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. 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. 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. 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. 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.
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. 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. 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 faced 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-structured, self-administered questionnaire was used for data collection. The questionnaire contained sections on socio-demographic characteristics, and perceptions of dentists towards tobacco cessation.

Table 1: Socio-demographic characteristics of participants

| Variable (N=205) | N   | Percentage |
|------------------|-----|------------|
| **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 |            |
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                                      | 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 smoking| 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 (%) |
|------------------------------------------------|-------|
| 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
DISCUSSION

This study was made up of more males (57.1%) than females which is similar to another Nigerian study, which also reported slightly more males among dentist and dental students in their study. Similarly, other global studies have made the same observations. However, a study from Tanzania had predominantly male respondents 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, as well as 75% reported in a Kuwaiti study. This result is however lower than 94% reported in another Nigerian study and that reported in a study in California. 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. 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.

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. Some of these barriers are expressed in other studies though the level of importance attached differs.

Table 4: Factors influencing cessation practice

| Influencing factors | Cessation practice category | P value |
|---------------------|-----------------------------|---------|
| Age range           | Poor n (%) | Good n (%) |         |
| 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)   | 5.51, 0.02 |
| No                  | 158 (86.3) | 25 (13.7)  |         |
| 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 |

Annals of Ibadan Postgraduate Medicine. Vol. 16 No. 2, December 2018
were the most important barriers to implementing TC services.\(^2\) 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 Pakistan\(^2\) possibly because it is an Islamic nation; however, this was not perceived as a challenge in this study. Other barriers included ‘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 dentists 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.

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