

Oral health perception among officers and men of the Nigerian prisons service, Abuja

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ABSTRACT

Objective: To determine oral health perception among officers and men of the Nigeria Prison Service, Abuja. **Materials and Methods:** A cross-sectional study of officers and men in Prison headquarters and Kuje command in Abuja, Nigeria, was conducted between January and May 2009 using a self-administered questionnaire. **Results:** A total of 407 prison officers constituting 57.0% males and 66.6% senior officers participated in this study. Only 15.7% of the respondents had good oral health knowledge. Oral health knowledge was not significantly associated with age, sex, and designation of staff ($P>0.05$). More than half (52.8%) of the respondents exhibited positive attitude to oral health and this was not significantly associated with age, sex, and designation of staff ($P>0.05$). More than half (53.3%) of the respondents cleaned their teeth with toothbrush and toothpaste in this study; however, only about one-third (32.4%) of the respondents indulge in twice-daily tooth brushing. This practice was significantly higher among younger staff ($P=0.009$), junior cadre staff ($P=0.001$), and males ($P=0.931$). Only 27.5% of the respondents have never visited the dentist. Oral conditions among the respondents were toothache (55.5%), gingival bleeding (61.2%), and mouth odor (47.2%). Perceived high cost of treatment and fear of dental instruments are the most commonly identified barriers to oral health utilization. **Conclusion:** Inadequate knowledge, negative attitude, and suboptimal practices regarding oral health were noted among the respondents. Gingival bleeding, toothache, and mouth odor were highly prevalent among the studied Prison staff. Dentist visit practice among the studied Prison staff was low with barriers as high cost of dental treatment, fear of dental instruments, no dental clinics nearby, and no time to visit the dentist.

Key words

Attitude, knowledge, oral health, perception, practices

INTRODUCTION

The interest in oral healthcare in Nigerian Prison setting began to emerge concurrently with society interest in civil rights. In the early 2000, dental facilities were established in Nigerian correctional facilities when the first sets of dental surgeons were employed by the Nigeria Prison Services to cater for the oral health of the staff, their families and the prisoners. The staff of prison services (Officers and men) is very important in dental healthcare services because once they take up good oral practices, they can influence their family, friends, and prisoners and eventually the whole nation.

Development of comprehensive dental healthcare and oral health promotion services in prison will involve training of prison staff. However, the key step in the planning would involve conducting a situation analysis, which invariably involves collection and analysis of information on the oral health among the group to ascertain their present practices, level of knowledge, and their attitude toward oral health.

Not many studies have been conducted on this issue among prison staff despite the fact that relationship between occupational status and position in the workplace and use of dental services and oral health status has been demonstrated. Ranks symbolize social status in the military and paramilitary hierarchy, which is different from that accepted in civilian workplace.^[1] The differences in the level of education and service-related factors between officers and non-commissioned personnel (Men) affect time availability for officers, level of peer pressure, standards related to appearance and distribution among geographic location of service. These factors directly and indirectly affect oral health

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behavior and treatment needs. Adequate oral health behavior helps to improve and maintain adequate oral hygiene, good oral health, and overall general health of individuals. Oral care is an essential component of daily hygiene^[2,3] which helps in improving quality of life, preventing serious infections, and promoting health and well being.^[4,5] The objective of the study was to determine the oral health perception among officers and men of the Nigeria Prison Service, Abuja.

MATERIALS AND METHODS

A cross-sectional study of officers and men in Prison headquarters and Kuje command in Abuja, Nigeria's Federal Capital was conducted between January and May 2009. A quantitative data collection method was done using a self-administered questionnaire. The questionnaire was developed based on relevant information gathered from review of literature and input from experienced oral health researchers. The questionnaire was designed in such a way to elicit information on demography, oral health knowledge, attitude, and practices. It also included source of oral health information. The questionnaire was administered to officers and men at their duty post. Ethical approval was obtained from relevant Department of the Service at the Prison headquarters. Informed consent was obtained from the participants before the survey after thorough education on the subject matter. Data obtained was subjected to descriptive statistics and Chi square. $P < 0.05$ was considered significant.

RESULTS

Out of 415 questionnaires distributed, 407 were returned filled giving a total response rate of 98.1%. Of the respondents, 57% were males and their overall mean age was 37.5 ± 9.1 years. About one-third (32.7%) of the respondents were aged 30-39 years. Two-thirds (66.6%) of the respondents were senior officers [Table 1]. A total of 268 (65.8%) of the respondents exhibited poor oral health knowledge, 75 (18.4%) fair oral health knowledge, and 64 (15.7%) good oral health knowledge. Oral health knowledge was not significantly associated with age, sex, and designation of staff ($P > 0.05$) [Table 2]. More than half (52.8%) of the respondents exhibited positive attitude to oral health and this was not significantly associated with age, sex and designation of staff ($P > 0.05$) [Table 3]. More than half (53.3%) of the respondents cleaned their teeth with toothbrush and toothpaste in this study; [Figure 1] however, only about one-third (32.4%) of the respondents indulge in twice-daily tooth brushing. This practice was significantly higher among younger staff ($P = 0.009$), junior cadre staff ($P = 0.001$), and males ($P = 0.931$) [Table 4]. Only 27.5% of the respondents have never visited the dentist [Table 5]. Oral conditions among the respondents were toothache (55.5%), gingival

Table 1: Demographic characteristics of the respondents

Characteristics	Frequency	Percent
Age (years)		
<20	18	4.4
20-29	74	18.2
30-39	133	32.7
40-49	159	39.1
50-59	23	5.7
Gender		
Male	232	57.0
Female	175	43.0
Religion		
Christianity	229	56.3
Islam	155	38.1
Traditional religion	23	5.7
Designation		
Senior officer	271	66.6
Junior officer	136	33.4
Total	407	100.0

Table 2: Oral health knowledge among the respondents

Characteristics	Poor n (%)	Fair n (%)	Good n (%)	Total n (%)	P value
Age (years)					0.573
<20	11 (61.1)	3 (16.7)	4 (22.2)	18 (100.0)	
20-29	53 (71.6)	8 (10.8)	13 (17.6)	74 (100.0)	
30-39	86 (65.0)	29 (21.8)	18 (13.5)	133 (100.0)	
40-49	106 (66.7)	29 (18.2)	24 (15.1)	159 (100.0)	
50-59	12 (52.2)	6 (26.1)	5 (21.7)	23 (100.0)	
Gender					0.108
Male	154 (66.4)	36 (15.5)	42 (18.1)	232 (100.0)	
Female	114 (65.1)	39 (22.3)	22 (12.6)	175 (100.0)	
Designation					0.063
Senior officers	169 (62.4)	58 (21.4)	44 (16.2)	271 (66.6)	
Junior officers	99 (72.8)	17 (12.5)	20 (14.7)	136 (33.4)	
Total	268 (65.8)	75 (18.4)	64 (15.7)	407 (100.0)	

Table 3: Oral health attitude among respondents

Characteristics	Negative n (%)	Positive n (%)	Total n (%)	P value
Age (years)				0.910
<20	10 (55.6)	8 (44.4)	18 (100.0)	
20-29	32 (43.2)	42 (56.8)	74 (100.0)	
30-39	63 (47.4)	70 (52.6)	133 (100.0)	
40-49	76 (47.8)	83 (52.2)	159 (100.0)	
50-59	11 (47.8)	12 (52.2)	23 (100.0)	
Gender				0.929
Male	109 (47.0)	123 (53.0)	232 (100.0)	
Female	83 (47.4)	92 (52.6)	175 (100.0)	
Designation				0.099
Senior officers	120 (44.3)	151 (55.7)	271 (100.0)	
Junior officers	72 (52.9)	64 (47.1)	136 (100.0)	
Total	192 (47.2)	215 (52.8)	407 (100.0)	

Table 4: Daily tooth cleaning frequency among respondents

Characteristics	Once-daily n (%)	Twice-daily n (%)	>Twice-daily n (%)	Total n (%)	P value
Age (years)					0.009
<20	7 (39.0)	8 (44.4)	3 (17.0)	18 (100.0)	
20-29	39 (52.7)	26 (35.1)	9 (12.2)	74 (100.0)	
30-39	59 (44.4)	55 (41.4)	19 (14.3)	133 (100.0)	
40-49	104 (65.4)	35 (22.0)	20 (12.6)	159 (100.0)	
50-59	9 (39.1)	8 (34.8)	6 (26.1)	23 (100.0)	
Gender					0.931
Male	123 (53.0)	77 (33.2)	32 (13.8)	232 (100.0)	
Female	95 (54.3)	55 (31.4)	25 (14.3)	175 (100.0)	
Designation					0.001
Senior officers	166 (61.3)	66 (24.4)	39 (14.4)	271 (100.0)	
Junior officers	52 (38.2)	66 (48.5)	18 (13.2)	136 (100.0)	
Total	218 (100.0)	132 (100.0)	57 (100.0)	407 (100.0)	

Table 5: Pattern of dental visit among respondents

Pattern of dental visit	Frequency	Percent
Once in 6 months	84	20.6
Once a year	55	13.5
When I have tooth ache	154	37.8
Anytime I feel like	2	0.5
Never visited a dentist	112	27.5
Total	407	100.0

bleeding (61.2%) and mouth odor (47.2%) [Figure 2]. Perceived high cost of treatment and fear of dental instruments are the most commonly identified barriers to oral health utilization [Table 6].

DISCUSSION

This study presented a very thorough view of the oral health knowledge, attitude, and practice amongst officers and men of the Nigeria Prisons Service in Abuja aged between 18 and 59 years. The majority 268 (65.8%) of the respondents exhibited poor knowledge while 75 (18.4%) exhibited fair knowledge and only 64 (15.7%) exhibited good knowledge. Specifically, less than half (44%) knew that plaque accumulates on tooth surface after tooth brushing and 57.2% knew that soft debris causes dental caries. This suggests poor knowledge of the cause of dental caries which is the one of most common oral disease worldwide.^[6] The high prevalence of poor knowledge among the prison staff in this survey may be due to the fact that they work as a secluded group and have less chance of interacting with dental health workers and greater members of the society. It may also be connected with the prevalent poor oral health awareness/knowledge among Nigerians^[7] due to limited oral health education, low manpower in oral health delivery,^[8] and non-effective incorporating of oral health into primary healthcare in Nigeria despite developed documented strategies.^[9] This poor oral health knowledge indicates a need for oral health education which will

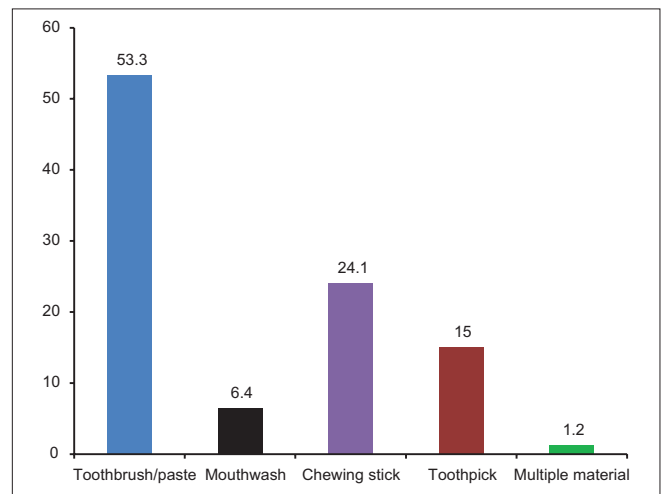


Figure 1: Type of teeth cleaning materials used by respondents

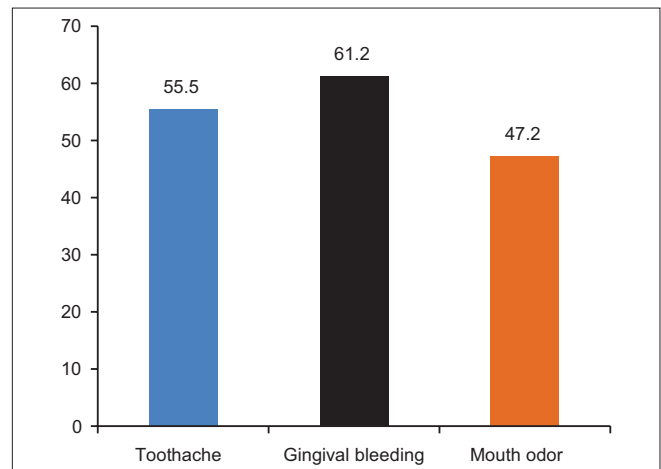


Figure 2: Oral conditions among the respondents

benefit not only prison staff but also prisoners that they care for because oral health knowledge is considered to be an essential prerequisite for health-related behavior.^[10] This is rooted on the established association between increased knowledge and better oral health.^[11,12]

Table 6: Barrier to utilization of oral health services

Barrier	Frequency	Percent
Treatment cost is high	156	38.3
I am afraid of the instrument	84	20.6
There are no dental clinics nearby	82	20.1
There is no time	39	9.6
Have not had any dental problem	23	5.7
No reason	6	1.5
Lack of interest	2	0.5
Infection too minor to see a dentist	15	3.6
Total	407	100.0

In this study, senior officers exhibited better knowledge than junior officers. The higher educational level among senior officers may have accounted for this recorded oral health knowledge. Oral health knowledge differed in the different age group with those above 50 years and those below 20 years demonstrating high levels of good knowledge. There was also gender disparity in oral health knowledge with high proportions of males than females demonstrating good knowledge. Again education might have played a factor with more males being educated.

The positive attitude toward teeth among Swiss military recruits is linked with a definite motivation for good oral health.^[13] In this survey, less than half (47.2%) of the respondents revealed a negative attitude toward oral health which is similar to the poor attitude to oral health issues documented among primary school teachers in Lagos State, Nigeria.^[7] The oral health attitude was similar among the various age groups of the respondents. Males exhibited more positive attitude when compared with females though the difference is not significant. There was also variation in oral health attitude by designation of the respondents with senior officers exhibiting positive attitude more than the junior officers.

Cleaning of teeth can be done with various materials depending on culture, location, income level, and level of oral health knowledge. In most modern cities, tooth brushing is the mostly acceptable while chewing stick is most commonly used in the rural setting. Abuja where the study was conducted is a mega city favoring high percentage (53.3%) of the respondents using toothbrush and toothpaste in this study. However, this is lower than 68% documented among dentate adults in Malaysia.^[14] The less cost, anti-microbiological use and cultural beliefs about chewing stick may explain why it was the second-most common tooth cleaning material.

Generally, dentists recommend twice daily tooth brushing usually as last time at night and in the morning after breakfast. This facilitates application of fluoride on teeth and reduction of food debris duration in the mouth and ultimately reducing dental caries and periodontal diseases. Twice-daily tooth brushing seems to be an established practice in several developed countries like

United Kingdom,^[15] Italy,^[16] Sweden,^[17] and Norway.^[18] In this survey, only one-third (32.4%) of respondents brushed their teeth twice-daily and this was lower than documented among values among Danish adult population.^[19] A total of 53.6% of the respondents brushed once-daily, although it is an acceptable practice, it falls below standard and limits an individual of the benefits of frequent application of fluoride which is anti-cariogenic in activity. More junior officers brushed their teeth twice-daily than senior officers. This may suggest that good oral health knowledge and positive oral health attitude may not necessarily translate to good oral health self-care.

Poor dental visit have been documented among Nigerians as illustrated in a study where 22.0% had never visited a dentist, 26.0% of adults have visited a dentist within the previous 12 months, 22.0% within 12-36 months, 30.0% over 36 months previously.^[20,21] Although 27.5% of respondents have never visited a dentist in this present study, it was surprising to find that most participants were still aware of the importance of regular dental attendance (71.0%). Some findings in this study might offer an explanation for the irregular dental attendance among the participants as a high proportion of the respondents reported that they did not attend due to high cost of dental treatment, fear of dental instruments, no dental clinics nearby, and lack of time to visit the dentist.

Guinness book of records, 2001 reported chronic gingivitis as the commonest disease affecting mankind in the whole world. It occurs due to gingival irritation by anaerobic micro-organism in dental plaque and usually presents as gingival bleeding. In this study, 61.2% of the respondents reported having experienced gingival bleeding. Mouth odor is a manifestation of oral disease documented to have psychological and social impact on affected individuals.^[22] In this study, 47.2% of the respondents reported having mouth odor and this prevalence may be explained by high prevalence of gingival bleeding among the respondents as mouth odor is with gingival bleeding and deep periodontal pockets.^[23] The fact that oral diseases like mouth odors negatively affect the psychological and social health of the respondents may cumulate into job dissatisfaction. Toothache is one of commonest oral health complaints with high prevalence in Nigeria. In this study, 55.5% reported having toothache. It can be implied that oral diseases among Prison staffs would impair productivity and concentration undermining security of prison and ultimately leading to prison break as oral health problems is known to lower soldier combat readiness.^[24]

CONCLUSIONS

Data from this study revealed that oral diseases in the form of gingival bleeding, toothache, and mouth odor are highly prevalent among the Prison staffs. Inadequate knowledge,

negative attitude, and suboptimal practices regarding oral health were also noted among the respondents. Dentist visit practice among prison staffs was low with the reported barriers as high cost of dental treatment, fear of dental instruments, no dental clinics nearby, and no time to visit the dentist. Comprehensive oral health educational programs for all cadres of prison staffs are recommended to improve their oral health perception and facilitate their role in oral health promotion.

REFERENCES

1. Samba M, Guinan JC, Sangare A, Da-Danho V, Bakayoko-Ly R. Oral health care practices in Abidjan. *Odontostomatol Trop* 2004;27:37-40.
2. Jenkins D. Oral care in the ICU: An important nursing role. *Nurs Stand* 1989;4:24-8.
3. Watson R. Care of the mouth. *Nursing (Lond)* 1989;3:20-4.
4. Xavier G. The importance of mouth care in preventing infection. *Nurs Stand* 2000;14:47-51.
5. Lin YS, Chang JC, Chang TH, Lou MF. Oral care practice and procedures in intubated patients: An observational study. *Hu Li Za Zhi* 2009;56:27-36.
6. Akpata ES, Blechman H. Bacterial invasion of pulpal dentin wall *in vitro*. *J Dent Res* 1982;61:435-8.
7. Sofola OO, Agbelusi GA, Jeboda SO. Oral health knowledge, attitude and practices of primary school teachers in Lagos State. *Niger J Med* 2002;11:73-6.
8. Ndiokwelu E. Primary health care approach. Its relevance to oral health in Nigeria. *Odontostomatol Trop* 2002;25:29-32.
9. Ogunbodede EO, Jeboda SO. Integration of Oral health into existing Primary health care services in Nigeria. *Niger Dent J* 1996;11:21-6.
10. Freeman R, Maizels J, Wyllie M, Sheiham A. The relationship between health related knowledge, attitudes and dental health behaviours in 14-16-year-old adolescents. *Community Dent Health* 1993;10:397-404.
11. Woolgrove J, Cumberbatch G, Gelbier S. Understanding dental attendance behavior. *Community Dent Health* 1987;4:215-21.
12. Hamilton ME, Coulby WM. Oral health knowledge and habits of senior elementary school students. *J Public Health Dent* 1991;51:212-9.
13. Lutz F, Curilovic Z, Renggli HH, Saxer UP, Schmid MO, Berchtold H, *et al.* Oral health for everyone--an unattainable goal? Analysis of a questionnaire among 1200 Swiss recruits. *SSO Schweiz Monatsschr Zahnheilkd* 1977;87:633-47.
14. Esa R, Razak IA, Jallaudin RL, Jaafar N. A survey on oral hygiene practices among Malaysian adults. *Clin Prev Dent* 1992;14:23-7.
15. Bradnock G, White DA, Nuttall NM, Morris AJ, Treasure ET, Pine CM. Dental attitudes and behaviours in 1998 and implications for the future. *Br Dent J* 2001;190:228-32.
16. Rimondini L, Zolfanelli B, Bernardi F, Bez C. Self-preventive oral behavior in an Italian university student population. *J Clin Periodontol* 2001;28:207-11.
17. Stenberg P, Hakansson J, Akerman S. Attitudes to dental health and care among 20 to 25-year-old Swedes: Results from a questionnaire. *Acta Odontol Scand* 2000;58:102-6.
18. Astrom AN, Samdal O. Time trends in oral health behaviors among Norwegian adolescents: 1985-97. *Acta Odontol Scand* 2001;59:193-200.
19. Tan HH. Effect of dental health care instruction and prophylaxis on knowledge, attitude and behavior in Dutch military personnel. *Community Dent Oral Epidemiol* 1979;7:252-8.
20. Okunseri C, Born D, Chattopadhyay A. Self-reported dental visits among adults in Benin City, Nigeria. *Int Dent J* 2004;54:450-6.
21. Okunseri C, Hodges JS, Born D. Self-reported toothache experience in an adult population in Benin City, Edo State, Nigeria. *Oral Health Prev Dent* 2005;3:119-25.
22. Azodo CC, Osazuwa-Peters N, Omili M. Psychological and social impacts of halitosis: A review. *J Soc Psychol Sci* 2010;3:74-91.
23. Mumghamba EG, Manji KP, Michael J. Oral hygiene practices, periodontal conditions, dentition status and self-reported bad mouth breath among young mothers, Tanzania. *Int J Dent Hyg* 2006;4:166-73.
24. Skec V, Macan JS, Susac M, Jokic D, Brajdić D, Macan D. Influence of oral hygiene on oral health of recruits and professionals in the Croatian Army. *Mil Med* 2006;171:1006-9.

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