UTILIZATION OF DENTAL SERVICES AMONG A SELECTED POPULATION IN A RURAL COMMUNITY IN SOUTH-SOUTH, NIGERIA

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ABSTRACT

Background: *Utilization of dental services has been reported among Nigerians especially in urban settings. However, information is sparse on utilization of dental services among the rural dwellers. Therefore, the aim of this study was to assess oral health practices and dental service utilization of a selected population in a rural community in South-South Nigeria.*

Methods: *This was a descriptive cross-sectional study carried out in Umudioga in Southern Nigeria. Information was obtained by means of an interviewer administered questionnaire. Demographics, oral health practices and dental service utilization were obtained from the participants. Information collected was analyzed using SPSS version 20 software and the level of significance was set at ≤0.05.*

Results: *Three hundred and ninety-eight participants consisting of 186 (46.7%) males and 212 (53.3%) females, with an age range of 9 months to 72 years participated in this study. Ninety five (23.9%) were children and adolescents. Though they all cleaned their oral cavities, only 34% brushed twice daily with a toothbrush and fluoridated toothpaste. Eighty-eight percent affirmed that visiting the dental clinic was important and 36% had utilized dental service at least once; 21.5% was for a dental check. Major reasons for non-utilization of dental services were lack of dental pain (24.3%) and no perceived need to access oral care (30.6%). There were significant associations between the age ($p<0.01$) and educational levels ($p<0.01$) of the subjects with the utilization of dental services.*

Conclusion: *Majority of participants considered dental visits as important, however they did not utilize dental services due to a lack of perception of need.*

Keywords: *Dental services, utilization, oral*

INTRODUCTION

Oral health has a great impact on the quality of life of individuals.[1] Optimum oral health can be achieved and maintained by the prevention of the common oral diseases; dental caries and periodontal diseases. Oral health practices such as proper oral hygiene, good diet and utilisation of oral health facilities serve as a deterrent to these dental diseases. Many Nigerians do not practice

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these simplest of good oral health practices because of their level of oral health awareness. Oral health awareness has been defined as the alertness to the existence and prevention of oral diseases and an equal alertness in taking necessary steps to obtain treatment for these diseases when they occur.[1]

Oral health awareness and utilization of dental services in Nigeria is generally low [2-9] and particularly so among rural communities [10-12] because majority of dental clinics and practicing dentists in Nigeria are situated in the urban areas.[13] Oral health awareness and dental service utilization are keys to appropriate oral health education which impact on the oral health of individuals. However, due to lack of oral health awareness and other factors like perceived high cost of dental treatment and fear of the dentist and dental treatment, many Nigerians do not access oral care.[2,4,7,8,13-16] Dental visits as a result of symptoms such as dental pain were majorly the reasons for utilization of dental services reported among adults and children in urban areas in Southern Nigeria.[2,3,13,14,17]

There is a dire need for oral health education in our environment in order to inform the populace and promote the utilization of dental services thereby enhancing the prevention of dental diseases and subsequently lowering the burden of oral health diseases especially in rural communities. Based on this realization Smiles Dental Foundation, a Non-Governmental Organization carried out a dental outreach in a selected rural community in South-South Nigeria. The main aim of the outreach was to assess oral health practices and dental service utilization of individuals in the community, in order to make informed recommendations on how to improve these indices.

METHODS

This was a descriptive cross-sectional study carried out in Omudioga, Rivers State in the Niger Delta region of Nigeria. After obtaining consent from the community head and the participants who gave their consents [and assents (minors)], an interviewer administered questionnaire was given to the subjects. All consenting participants in the outreach were included in the study. The interviewers were previously trained and calibrated by a senior colleague in the use of the questionnaire which was administered both in pidgin English and in the local dialect. Questions in section A of the questionnaire were used to elicit demographic information such as gender (male/female), age as at last birthday which was further categorized as follows into the following age ranges (0.1-9years (children), 10-19years (adolescents) and adults: 20-29years, 30-39years, 40-49years, 50-59years, 60-69 years and ≥70 years). Section A also captured the level of education of the participants [none, primary, secondary, tertiary].

Information on dental service utilization was obtained in section B. the questions included history of dental visits, if they had ever visited a dental clinic and for what procedure; symptomatic or dental checkup, what procedures were carried out if they had been to the clinic, and reasons for lack of utilization of dental service whilst the last section (C)

had questions pertaining to oral health practices.

Data analysis was performed using Statistical Package for Social Sciences (SPSS) version 20.0 for windows. Demographic variables and associations were tested using chi square and Fishers exact tests and the level of significance was set at <0.05

RESULTS

Three hundred and ninety-eight participants comprising 186 (46.7%) males and 212 (53.3%) females participated in the outreach. Female to male ratio is 1.14:1 with a slight female predominance. They had a mean age of 28.3±14.2 years and majority were in the third decade. Ninety-five (23.9%) were children and adolescents (below 20 years). Among the adults; 188 (62%) had tertiary education and 138 (34.2%) were self-employed. Table 1 shows the demographics of the participants.

Table 1: Demographic details of participants

Variables	N (%)
Sex	
Males	186 (46.7)
Children & adolescents	50 (26.9)
Adults	136 (73.1)
Females	212 (53.3)
Children & adolescents	45 (21.2)
Adults	167 (78.8)
Age groups (years)	
0.1-9	51(12.8)
10-19	53 (13.3)
20-29	142 (35.7)
30-39	83 (20.9)
40-49	36 (9.0)
50-59	24 (6.0)
≥60	9 (2.3)
Educational status	
None	
Primary	6 (1.5)
Secondary	71 (17.9)
Tertiary	114 (28.6)
Not indicated	196 (49.2)
	11 (2.8%)

Oral health practices

All the participants cleaned their oral cavities; 34% cleaned twice daily. Three hundred and ninety (97.9%) brushed their teeth with a toothbrush and fluoridated toothpaste, 2 (0.5%) cleaned with chewing sticks, 5(1.3%) used both the toothbrushes/pastes and chewing sticks while face towel was used for an infant. Majority (66%) cleaned their oral cavities once a day, however cleaning of the oral cavity two or more times a day was more frequent among the adults than the children (Details in Figure 1).

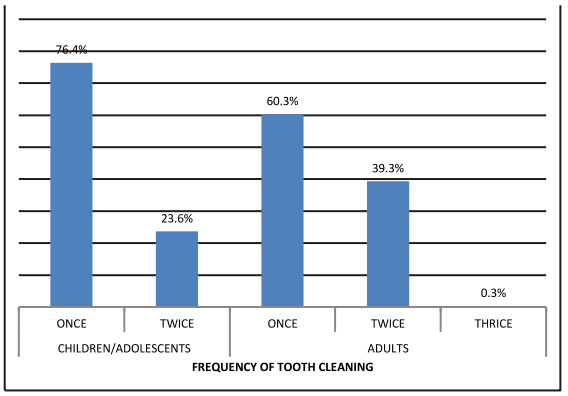

Figure 1: Frequency of tooth cleaning among the participants

All the children and adolescents made use of toothbrushes and toothpaste to clean their

oral cavities except for an infant whose mouth was cleaned with damp wash cloth (face towel) while 97.7% of the adults cleaned theirs with toothbrushes and toothpastes, 2 (0.6%) used only chewing sticks and 5 (1.7%) used both toothbrushes and chewing sticks (See Figure 2).

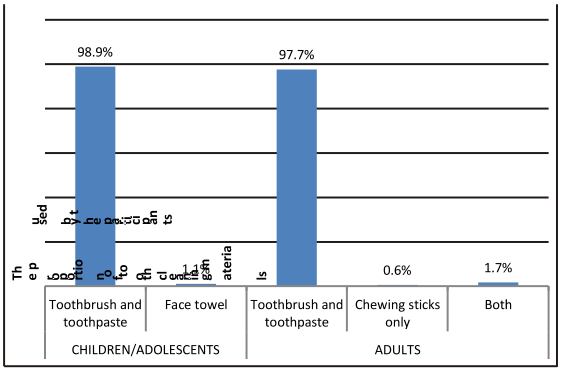

Figure 2: Tooth cleaning materials used by the participants

Utilization of dental services

Eighty-eight per cent of the participants affirmed that visiting the dental clinic was important. However, the dental clinic attendance of these participants was 36% and these visits were for cleaning (20%), tooth restorations [fillings] (14.1%) and tooth extractions (44.4%). Twenty nine (21.5%) attended for dental check-up. Among those that had utilised dental services, majority of the adults had tooth extractions (49.5%) done, while tooth cleaning [oral prophylaxis] (40%) were the commonest procedures done among children and adolescents (details in Figure 3).

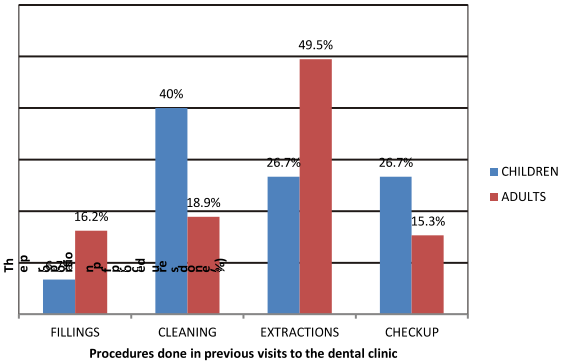

Figure 3: Procedures done by the participants in previous visits to the dental clinic

Reason for non-utilization of dental services were majorly lack of dental pain (24.3%) and lack of knowledge about the need to access oral care (30.6%) (See details in Figure 4).

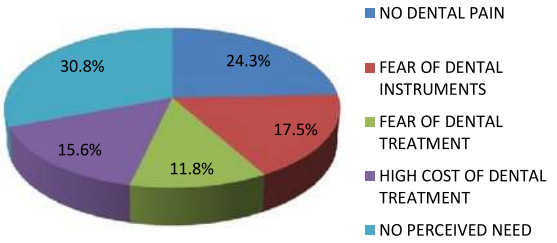

Figure 4: Reasons for non-utilisation of dental services

There were significant associations between the age (p=0.001) and educational levels (p=0.004) of the subjects with the utilization of dental services. Utilization was seen to increase with age and higher level of education. Also, there were significant differences between the children / adolescents and adults in the dental services received p=0.01 (Tables 2 and 3). Majority of children (40.0%) had oral prophylaxis whilst adults had tooth extractions (49.5%).

Table 2: The association between the demographic characteristics and utilization of dental services of the subjects

	Utilization of dental services		
	Yes	No	p-value
Sex			
Males	58 (33.1)	117 (66.9)	
Females	76 (38.2)	123 (61.8)	0.31
Age groups (years)			
0.1-9	6 (16.2)	31 (83.8)	
10-19	11 (22.9)	37 (77.1)	
20-29	36 (27.7)	94 (72.3)	
30-39	42 (48.8)	44 (51.2)	
40-49	19 (57.6)	14 (42.4)	
50-59	16 (50.0)	16 (50.0)	
≥ 60	4 (50.0)	4 (50.0)	
			0.001*
Educational level			
None	4 (66.7)	2 (33.3)	
Nursery/primary	16 (25.4)	47 (74.6)	
Secondary	30 (28.0)	77 (72.0)	
Tertiary	79 (41.8)	110 (58.2)	0.004*

*p<0.05 is significant

Table 3: The relationship between adult and children oral health practices

Variables	Adults n (%)	Children n (%)	p- Value
Tooth cleaning aids			
Toothbrush and toothpaste	292 (97.7)	88 (98.9)	
Chewing stick	2 (0.7)	0	
Toothbrush and chewing stick	5 (1.7)	0	
Face towel	0	1 (1.1)	0.92
Frequency of tooth cleaning			
Once	178 (60.3)	68 (76.4)	
Twice	117 (39.6)	20 (22.6)	0.10
Are dental visits important?			
Yes	260 (87.8)	76 (88.4)	
No	36 (12.2)	10 (11.6)	0.73
Have you been to the dental clinic?			
Yes	117 (40.5)	17 (20.0)	
No	172 (59.5)	68 (80.0)	<0.001*
What was the treatment carried out?			
Cleaning			
Fillings	21 (18.9)	6 (40.0)	
Extractions	18 (16.2)	1 (6.7)	
Dental checkup	55 (49.5)	4 (26.7)	0.01*
	17 (15.3)	4 (26.7)	

*p<0.05 is significant

DISCUSSION

Several factors influence the uptake of dental services. In our study, like other studies carried out in other developing nations, lack of knowledge and awareness of the need for such services play a huge role in the limited uptake of dental services.[2,5-9,17,18] It was notable that although almost all the participants brushed their teeth with a toothbrush and fluoridated toothpaste, only 34% of the subjects brushed twice daily as is recommended.[18,19] This observation is similar to findings among a rural community in South Western Nigeria where 30% of participants brushed twice daily.[20] Tooth brushing twice a day has been found to reduce dental caries significantly, thus brushing twice daily with a toothbrush and fluoridated toothpaste is advocated.[18]

Although 88% of the participants knew the importance of visiting the dental clinic, only 36% of them had utilized dental services. Despite the fact that dental checkups are advised, only a fifth of our participants had ever had a dental check-up. This may be attributed to poor oral health awareness of our participants, which was depicted in our study, though majority (49.2%) were educated and had tertiary education. This was also the case even among educated Nigerians like school teachers, where only 27.5% had a positive attitude towards oral health.[13] In South West Nigeria where majority of dentists are practicing, it was reported that as many as 52% to 80% of lay people had never visited a dentist before.[13-16]

Lack of perception of need, as seen in similar studies was the commonest reason for non-utilization of the dental health facilities by

our study participants.[2,4,8] The next major reason was the absence of dental problems which is similar to results attained in a rural community in a different region of Nigeria.[20] However, it is also important to note that even among students in a tertiary institution in South-South Nigeria, more than three quarters of the study population indicated their reason for not utilizing dental services was because they did not have any dental problems.[21] This reason was also found among an Indian population.[22] Thus, oral health promotion is essential for both the educated and the less educated, rural and urban as well as adults and children.[23] It is noteworthy to state that dental check-up was the next reason for utilisation of dental service after oral prophylaxis in children all pointing to preventive oral care in children. This finding corroborates the observation in an urban survey of adolescents.[2] Since the children in this survey have been exposed early in life to preventive oral care we may deduce that these children may have better oral health in adulthood than the adults in this survey. It is also a possibility that the adult participants did not have access to oral health care early in life but with evolving times and an increase in dental clinics in our environment are now more knowledgeable and thus bring their children to the clinic for checks and treatment.

Majority of dental visits in our study resulted in tooth extractions this finding is similar among other Nigerian rural [24] and urban populations[25,26] which indicates that these participants visited the dentist at a very late stage when the teeth had a very poor prognosis. This may be attributed to poor access to health facilities, since the dental clinics are majorly in the urban areas and poor oral health habits which was seen among our study participants. This contrasts with observation from a study in a developed nation where majority of the attendees had regular dental checks which resulted in restorative and periodontal treatments and not tooth extractions.[27]

Participants also expressed dental fear namely fear of instruments, dentist and dental procedures as their reason for lack of utilization. This barrier to utilization must also be addressed because it has been found in other studies that even those that utilize dental services also experience dental anxiety to a large degree.[28,29] Another major reason proffered by our participants was the high cost of dental treatment as is the case in other developing nations where dental services are paid for "out of pocket", funds are scarce and are used for more essential living needs.[26] Thus it is important that dental care be made more affordable for our population to enable unhindered access to dental services by the less privileged in our society. Although there is an operational National Health Insurance Scheme in Nigeria the dentist is a secondary provider. Many dental treatments are not included in the scheme and as at now, only those in public service are contributors.

CONCLUSION

The vast majority of our participants had never been to see a dentist. Most of them brushed their teeth with a toothbrush and fluoridated toothpaste just once a day instead of the recommended twice daily. The

visits to the dental clinic by the adults resulted majorly in extractions due to late presentation. A great need exists to increase dental awareness and a consequent utilization of dental services in this part of Nigeria.

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