

**DENTAL SERVICES AND ATTITUDES TOWARDS ITS REGULAR UTILIZATION AMONG CIVIL SERVANTS IN IBADAN, NIGERIA**M.E. Osuh<sup>1</sup>, G.A. Oke<sup>1</sup> and M.C. Asuzu<sup>2</sup><sup>1</sup>Department of Periodontology and Community Dentistry, Faculty of Dentistry, University of Ibadan.<sup>2</sup>Department of Preventive Medicine and Primary Care, Faculty of the Clinical Sciences, University of Ibadan**Correspondence:****Dr. Mary E Osuh**

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**ABSTRACT****Background:** Regular utilization of dental services is key to the attainment of optimal oral health state, an integral component of general health and well being needed for effective productivity by working personnel.**Objective:** This study assessed the rate and pattern of dental service utilization among civil servants and their attitudes towards its regular use.**Methodology:** A multi-stage sampling technique was used to select participants from the Federal Secretariat in Ibadan, Nigeria. A structured, standardized, pretested and self-administered questionnaire was utilized to elicit responses on dental services and attitudes towards their regular utilization. Responses to knowledge and attitude questions were scored and categorized. Chi-squared test was used to test associations between variables at 5% level of significance.**Results:** A total of 400 civil servants participated in the study. Their mean age was 44.0 ± 7.3 years. Many 291 (72.8%) were well informed about dental health care and services, but few 156 (39%) had ever utilized it. Of the utilizers, 32 (20.5%) visited within the previous one year period, while others last visited in more than one year period. Few 17 (10.9%) of the utilizers visited for routine dental checks, 103 (66%) for acute pain relief, while the rest had other dental health care needs. The majority 312 (78.0%) showed positive attitude towards regular dental service utilization and this improved with higher educational attainment, improved level of income, being aware of dental services and having ever utilized it (all p < 0.05).**Conclusion:** Despite the awareness and positive attitude towards regular dental service use, their utilization rate was relatively low, episodic and problem driven. Appropriate oral health promotion strategies to enhance utilization of preventive dental services are strongly recommended for them.**Keywords:** Dental services, Attitude, Utilization**INTRODUCTION**

The importance of oral health in relation to general well being of an individual cannot be over emphasized. Periodontal disease and dental caries are the commonest oral health problems experienced by the Nigerian population. Others include malocclusion, traumatized anterior teeth, dental fluorosis and oral tumours<sup>1</sup>.

Dental caries (tooth decay) especially when left untreated can lead to serious health problems which may affect the quality of life of an individual. Consequences of neglect of dental diseases may include absenteeism from school and work thus leading to reduced productivity. In the United States of America alone, oral health related illnesses were reported to be responsible for 6.1 million days of admission related ill health, 12.7 million days of restricted activities and

20.5 million workdays lost each year<sup>2</sup>. The sequelae of un-restored edentulous space resulting from pathologic exfoliation or extraction of teeth could have profound effect on individual's self confidence. It may also affect the individual's choice of food thereby leading to weight loss<sup>3</sup> and also may affect speech - a social handicap related to communication<sup>4</sup>.

Maintaining good oral health from infancy to advanced old age is essential for overall well-being. Hence, the use of preventive dental health care services should be encouraged. The dental health professionals recommend a regular dental visit of once every 6 months, for maintenance of healthy gum and teeth<sup>5</sup>. Many oral diseases present with early signs that could only be recognized by the professionals if individuals presented early. Therefore with regular dental care,

the possibility of keeping teeth throughout life is well within reach. Unfortunately previous studies conducted in countries such as Nigeria<sup>6-7</sup>, Burkina Faso<sup>8</sup> and China<sup>9</sup> all showed low utilization of dental services in their various reports. While “no perceived need” or “no serious dental problem” was common among reasons for non utilization in some of these reports<sup>8,9</sup>, emergency dental visits were the patterns reported among most of the utilizers<sup>6-9</sup>. Problem driven dental visiting habits had resulted into unwanted outcomes such as various complications due to late presentation, limited treatment options and even affected treatment outcomes for some patients<sup>2,10-11</sup>.

Civil Servants constitute a major proportion of workforce in Nigeria. A wide range of professional and non-professional qualifications, educational attainments with various ethnic and religious backgrounds can be found within the civil service.

Therefore as a community of Nigerian workforce, information regarding dental health care and services among them may reveal the situation of the same in the larger community. The workers’ optimal oral health and wellbeing is integral to their optimal general health and well being and this translates to their economic productivity. There is need therefore, to ascertain their rate, pattern and attitude towards regular utilization of dental services as a baseline to plan appropriate oral health care intervention for them. More so, previous studies<sup>6-9</sup> on utilization of dental services has focused on hospital outpatients and household surveys alone. Scarce information exists on this subject among Nigerian workers. Such gaps in knowledge when bridged may help to guide the content development of tailored public health programmes about the use of appropriate preventive dental health care services.

## **MATERIALS AND METHODS**

The study was conducted among the federal civil servants in the Federal Civil Service Secretariat, Ikolaba, Ibadan, Oyo State, Nigeria. The secretariat serves as an office complex for ministries, agencies and parastatals of the Federal Government of Nigeria, South West region which were about 23 altogether. The required sample size was determined based on a precision of 0.05 and a prevalence of 26% from a previous study in Benin city, Nigeria<sup>6</sup> to obtain a minimum of 296 participants.

A multi-stage sampling technique was used to select participants. For a fairer representation, the 23 ministries in the secretariat were divided into 3 groups according to their gross functions, these are; Health related, Works/Infrastructural development related and

Education/Human development related groups. Each group then had 7, 8, and 8 ministries respectively. Using simple random sampling technique, 2 ministries each were selected from the 3 groups to obtain 6 ministries in all. Final selection of the people to be interviewed in the study was done by cluster sampling of each of the 6 ministries. All workers in these ministries/ parastatals (irrespective of cadre) present at the time of data collection were enrolled for the study. The selected ministries were: Ministry of Information and Culture, National Directorate of Employment, National Agency for Food Drug Administration and Control, Ministry of Education, Ministry of Health and Ministry of Works.

Ethical approval for the study was obtained from the UI/UCH Institutional Review Committee. Written approvals were obtained from the heads of concerned ministries/parastatals and written informed consent was given by each participant.

Incentives introduced included free dental consultation and free treatment such as scaling and polishing and extraction where necessary. Thirty-six respondents benefitted from scaling and polishing while 9 teeth were extracted. A pretest of the questionnaire was carried out among the state civil servants in Oyo State Civil Service Secretariat.

The questionnaire was divided into 3 sections: Section A, had the socio demographic variables which included their educational level and grade levels of income; Section B – Awareness of dental health care and services questions which included; meaning of dental health care, dentists’ role in health care delivery and the kind of services dentists render. Section C - Attitudes towards regular utilization of dental services.

Responses on awareness questions and that of attitude towards regular utilization of dental services were computed over a maximum of 10 and 20 points respectively. Awareness scores  $<5$  and  $\geq 5$  were considered poorly informed and well informed respectively. Attitude scores  $\leq 9$  and  $\geq 10$  were considered negative and positive respectively. Chi-square test was used to test associations between categorical variables at 5% level of significance.

## **RESULTS**

### ***Socio-demographic characteristics***

A total of 412 civil servants were available at the time of data collection of which 400 consented to participate in the study and were included (response rate = 97.1%). The sample comprised 207 (51.8%) males and 193 (48.3%) females. Their ages ranged

between 25 and 61 years of age with a mean age of 44.0±7.3 years. Two hundred and forty three (60.8%) of them attained more than a secondary education,

109 (27.2%) had secondary education as their highest level of educational attainment, while the rest attained less than a secondary education. In terms of civil service levels, 31 (7.8%) of them belonged to the levels 13 and above income class category, 212 (53.0%) of them were in the levels 7 – 12 income class, while the rest 157 (39.2%) were in the levels 1 – 6 income class category (Table 1).

**Table 1:** Socio-demographic characteristics of the respondents.

Age group (Years)	Total respondents	Percentage
≤ 30	22	5.5
31 – 40	111	27.7
41 – 50	197	49.3
≥51	70	17.5
<b>Sex</b>		
Male	207	51.8
Female	193	48.2
<b>Educational level</b>		
None	3	0.8
1 <sup>o</sup>	48	12.0
2 <sup>o</sup> edu	109	27.2
>2 <sup>o</sup> edu	243	60.8
<b>SES by grade level of income</b>		
1 - 6	157	39.2
7 – 12	212	53.0
≥ 13	31	7.8
	<b>400</b>	<b>100</b>

1<sup>p</sup> - primary education; 2<sup>o</sup> - secondary education; < - less than; ≥ - greater than or equal to; d<sup>n</sup> - less than or equal to.

#### **Awareness of dental health care and services**

The majority 291 (72.8%) of the respondents were well informed about dental health care and services. Being well aware of dental health care and services was found to increase with higher level of income, education, having ever utilized a dental service and a positive attitude towards a regular utilization (p<0.01 each; Table 2).

#### **Utilization of dental services**

Only 156 (39.0%) of them had ever utilized a dental service. Of these, 17 (10.9%) of them utilized dental services routinely for regular checks, while a total of 103 (66.0%) utilized dental care services solely for acute pain relief. Twenty one (13.5%) visited for teeth replacement, 5 (3.2%) for tooth discoloration, 2 (1.3%) for bad breath and 1 (0.6%) for bleeding gum. Thirty two 32 (20.5%) of the dental service utilizers, visited a dental facility in the previous year, while the majority 124 (79.5%) of them utilized a dental facility in over a year period prior to this study. Commonest reason given by previous utilizers 71 (45.5%) for not honoring

**Table 2:** Association between of Awareness of dental services and some variables.

	Poorly Informed (%)	Well Informed (%)	Total (100%)	P- value
<b>SES by grade level of income</b>				
1 – 6	56 (35.7)	101 (64.3)	157	
7 – 12	50 (23.6)	162 (76.4)	212	
≥ 13	3 (9.7)	28 (90.3)	31	P = 0.003*
<b>Educational sta</b>				
≤1 <sup>o</sup>	27 (56.2)	21 (43.8)	48	
2 <sup>o</sup> edu	53 (48.6)	56 (51.4)	109	
>2 <sup>o</sup> edu	78 (32.1)	165 (67.9)	243	P = 0.001*
<b>Attitude</b>				
-ve	41 (46.6)	47 (53.4)	88	
+ve	68 (21.8)	244 (78.2)	312	P = 0.000*
<b>Utilization</b>				
Yes	21 (13.5)	135 (86.5)	156	
No	88 (36.1)	156 (63.9)	244	P = 0.000*
<b>Age group</b>				
≤ 30	3 (13.6)	19 (86.4)	22	
31 – 40	40 (36.0)	71 (64.0)	111	
41 – 50	51 (25.9)	146 (74.1)	197	
≥51	15 (21.4)	55 (78.6)	70	P = 0.270
<b>Total</b>	<b>109 (27.2)</b>	<b>291 (72.8)</b>	<b>400</b>	

\* - statistically significant; -ve -negative; +ve- positive

**Table 3:** Utilization of dental services and reasons for use and non-use among respondents

Last dental visit	No. of respondents	Percentage
Within the last one year	32	20.5
More than one year ago	124	79.5
<b>Reason for use of dental service facility by time of use</b>		
Examination, Prevention (Routine scaling and polishing)	17	10.9
Acute pain relief (toothache/tooth sensitivity)	103	66.0
Bleeding gums	1	0.6
Bad breath	2	1.3
Tooth discoloration	5	3.2
Teeth replacement	21	13.5
Other dental problems	5	3.2
More than one dental problem	2	1.3
<b>Reason for non use by previous utilizers</b>		
It has become too expensive	27	17.3
Acute pain relief (toothache/tooth sensitivity)	25	16.0
I don't see any need to/ I am fine.	71	45.5
I had a bad experience last time	23	14.8
Not yet time for my next appointment	2	1.3
Others specify	8	5.1
<b>Total</b>	<b>156</b>	<b>100.00</b>
<b>Reasons for never utilizing a dental care service</b>		
It's too expensive	13	5.3
I don't have any serious dental /oral problems	202	82.8
Fear of the sight of instruments	11	4.5
No time	3	1.2
Complex hospital routine	7	3.0
Other reasons	4	1.6
More than one reason	4	1.6
<b>Total</b>	<b>244</b>	<b>100</b>

**Table 4:** Association between Utilization of dental services and selected variables (N = 400)

	Utilized n (%)	Never Utilized n (%)	Total (100%)	P- value
<b>Age group</b>				
≤ 30	7 (31.8)	15 (68.2)	22	
31 – 40	35 (31.5)	76 (68.5)	111	
41 – 50	74 (37.6)	123 (62.4)	197	
≥51	40 (57.1)	30 (42.9)	70	P = 0.005*
<b>Sex</b>				
Male	76 (36.7)	13 (63.3)	207	
Female	80 (41.5)	113 (58.5)	193	P= 0.193
<b>Marital status</b>				
Not married	16 (43.2)	21 (56.8)	37	
Married	140 (38.6)	223 (61.4)	363	P=0.349
<b>Ethnic group</b>				
Yoruba	132 (38.6)	210 (61.4)	342	
Others	24 (41.4)	34 (58.6)	58	P= 0.396
<b>Educational stat</b>				
≤1 <sup>o</sup>	16 (33.3)	32 (66.7)	48	
2 <sup>o</sup> edu	42 (38.5)	67 (61.5)	109	
>2 <sup>o</sup> edu	98 (40.3)	145 (59.7)	243	P = 0.658
<b>SES by grade level of income</b>				
1 – 6	44 (28.0)	113 (72.0)	157	
7 – 12	95 (44.8)	117 (55.2)	212	
≥ 13	17 (54.8)	14 (45.2)	31	P = 0.001
<b>Awareness</b>				
Poorly Inf	21 (19.3)	88 (80.7)	109	
Well Inf	135 (46.4)	156 (53.6)	291	P = 0.000*
<b>Attitude</b>				
-ve	27 (30.7)	61 (69.3)	88	
+ve	129 (41.3)	183 (58.7)	312	P = 0.045*

\* - statistically significant;  $\chi^2$  - chi square test statistic; stat – statistics; Exact – Fisher's exact test

**Table 5:** Association between Attitude to regular dental service utilization and some variables.

	Negative Att (%)	Positive Att (%)	Total (100%)	P- value
<b>Age group</b>				
≤ 30	5 (22.7)	17 (77.3)	22	
31 – 40	25 (22.5)	86 (77.5)	111	
41 – 50	42 (21.3)	155 (78.7)	197	
≥ 51	16 (22.9)	54 (77.1)	70	P = 0.991
<b>Sex:</b>				
Male	44 (21.3)	163 (78.7)	207	
Female	44 (22.8)	149 (77.2)	193	P= 0.401
<b>Edu stat:</b>				
1 <sup>o</sup> & <	21 (43.8)	27 (56.2)	48	
2 <sup>o</sup> edu	36 (33.0)	73 (67.0)	109	
>2 <sup>o</sup> edu	31 (12.8)	212 (87.2)	243	P = 0.000*
<b>SES by grade level of income</b>				
1 – 6	46 (29.3)	111 (70.7)	157	
7 – 12	39 (18.4)	173 (81.6)	212	
≥ 13	3 (9.7)	28 (90.3)	31	P = 0.010*
<b>Awareness</b>				
Poorly Inf	41 (37.6)	68 (62.4)	109	
Well Inf	47 (16.2)	244 (83.8)	291	P = 0.000*
<b>Utilization</b>				
Yes	27 (17.3)	129 (82.7)	156	
No	61 (25.0)	183 (75.0)	244	P = 0.045*
<b>Total</b>	<b>88 (22.0)</b>	<b>312 (78.0)</b>	<b>400</b>	

\* - statistically significant;  $\chi^2$  - chi square test statistic; Exact – Fisher's exact test

a subsequent appointment was “I don’t see any need to”, while the commonest reason for having never utilized a dental service among the non-utilizers 202 (82.8%) was “I don’t have any serious dental problem” (Table 3)

Dental visits increased with improved level of income and being well aware of dental health care and services (all  $p < 0.05$ ). Females utilized dental services better than their male counterparts, though the association was not statistically significant (Table 4).

#### **Attitudes towards regular utilization of dental services**

A total of 312 (78.00%) respondents had a positive attitude towards regular utilization of dental services. Positive attitude improved with higher educational attainment, improved level of income, being well aware of dental health care and services and having ever utilized it (all  $p < 0.05$ ; Table 5).

#### **DISCUSSION**

Numerous studies conducted in many parts of the world<sup>6,8,9,12-15</sup> showed that dental services were poorly

sought after. Correspondingly, the rate of utilization of dental services among the participants in this study was found to be low. An African study had blamed the observable poor dental visiting habits on the fact that they generally pay less attention to oral health when compared with the health of any other parts of the body among other reasons<sup>12</sup>. This fact may hold true for many participants in this study.

In developed countries like US and UK, preventive dental health care seeking behavior is highly in practice. Reports showed that about 40 to 80% of adults in these countries would have visited a dentist within one year period and not necessarily for symptomatic reasons<sup>16-18</sup>. This is not the case with the findings in this study as only one out of five participants utilized a dental care within one year period and that the purpose for visitations was largely problem driven. Emergency dental health care seeking behavior was the trend in dental service utilization observed also in reports from studies conducted in other countries such as China<sup>9</sup>, Burkina Faso<sup>12</sup>, Ivory Coast<sup>13</sup> and South Africa<sup>19</sup>. The target was usually a relief of symptom. A major factor identified as determining the need to

seek dental care among participants in these studies was self assessment of oral health state. Perhaps ignorance on the importance of oral health care and general poverty which is notable in developing countries have both contributed in no small measure to the poor dental visiting habits observed.

Oral health problems are common, costly and painful. Fortunately most of them are largely preventable<sup>20</sup>. This is why maintenance of wellbeing both orally and of every other part of the body is an individual responsibility and is irrespective of age, gender or level of income. According to some researchers, an individual's eventual choice of oral health care whether of an orthodox service, traditional or self medication was dependent on information available to him, his attitude, self perceived oral health care need and the financial resources available to him.<sup>21-22</sup>. It was suggested from the same studies that individuals with higher income level and education utilized dental services more. Similarly civil servants in this study with higher level of income and education utilized dental services better ( $p < 0.01$ ). Gender however, did not show any significant association with utilization of dental services.

Despite the high awareness level of oral health care and services demonstrated by the civil servants, utilization of preventive dental services was quite low. Good knowledge of the importance oral health care and dental services available shown by those with higher literacy may have been from exposures in formal settings. Furthermore, good knowledge of dental services observed among participants in the older age group was largely so because there is a likelihood for an increase in demand for dental care services with increasing age due to age related changes<sup>23</sup>. For this reason, the knowledge of dental care services among the higher age group is expected to be higher than that of the lower age group category, though the association was not statistically significant.

Wrightsmann's<sup>24</sup> in 1965 postulated that, "what people say is not necessarily a guide to what they will do or what they do and that opinions and actions are influenced by a different set of antecedent and situational variables". This may explain the lack of correlation between the largely positive attitude shown by the participants in this study towards regular dental service utilization and their actual utilization of the services. An individual's willingness to seek health is not only influenced by attitudes and knowledge about health care alone, but also by other factors such as; the social and cultural definitions of health and illness that has been learnt by them<sup>25-26</sup>. Moreover, "perceived severity of symptoms" was identified as an essential

determinant of whether to seek treatment among some Africans<sup>12</sup>. Undoubtedly, decision to utilize dental services among the participants in this study may have been influenced by some of these factors. These are probable explanations for the observed lack of correlation.

The remarkable level of knowledge for oral health care and services demonstrated by participants in this study was not reflected in the type of importance placed on their oral health in terms of use of preventive dental services. This strengthens the fact that knowledge gain alone rarely leads to sustained changes in behavior<sup>27</sup>. In addition to the lack of understanding of benefits of good oral health, competing financial needs was also identified as responsible for the worsening oral health access disparities among participants in a study conducted among the disadvantaged in United States of America<sup>28</sup>. Perhaps the aforementioned are factors that should be considered in future studies on access to oral health care among the same group.

A rather disturbing phenomenon "no serious dental problem" was the participants' usual disposition, once a relief of dental symptom was achieved. This unfortunately was the explanation given as reason why many of the utilizers would not honour a subsequent dental visit appointment. A similar response was reported from a study conducted among workers in South Australia<sup>29</sup>. Ignorance about the importance of preventive dental health underscores the urgent need for preventive dental health care educational and promotional programmes among the civil servants. Avoidance of subsequent dental visits may lead to progression of existing dental problems such as caries or periodontal disease and often makes it difficult to detect the onset of new dental problems early. For example, diseases such as oral cancer are often detected early if individuals utilize dental services regularly.

## LIMITATIONS

The findings in this study are subject to some limitations. First, data on utilization of dental services was self-reported, caution should therefore be exercised in generalising the findings to all civil servants in Nigeria. Second, the cross-sectional design precludes causal inferences and only associations can be drawn. However this study was able to provide some baseline information that can be used to plan appropriate oral health intervention programmes and other future studies among the study group.

## CONCLUSION

Though the participants were well informed about dental health care and services and their attitude towards a regular utilization of these services were

largely positive. Utilization of dental services among them was low, episodic and problem driven rather than preventive.

## RECOMMENDATION

Public health dentists should collaborate with government agencies in providing programmes that are tailored towards behavior change appropriate for effective utilization of preventive dental services for the civil servants.

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