The students undergoing a course of study in Medicine were the majority in this survey representing almost a three-quarter of the subjects. The dental service utilisation was defined as the percentage of the study population who had accessed dental services within the past one year in this survey.

The utilisation of dental services was very low in these subjects with barely over ten percent of the students had utilised dental care in the previous twelve months. The dental service use was essentially problem driven due to symptomatic presence of pain from teeth, need for cleaning and extraction of teeth. The utilisation rate reported in this survey was lower compared to 59% and more than 70% reported among the students of Helsinki University⁽¹⁰⁾ and University of Sydney⁽¹¹⁾ respectively. The survey of household utilisation of dental services in Ibadan⁽⁶⁾, south-western region of Nigeria and self-reported dental visits among adults attending out-patients medical facilities in Benin City⁽⁸⁾ also showed low utilisation rates of 9% and 26% respectively compared to more than 70% reported among American populations⁽⁴⁾.

Table 5. Distribution of oral structures with complaints

	Male (n=61) n (%)		Female (n=51) n (%)		Total (n=112) n (%)	
Teeth	33	54.1	31	60.8	64	57.1
Gums	10	16.4	8	15.7	18	16.1
Teeth & Gums	14	23.0	12	23.5	26	23.2
Others	4	6.6	-	-	4	3.6

$\chi^2 = 3.57$
 $p > 0.05$

Table 6. Self-perceived need for dental treatment or advice

	Male (n=245) n (%)		Female (n=130) n (%)		Total (n=375) n (%)	
Yes	186	75.9	106	81.5	292	77.9
No	59	24.1	24	18.5	83	22.1

$\chi^2 = 1.56$
 $p > 0.05$

This low utilisation of dental services among the university students and Nigerian adult population could be attributed to low dental awareness. Therefore, there is a need for development and implementation of oral health education programme among Nigerian populace as regular dental visits afford an opportunity for dentists to provide preventive services and to diagnose and treat dental disease early. A higher proportion of female students had visited dentists than males as also reported in other surveys^(4,10,11). The majority of the students who had utilised dental care visited the dental centre of the University of Benin Teaching Hospital which was situated within a short walking distance of the students' lecture theatre and were mostly treated by dentists for management of symptoms of

pain from teeth.

The major reason for non-utilisation of dental services was low perceived need for dental services as subjects indicated nothing was wrong to necessitate a visit. This is consistent with other studies but higher than the 50% reported among students of Helsinki university¹⁰ and university of Sydney⁽¹¹⁾. The other minor reasons given included inability to afford dental care in less than ten percent of the subjects while less than five percent gave fear of dental treatment and being too busy to visit a dental clinic. More than half of the subjects indicated nothing was wrong with their teeth, gums or mouth and this was consistent with findings among Australian university students.¹¹ Less than one third indicated something was wrong with their teeth, gums or mouth of which females are of higher proportion of respondents and teeth were mostly cited compared to other oral structures.

Table 7. Distribution of areas of self-perceived need for dental treatment or advice

	Male (n=186) n (%)		Female (n=106) n (%)		Total (n=292) n (%)	
Preventive measures	62	33.3	22	20.8	84	28.8
Cleaning of teeth	72	38.7	36	34.0	108	37.0
Fillings of decayed teeth	14	7.5	12	11.3	26	8.9
Artificial replacement of teeth	2	1.1	5	4.7	7	2.4
Restoration of broken down teeth	8	4.3	8	7.5	16	5.5
Extraction / removal of teeth	6	3.2	6	5.7	12	4.1
Straightening of irregular teeth	15	8.1	12	11.3	27	9.2
Other needs	7	3.8	5	4.7	12	4.1

$\chi^2 = 12.15$
 $p > 0.05$

A very high proportion of the subjects indicated they needed dental treatment or advice of which over a third wanted cleaning of their teeth and 28.8% required advice on preventive measures. The frequency of self-perceived need for dental advice or treatment in these university students was however at variance with the proportion who indicated nothing was wrong and perceived no need to utilise dental services.

Conclusion

The utilisation of dental services among this sample of Nigerian University students in this study was low. It was found to be problem driven, mostly as a result of pain from teeth and influenced by gender. A low level of dental awareness seemed to be the major impediment to dental service utilisation and implementation of oral health education programme among the students is recommended

References

1. Lo EC, Lin HC, Wang ZJ, Wong MC, Schwarz E. Utilisation of dental services in Southern China. *J Dent Res* 2001; 80: 1471-1474.
2. Ekanayake L, Ando Y, Miyazaki H. Patterns and factors affecting dental utilisation among adolescents in Sri



- Lanka. *Int Dent J* 2001; 51: 353-358.
3. Andersen R, Newman JF. Societal and individual determinants of medical care utilisation in United States. *Milbank Mem Fund Q* 1973; 51: 95-125.
 4. Brown LJ. Dental care utilization: How saturated is the patient market? *J Am Dent Assoc* 1999; 130: 573-580.
 5. Zavras D, Economou C, Kyriopoulos J. Factors influencing dental utilisation in Greece. *Comm Dent Health* 2004; 21: 181-188.
 6. Adegbembo AO. Household utilization of dental services in Ibadan, Nigeria. *Comm Dent Oral Epidemiol* 1994; 22: 338-339.
 7. Osuji OO. Utilisation of dental services by children at the University College Hospital, Ibadan, Nigeria. *Odontostomatol Trop* 1990; 3: 97-99.
 8. Okunseri C, Born D, Chattopadhyay A. Self-reported dental visits among adults in Benin City, Nigeria. *Int Dent J* 2004; 54: 450-456.
 9. World Health Organisation combined oral health and treatment assessment form. World Health Organisation 1976, Geneva.
 10. Venta I, Murtomaa H, Meurman J, Turtola L. Use of dental services by students of Helsinki University during six years. *Proc Finn Dent Soc* 1992; 88: 123-129.
 11. Barnard PD. Utilization of dental services by first-year students, the University of Sydney, 1978. *Aust Dent J* 1981; 26: 82-85.