

TOBACCO CESSATION SERVICES AND RELATED CHALLENGES AMONG DENTISTS IN SOUTHWEST NIGERIA

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ABSTRACT

Introduction: Oral health problems arising from tobacco use have been reported and some of these conditions can be prevented through Tobacco Cessation (TC). Dentists are well positioned to provide tobacco cessation services to patients. In Nigeria, little is documented on the provision of cessation services among dentists and the challenges. This study was conducted to assess the cessation practices of dentists and their related challenges in Southwest Nigeria.

Methods: A cross sectional study was carried out in all the tertiary healthcare facilities within the six states of the Southwest geopolitical zone. A total population survey involving dentists below the cadre of Consultant/Chief Dental Officers undergoing postgraduate training and/or providing services in the tertiary hospitals was conducted using a pretested semi structured self-administered questionnaire. This included questions on challenges experienced in the provision of TC services in their respective facilities.

Results: A total of 224 eligible dentists were approached to participate in this study with a response rate of 91.5%. Mean age and completed years of working experience were 33.8 ± 5.2 and 6.1 ± 4.4 respectively. In reporting challenges to implementing tobacco cessation services, 60% of respondents reported 'lack of perceived efficacy and training' as the major barriers

Conclusion: From this study, incorporation of tobacco cessation into the dental curriculum will increase the knowledge and competence of dentists. Provision of systems support to dentists willing to help patients quit smoking may be important in ensuring the health system is responsive to the tobacco control needs of patients in Southwest Nigeria.

Keywords: Tobacco cessation, Dentists, Challenges, Nigeria

INTRODUCTION

The use of tobacco is a common global event with over one billion smokers, though its prevalence varies from continent to continent as well as from country to country. Its use is reported to kill 6 million people on a yearly basis and this includes approximately six hundred thousand non-smokers.¹ Tobacco smoking in its various forms (cigars, cigarettes, pipes) is an important risk factor in many non-communicable diseases (NCDs) which include but are not limited to cardiovascular disease, lung disease, low birth weight and premature birth. Tobacco smoking with its attendant thermo-cycling effects is also associated with dental conditions such as, teeth abrasion and staining, implant failure, halitosis and oral cancer.^{2,3}

Tobacco control effects have gained grounds in recent decades and as part of the solution to the problem in May 2003, the World Health Organization (WHO)

World Health Assembly unanimously adopted the WHO Framework Convention on Tobacco Control.⁴ In 2008, WHO also introduced the MPOWER package of six evidence-based tobacco control measures that are proven to reduce tobacco use and save lives.⁵ **M** – Monitor tobacco use and prevention policies, **P** – Protect people from Tobacco smoke, **O** – Offer help to quit tobacco use, **W** – Warn about the dangers of tobacco, **E** – Enforce bans on tobacco advertising, promotion and sponsorship, and **R** – Raise taxes on tobacco.

A thrust of the **O** component of MPOWER is dependent on healthcare personnel integrating tobacco cessation into primary health care and other routine medical visits which provides the health-care system with opportunities to remind users that tobacco harms their health and that of others around them.⁵

This intervention can be particularly effective because it is provided by a well-respected health professional with whom tobacco users may have a good relationship.⁶ Dentists are strategically placed in tobacco prevention and cessation as they provide preventive services to a basically healthy population and therapeutic services when needed, on a regular basis. By expanding the dental examination, diagnosis, and treatment to include tobacco cessation, a potentially life-saving element of care is added to an established service.

Nigeria has an estimated 4000 licensed dentists to an estimated population of 170 million.⁷ As oral health professionals, dentists have the unique opportunity as they interface with the main portal of tobacco entry into the body and as part of the natural consequences of their oral health care efforts, can educate patients in a bid to make informed decisions and behavioral changes as regards smoking. Tobacco cessation is a viable method of achieving this. Despite the strength and the tenacity of the tobacco companies, tobacco control bill was recently enacted and it becomes important to carry out studies like this within the health sector which will provide important baseline information on dentists' perceived competence and preparedness to undertake tobacco cessation.

Furthermore, periodontal disease and the potential for oral cancer mandate the inclusion of tobacco cessation services into dental care. There is a dearth of information on the knowledge, perceived roles of dentists, and the challenges to carrying out these roles as regards tobacco cessation in Nigeria. This study (which is a part of a larger study), therefore was aimed at determining the various challenges faces by Nigerian dentists in implementing tobacco cessation services.

MATERIALS AND METHODS

This was a cross sectional study carried out in the Southwest geopolitical zone of Nigeria which comprises six states namely- Lagos, Ogun, Oyo, Osun, Ondo and Ekiti. Three of these states are home to the largest teaching hospitals which cover both undergraduate and post graduate training. These are the Lagos University Teaching Hospital (LUTH) which was the first dental school established in Nigeria. The University College Hospital (UCH), Ibadan, Oyo State and the Obafemi Awolowo University Teaching Hospital (OAUTH), Ile-Ife, Osun State. Other state tertiary healthcare facilities in which dental services and training are being provided e.g. Lagos and Ekiti States, as well as Federal Medical Centre, Abeokuta in Ogun state were used.

The study population was made up of all dentists undergoing training or service provision in a tertiary

health institution under the supervision of a dental consultant in the six states. Sampling frame was obtained from each institution used in the study. A pre-tested, semi structures, self-administered questionnaire was used for data collection. The questionnaire contained sections on socio-

Table 1: Socio-demographic characteristics of participants

Variable (N=205)	N	Percent
Age range (years)		
20-29	44	21.5
30-39	141	68.8
40 and above	20	9.8
Mean age	33.8±5.2	
Sex		
Male	117	57.1
Female	88	42.9
Highest Level of education		
First degree	179	87.3
Masters' degree	26	12.7
Professional qualification		
None	139	67.8
Part 1	66	32.2
State of employment		
Lagos	57	27.8
Ogun	10	4.9
Oyo	65	31.7
Osun	66	32.2
Ondo	3	1.5
Ekiti	4	2.2
Subspecialty ? (N=158)		
Restorative dentistry	25	15.8
Community dentistry	12	7.6
Periodontology	11	7.0
Child dental health	30	19.0
General dental practice	20	12.7
Oral pathology	16	10.1
Oral medicine	8	5.1
Oral surgery	36	22.8
Designation		
House officer (junior dentist)	39	19.0
Dental officer (junior dentist)	7	3.4
Registrar (junior dentist)	83	40.5
Senior dental officer (senior dentist)	8	3.9
Senior registrar (senior dentist)	60	29.3
Principal dental officer^ (senior dentist)	8	3.9
Completed Years of Work Experience (CYWE)		
0-4	73	35.6
5-9	85	41.5
10-14	42	20.5
15 and above	5	2.5
Mean CYWE	6.1±4.4	

demographics, tobacco history taking, knowledge of tobacco cessation methods, willingness to offer tobacco cessation services as well as challenges posed which were listed from most to least important.

The data collected was collated, cleaned and analyzed using the Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics was generated and associations tested using the Chi Square test at $p=0.05$. Only consenting individuals participated in this study and the UI/UCH Ethical Review Board approved this study.

RESULTS

A total of two hundred and twenty four eligible dentists were approached to participate in this study with a response rate of 91.5%. Mean age and completed years of working experience were 33.8 ± 5.2 and 6.1 ± 4.4 respectively. The respondents consisted of 57.1% males with the highest number of respondents from Osun State. Junior residents made up the largest bloc of respondents (40.5%) while dental officers made up the smallest bloc (3.4%). Table 1 shows the socio-demographic characteristics of the participants.

With regards to tobacco use history as shown in Table 2, majority (86.3%) of respondents reported frequently asking their patients if they smoked though fewer asked how long patients had been smoking for and about 60% asked the number of sticks smoked. Despite asking about patients' smoking history, less than 10% assisted patients to quit smoking.

When asked about challenges to implementing tobacco cessation services, 60% of respondents reported 'lack of perceived efficacy and training' as the major barrier while 'lack of reimbursement' was regarded as the least important. Table 3 shows the challenges listed by respondents.

Results show that age and prior formal training on tobacco cessation both influenced significantly the practice of tobacco cessation in the clinical setting ($p=0.03$ and 0.02 respectively). Other factors like designation, and completed years of work experience did not significantly influence cessation practice as shown in Table 4.

Table 2: Participants' tobacco use history taking practice

Questions	Response		
	Frequently n (%)	Infrequently n (%)	Never n (%)
*Ask if patient smokes	177 (86.3)	20 (9.8)	8 (3.9)
Ask how long patient has been smoking	149 (72.7)	25 (12.2)	31 (15.1)
Ask number of sticks patients smokes	126 (61.5)	27 (13.2)	52 (25.4)
*Advises patients to quit smoking	117 (57.1)	53 (25.9)	35 (17.1)
*Assesses patient's willingness to quit	41 (20.0)	28 (13.7)	136 (66.3)
*Assists patients to quit smoking	16 (7.8)	15 (7.3)	174 (84.9)
*Arranges follow up to quitting	7 (3.4)	3 (1.5)	195 (95.1)

**The 5 A's of smoking cessation*

Table 3: Challenges of provision of tobacco cessation services

Challenges (N=205)	n (%)
Lack of perceived efficacy and training	118 (60.2)
Lack of system support	106 (54.1)
Lack of time	90 (43.9)
Low patient acceptance	76 (38.8)
Lack of personal interest of the provider	72 (35.1)
Possibility of offending the patient	58 (28.3)
Little chance of success with intervention	42 (20.5)
Lack of reimbursement	38 (18.5)

Multiple responses allowed

Table 4: Factors influencing cessation practice

Influencing factors	Cessation practice category		P value
	Poor n (%)	Good n (%)	
Age range			
20-29	34 (77.3)	10 (22.7)	
30-39	125 (88.7)	16 (11.3)	
>40	14 (70.0)	6 (30.0)	6.781, 0.03
Sex			
Male	97 (82.9)	20 (17.1)	
Female	76 (86.9)	12 (13.6)	0.456, 0.32
Completed years of work experience			
0-4	61 (83.6)	12 (16.4)	
5-9	73 (85.9)	12 (14.1)	
>10	39 (83.0)	8 (17.0)	0.23, 0.88
Professional qualification			
None	119 (85.6)	20 (14.4)	
Part 1 of West Africa/National PG College)	54 (81.8)	12 (12.2)	0.489, 0.62
Educational qualification			
First degree	151 (84.4)	28 (15.6)	
Masters' degree	22 (84.6)	4 (15.4)	0.07, 0.6
Prior formal training on TC methods			
Yes	14 (67.7)	7 (33.3)	
No	158 (86.3)	25 (13.7)	5.51, 0.02
Knowledge of tobacco cessation methods			
Poor	38 (84.4)	7 (15.6)	
Fair	61 (78.2)	17 (21.8)	
Good	64 (88.9)	8 (11.1)	3.14, 0.21
Designation			
Junior dentist	108 (83.7)	21 (16.3)	
Senior dentist	65 (85.5)	11 (14.5)	0.119, 0.73

DISCUSSION

This study was made up of more males (57.1%) than females which is similar to another Nigerian study⁸, which also reported slightly more males among dentist and dental students in their study. Similarly, other global studies have made the same observations.⁹⁻¹³ However, a study from Tanzania had predominantly male respondents¹⁴ in comparison to this study. The reason for this is not quite clear but may be due to gender disparity within the profession. In this study, most of the respondents reported routinely asking patients if they smoke. This was significantly higher than the 65% reported in another Nigerian study, 60% reported in the United States^{8,15}, as well as 75% reported in a Kuwaiti study.¹⁶ This result is however lower than 94% reported in another Nigerian study¹⁷ and that reported in a study in California.¹¹ In this study, 86% of participants reported frequently asking patients if they smoke, 72% asked how long they smoked for but very few arranged for follow up.

The barriers to implementation identified in this study include the following: a lack of perceived efficacy and training, system support, time, personal interest of the provider and reimbursement. In addition, possibility of offending the patient and little chance of success

with the intervention were also identified. These are in keeping with the reports from some other studies.¹⁸⁻²⁰ In this study, lack of perceived efficacy and training was regarded as the most important barrier to implementation of TC activities by a large proportion of respondents which is similar to results of other Nigerian studies.^{8,21}

Slightly more than half of respondents regarded a lack of systems support as an important barrier while less than half thought lack of time was an important barrier. Only about a fifth of respondents indicated that reimbursement and the possibility of the intervention succeeding being low were important barriers to implementation of TC activities which is markedly similar to other studies in the United States and United Kingdom.^{22,23} Some of these barriers are expressed in other studies though the level of importance attached differs.²⁴⁻²⁶

'Possibility of offending the patient' was ranked as most important, followed by 'lack of training' in a study in Hong Kong.²⁷ A study conducted among periodontologists by Patel et al, in 2011, reported that low patient acceptance, lack of time and lack of training

were the most important barriers to implementing TC services.²² Another study out of Iowa, reported that ‘resistance to intervention’, ‘inadequate time’ and ‘forgetting to ask’ as the important barriers to implementation.¹⁰ Gender was reported as being the main barrier to implementation of TC services in Pakistan²⁸ possibly because it is an Islamic nation; however, this was not perceived as a challenge in this study. Other barriers include ‘lack of necessary patient education materials’, ‘availability of referral services’, ‘non availability of NRT’ and ‘resistance by members of staff’.²⁹ The differences above are possibly as a result of social and cultural differences as well as differences in modes of training/curriculum of dental professionals.

In Nigeria, the majority of dentists do not provide TC services in stark contrast to many other countries as there are no operational clinical guidelines to follow in helping a patient who is willing to stop smoking, non-availability of NRTs and neither are there referral centres.

CONCLUSION

This study shows that most dentist frequently ask about their patients’ tobacco use history but very few actually go ahead to render assistance in stopping the use of tobacco. Also, various barriers to implementation of tobacco cessation activities were enumerated and the major ones were ‘lack of perceived competence and training’, ‘lack of systems support’ and ‘lack of time’. Incorporating tobacco cessation into both undergraduate and postgraduate curricula will positively improve the knowledge base and increase the competence of dentists. IN addition, provision of systems support to the majority of dentists who are willing to help patients quit smoking may be important in ensuring that the health system is responsive to the tobacco control needs of patients in Southwest Nigeria.

REFERENCES

1. World Health Organization. WHO REPORT on the global TOBACCO epidemic: Warning about the dangers of tobacco. Geneva: WHO Press; 2011. 1-264 p.
2. **Collins F.** Tobacco cessation and the impact of tobacco use on oral health. 2009; (November): 1–13. Available from: www.ineedce.com
3. **Rad M,** Kakoie S. Effect of Long-term Smoking on Whole-mouth salivary flow rate and oral health. *J Dent Reserch* [Internet]. 2010 [cited 2015 Jan 7];4(4):110–114. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3429961/>
4. World Health Organization. WHO framework convention on tobacco control. Third. Geneva; 2005. 1-42.
5. World Health Organization. MPOWER/ : Six policies to reverse the tobacco epidemic. WHO Report on the Global Tobacco Epidemic. Geneva; 2008.
6. **Fiore M,** Jaen C, Baker T, *et al.* Treating tobacco use and dependence: 2008 update guideline panel. clinical practice guidelines. Rockville; 2008.
7. Nigerian Dental Association. Dentistry in Nigeria. *J Niger Dent Assoc* [Internet]. Lagos; 2014;4:1–5. Available from: www.nigdentalasso.org.
8. **Uti O,** Sofola O. Smoking cessation counseling in dentistry: attitudes of Nigerian dentists and dental students. *J Dent Educ* [Internet]. 2011 [cited 2014 Nov 18];75(3):406–12. Available from: <http://www.jdentaled.org/content/75/3/406.short>
9. **Rodrigues GA,** Galvao V, de Assis Viegas CA. Prevalence of smoking among dentists in the Federal District of Brasília, Brazil. *J Bras Pneumol.* 2008;34(July 2007):288–93.
10. **Pendharkar B.** Fourth-year dental students’ perceived barriers to providing tobacco intervention services. *J Dent Educ* [Internet]. 2010 [cited 2014 Nov 19];74(10):1074–85. Available from: <http://www.jdentaled.org/content/74/10/1074.short>.
11. **Prakash P,** Belek MGM, Grimes B, *et al.* Dentists’ attitudes, behaviors, and barriers related to tobacco-use cessation in the dental setting. *J Public Health Dent* [Internet]. 2013 Jan [cited 2015 Jan 5];73(2):94–102. Available from: <http://www.mendeley.com/research/dentists-attitudes-behaviors-barriers-related-tobaccouse-cessation-dental-setting/>
12. **Anjum M,** Reddy P, Monica M, *et al.* Dental Students attitude towards tobacco cessation in and around the dental colleges of Hyderabad - A cross sectional survey. *WebmedicalCentral Dent* [Internet]. 2014;5(11):1–11. Available from: http://www.webmedcentral.com/article_view/4730
13. **Wang J,** Li C, Jia C, *et al.* Smoking, smoking cessation and tobacco control in rural China: a qualitative study in Shandong Province. *BMC Public Health* [Internet]. 2014 Jan;14:916. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=4169812&tool=pmcentrez&rendertype=abstract>
14. **Amemori M,** Korhonen T, Kinnunen T, *et al.* Enhancing implementation of tobacco use prevention and cessation counselling guideline among dental providers: a cluster randomised controlled trial. *Implement Sci* [Internet]. BioMed Central Ltd; 2011 Jan [cited 2014 Nov 7];6(1):13. Available from: <http://www.pubmedcentral>.

- nih.gov/articlerender.fcgi?artid=3055178&tool=pmcentrez&rendertype=abstract
15. **Tomar SL**. Dentistry's role in tobacco control. *J Am Dent Assoc*. 2001;132 (November):30s–36s.
 16. **Khalaf M**. Smoking cessation practices in Kuwaiti general dental clinics. *Med Princ Pract* [Internet]. 2013 Jan [cited 2014 Nov 19];22:576–82. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24021780>
 17. **Ehizele A**, Azodo CC, Ezeja EB, Ehigiator O. Nigerian dental students' compliance with the 4As approach to tobacco cessation. *J Prev Med Hygiene*. 2011;52(52):12–26.
 18. **Fotadar S**, Sogi GM, Fotadar V, *et al*. Knowledge of, attitude towards, and prevalence of tobacco use among dental students in Himachal Pradesh State, India. *Oral Health Dent Manag* [Internet]. 2013;12(2):73–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23756422>
 19. **Sychareun V**, Hansana V, Choummanivong M, *et al*. Cross-sectional survey: smoking among medical, pharmacy, dental and nursing students, University of Health Sciences, Lao PDR. *BMJ Open* [Internet]. 2013;3(8):e003042. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3758981&tool=pmcentrez&rendertype=abstract>
 20. **Tami-Maury I**, Aigner CJ, Hong J, *et al*. Perception of tobacco use prevention and cessation among faculty members in Latin American and Caribbean Dental Schools. *J Cancer Educ* [Internet]. 2014 Dec [cited 2014 Nov 9];29(4):634–41. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24385339>
 21. **Ehizele A**, Azodo C, Umoh A, Akinboboye B. Attitude of dental students to tobacco cessation services. *Internet J Dent Sci* [Internet]. 2008;7(1):1–10. Available from: <https://ispub.com/IJDS/7/1/12864>
 22. **Patel AM**, Blanchard SB, Christen AG, Bandy RW, Romito LM. A survey of United States periodontists' knowledge, attitudes, and behaviors related to tobacco-cessation interventions. *J Periodontol* [Internet]. 2011 Mar [cited 2014 Nov 9];82(3):367–76. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20809858>
 23. **Jannat-khah DP**, Mcneely J, Pereyra MR, *et al*. Dentists' self-perceived role in offering tobacco cessation services: Results from a nationally representative survey, United. *Prev Chronic Dis*. 2014;11:1–12.
 24. **Gordon J**, Severson H. Tobacco cessation through dental office settings. *J Dent Educ* [Internet]. 2001 [cited 2014 Nov 21];65(4):354–363. Available from: <http://www.jdentaled.org/content/65/4/354.short>
 25. **Desalu OO**, Adekoya AO, Elegbede AO, *et al*. Knowledge of and practice related to smoking cessation among physicians in Nigeria. *J Bras Pneumol*. 2009;35(May):1198–203.
 26. **Amemori M**, Korhonen T, Michie S, Murtomaa H, Kinnunen TH. Implementation of tobacco use cessation counseling among oral health professionals in Finland. *J Public Health Dent* [Internet]. 2013 Jan [cited 2015 Feb 11];73(3):230–6. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23594270>
 27. **Li KWK**, Chao DVK. Current practices, attitudes, and perceived barriers for treating smokers by Hong Kong dentists. *Hong Kong Med J* [Internet]. 2014 Apr [cited 2014 Nov 19];20(2):94–101. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24625385>
 28. **Mumtaz R**, Khan AA, Moeen F, Noor N, Humayun S. The role of Pakistani dentists in tobacco cessation. *Int Dent J*. 2008;58:356–62.
 29. **Johnson NW**, Lowe JC, Warnakulasuriya KS. Tobacco cessation activities of UK dentists in primary care: signs of improvement. *Br Dent J* [Internet]. 2006 Jan 28 [cited 2014 Nov 18];200(2):85–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/16444223>