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Full Length Research Paper

Tobacco smoking and awareness of smoking-cessation products in a university community

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Cigarette smoking is one of the most significant preventable causes of death and illness in the world. The present study investigated tobacco smoking among patrons of joints in Amassoma, the host community of Niger Delta University. Participants' awareness of various smoking-cessation products was also explored. Participants in the cross-sectional survey were 261 patrons of "Joints" or pubs in Amassoma, who completed and returned the research questionnaire with usable data. Informed consent was implied by participants' voluntary completion and return of the research instrument. In terms of gender, 194 (74.3%) of the participants were males while 67 (25.7%) were females. Participants' mean age was 25.7 ± 4.8. Age at smoking debut was 15.7 ± 7.6 years while age at regular smoking was 17.1 ± 8.3. 136 (72%) of respondents had made attempts to quit smoking in the past, 152 (80.4%) found it difficult or impossible to quit smoking while 173 (91.5%) felt in need of help to quit smoking. Findings indicated further that 91.5% of respondents who smoked also use other psychoactive substances. Level of awareness of smoking cessation products was very low among participants. There is need to sensitise stakeholders (smokers, researchers, and policy makers, governmental and non-governmental organizations) to the inherent dangers in cigarette smoking, and also to the availability of various effective smoking cessation products and techniques. These could go a long way in reducing the high mortality and morbidity associated with continued smoking.

Key words: Tobacco smoking, smoking-cessation products, awareness, university community.

INTRODUCTION

Cigarette smoking is one of the most significant preventable causes of death and illness in the world. It accounts for some 400,000 deaths per year in the USA, approximately 100,000 in the UK and about 5 million worldwide (Herman and Sofuoglu, 2010; West, 2010; West and Shiffman, 2007). Smoking is a well known risk factor for the development of cardiovascular diseases, chronic obstructive pulmonary disease, many forms of cancer, as well as major disabling conditions, such as dementia, blindness (macular degeneration), deafness, peripheral vascular disease (leading to amputations), stroke, premature death, etc. and therefore represents a major public health concern. It has been estimated that smoking may shorten life expectancy by 7 to 10 years.

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A quarter of smokers who fail to stop die an average of 20 years earlier than comparable non-smokers (West, 2010; West and Shiffman, 2007).

Currently, there is a dearth of empirical data on tobacco-attributable morbidity and mortality in Nigeria. However, the scanty epidemiological statistics on smoking are inconsistent and conflicting, but nevertheless alarming. For instance, while Salawu et al. (2009) reported a prevalence rate (current smokers) of 33.9% in Northeast Nigeria, and Obot (1990) reported a prevalence rate of 22.6% in a sample of 1,271 Nigerians, other researchers have found relatively lower prevalence rates. Odey et al. (2012) reported a prevalence rate of 6.4% among adolescents in Calabar, Southeastern Nigeria. Fawibe and Shittu (2011) reported a prevalence rate of 5.7% in Ilorin, North central Nigeria. In a national survey, smoking prevalence rates ranging 4.7% in Ibadan (Southwester Nigeria) to 16.7% in Kano (Northeast Nigeria) among respondents aged between 13 to 15 years was reported (Ekanem, 2008).

There seems to be a point of convergence that age of smoking debut for majority of current smokers was below the age of 18 years (Abikoye and Fusigboye, 2010; Action Health Incorporated (AHI), 2009; Adeyeye, 2011; Fawibe and Shittu, 2011; Salawu et al., 2009). More alarming was the finding that one in four of students who ever smoked cigarette smoked their first cigarette before age 10 years (AHI, 2009). These findings indicate that young persons are now getting initiated into cigarette smoking at relatively younger ages than in the past. Intervention programmes should, therefore, take cognizance of these current trends.

Many smokers may be aware of the risks and motivated to stop smoking, but have severe difficulties to quit. In UK and US, 40% of smokers report having made a quit attempt in the past year (West, 2010). Furthermore, 50% of quit attempts involve no pre-planning and 75% of quit attempts fail in the first week (West, 2010). Smokers experience powerful feelings of urge or need to smoke which overwhelm and undermine their resolving not to. This is because nicotine acts as both a positive and negative reinforcement. Positive reinforcement in the sense that nicotine acts on the reward pathways in the brain, generating urges to smoke in the presence of smoking cues. Nicotine serves as negative reinforcement in the sense that it causes chronic changes to the brain, resulting in a need to smoke to alleviate 'nicotine hunger' and aversive withdrawal symptoms (West, 2010). Many attempts to stop smoking are made unaided, with a success rate of around 2 to 4% (West, 2010). Aided quit attempts have been shown to be more effective (West, 2010; Ussher et al., 2013).

Many pharmacological products, in addition to behavioural or psychological services, are available to help smokers abstain from cigarette (Fiore et al., 2008; Herman and Sofuoglu, 2010). Quitting smoking is associated with immediate health benefits irrespective of age or presence of smoking-related diseases (Fiore et al., 2008; Herman and Sofuoglu, 2010). Effective smoking cessation products include nicotine-replacement therapy (NRT) and medications. Common NRTs include smokeless cigarettes (SC), nicotine chewing gum (NCG), nicotine lozenges (NL), nicotine patches, nicotine inhalators (NI), nicotine nasal sprays (NNS), and nicotine sublingual tablets (NST). All forms of NRT have been shown to reduce craving and withdrawal symptoms. Smoking cessation medications include bupropion, varenicline, nortriptyline, and clonidine.

Given the large number of smokers in Nigeria (Abikoye and Fusigboye, 2010; AHI, 2009; Fakoya, 2008; Fawibe, 2011; Salawu et al., 2009) and the fact that prognosis for unaided smoking cessation is very poor (West, 2010; West and Shiffman, 2009), stakeholders have expressed serious concern on the dearth of sound information and baseline data on tobacco smoking patterns and attributes, making formulation and implementation of a national policy on tobacco difficult. It is needful, therefore, to address the issues of scanty epidemiological studies on tobacco smoking in Nigeria. Additionally, to date, no single study has been conducted in Nigeria to examine the awareness or use of smoking cessation products. The expediency of the present study in attempting to gauge the awareness levels of smoking-cessation products by Nigerians can, thus, not be overemphasized. A World Health Organization (WHO) review suggests that while some of these smoking cessation techniques are available in Nigeria, several issues such as affordability, regulatory issues, fear of side effects, fear of addiction to the drug, among other factors, make the approach to be less popular than expected (WHO, 2011).

The present study, therefore, investigated tobacco smoking among an at-risk population (joint patrons) and gauged the extent to which participants were aware of smoking-cessation products, with a view to not only adding to scientific knowledge but also sensitizing the various stakeholders to the availability of effective techniques and services to aid smokers who are motivated to quit smoking.

MATERIALS AND METHODS

Setting and participants

The study was carried out in Amassoma, the host community of Niger Delta University. Amassoma is a densely-populated, sub-urban community in Southern Ijaw Local Government area of Bayelsa state, Nigeria. Due to the shortage of accommodation space on the university campus, majority of the students reside in the Amassoma community, which is directly opposite the university. Like similar university host communities in Nigeria, Amassoma is proliferated with "joints" (local language for pubs or relaxation

Table 1. Participants' demographic characteristics.

Variable	n (%)	Mean (SD)
Sex		
Males	194 (74.3)	-
Females	67 (25.7)	-
Age	261 (100)	25.7 (4.8)
Total no of years of formal education	261 (100)	13.8 (3.5)
Smoking Status		
Smokers	189 (72.4)	-
Non-smokers	72 (27.6)	-
Number of sticks smoked/day	189 (100)	9.7 (5.4)
Age at smoking debut	189 (100)	15.7 (7.6)
Age at regular smoking	189 (100)	17.1 (8.3)

Table 2. Participants' smoking history and quit attempts.

Question	Response	n	%	χ^2	p
Have you ever made any quit attempts?	Yes	136	72	36.4	<0.001
	No	53	28		
Apart from cigarette, do you also take other substance (s)?	Yes	173	91.5	130.4	<0.001
	No	16	8.5		
Apart from cigarette, what other substance (s) do you take?	None	16	8.5	130.4	<0.001
	Alcohol	131	69.3		
	Marijuana	14	7.4		
	Cocaine	12	6.3		
	Others	3	1.6		
	Alcohol plus others	13	6.9		
Do you find it difficult or impossible to control your smoking?	Yes	152	80.4	69.9	<0.001
	No	37	19.6		
Do you think you need help to stop smoking?	Yes	173	91.5	130.4	<0.001
	No	16	8.5		

centers) which both staff and students of the university as well as indigenes patronize (Abikoye and Fusigboye, 2010). Purposive sampling technique was used to select participants from twenty of these joints over a six-month period. In terms of gender, 194 (74.3%) of the participants were males while 67 (25.7%) were females. Participants' average number of years of formal education was 13.8 ± 3.5). Other demographic characteristics of the participants are presented in Table 1.

Instrument and procedure

Data were collected using a three-sectioned structured questionnaire. Demographic information of participants were assessed by requesting participants to indicate their age (actual age as at last birthday), sex (male or female), total number of years of formal education, religious affiliation and marital status (single/married/divorced/separated/widowed). Participants' smoking history and other smoking-related data were collected. Sample items from the section (Table 2) included "How many sticks of cigarette (on the average) do you smoke per day?", "How many sticks of cigarette per day would you prefer to smoke?", "How old were you when you first smoked a cigarette?", "How old were you when you started smoking regularly?", "Apart from cigarette, what other substance(s) do you smoke?", etc. The third section of the questionnaire tapped participants' awareness level of smoking-cessation products. Participants were asked to indicate their level of awareness of each of 11 smoking-cessation products, along a five-

Table 3. Respondents' awareness of smoking cessation products.

Smoking cessation product	Not aware of product		Aware but never used product		Aware but product not available		Aware but product not affordable		Aware and used product	
	n	%	n	%	n	%	n	%	n	%
Nicotine gum	180	69.0	66	25.3	10	3.8	0	0.0	1	0.4
Nicotine patch	213	81.6	31	11.9	9	3.4	8	3.1	0.0	0.0
Nicotine lozenges	198	75.9	15	5.7	19	7.3	29	11.1	0.0	0.0
Nic nasal spray	192	73.6	21	8.0	20	7.7	7	2.7	21	8.0
Nicotine inhaler	228	87.4	19	7.3	13	5.0	1	0.4	0.0	0.0
Nic sublingual tabs	208	79.7	25	9.6	14	5.4	14	5.4	0.0	0.0
Smokeless cigarette	195	74.7	40	15.5	18	6.9	8	3.1	0.0	0.0
Bupriopion	211	80.8	18	6.9	4	1.5	14	5.4	14	5.4
Varenicline	218	83.5	16	6.1	6	2.3	7	2.7	14	5.4
Notryptyline	198	75.9	17	6.5	30	11.5	9	3.4	7	2.7
Clonidine	196	75.1	15	5.7	36	13.8	14	5.4	0.0	0.0

point scale, ranging from "I am not aware of the product", "I am aware of the product but have never used it", "I am aware of the product, wanted to use it but the product is not available", "I am aware of the product, wanted to use it but the product is not affordable", to "I am aware of the product and have used the product".

Twenty popular pubs or "joints" were used for the study. Although no specific statistics could be obtained regarding the exact number of patrons per joint, estimates given by operators of the joints indicated that each of them had more than fifty patrons. Twenty questionnaires were, thus, administered at each of the twenty selected joints. Questionnaires were administered to sober patrons in the joints (pubs) in Amassoma by attendants of the joints. Consenting patrons were given the option of completing and returning the questionnaire immediately or taking it home and return later. No financial incentive was given to participants, and informed consent was inferred by voluntary acceptance, completion and return of the research questionnaire. At the end of six months, 261 questionnaires were returned with usable data, out of 400 administered, representing a 65.3% return rate. Data was analysed using the 18th version of statistical package for the social sciences (SPSS).

RESULTS

Results indicated that out of the 261 participants, 189 (72.4%) were current smokers while 72 (27.6%) never smoked cigarette. Average number of cigarette sticks smoked per day was 9.2 ± 5.4. Mean age at smoking debut was approximately 16 years while age at regular smoking was 17 years. Of the 189 participants who smoked cigarette, 173 (91.5%) also used other psychoactive substances. The breakdown shows that 131 (69.3%) of those who smoked also used alcohol, 14 (7.4%) used marijuana, 12 (6.3%) used cocaine, 13 (6.9%) used a combination of alcohol and other substances while 3 (1.6%) used "other" unnamed substances.

With regards to previous quit attempts, 136 (72%) of participants who smoked had made attempts at quitting smoking. Of the participants who smoked, 152 (80.4%) found it difficult to quit tobacco smoking while 173 (91.5%) admitted that they would require help to quit smoking.

The researchers were of the opinion that awareness of smoking cessation products would be beneficial to both smokers and non-smokers because the latter can use their awareness to advise smokers willing to quit on the availability and efficacy of these products. Therefore, data (Table 3) was analysed for all participants. Results indicated that participants' levels of awareness of smoking-cessation products were generally very low. As shown in Table 3, 180 (69%) of participants were totally not aware of nicotine gum, 213 (81%) were not aware of nicotine patch, 198 (76%) were not aware of nicotine lozenges, 192 (74%) were not aware of nicotine nasal spray, 228 (87%) were not aware of nicotine inhaler, 208 (80%) were not aware of nicotine sublingual tablets and 195 (75%) were not aware of smokeless cigarettes.

Similar lack of awareness was also observed for smoking-cessation medications as 81, 84, 76, and 75% of the participants were not aware of bupropion, varenicline, notriptyline, and clonidine, respectively. Even the few participants who reported being aware of some of these products also reported that the products were either not available or affordable. The only exceptions were nicotine nasal spray, varenicline and notriptyline in which 8, 5.4, and 2.7%, respectively were aware of and had used the products. Participants' awareness of these smoking-cessation products are further depicted in Figure 1

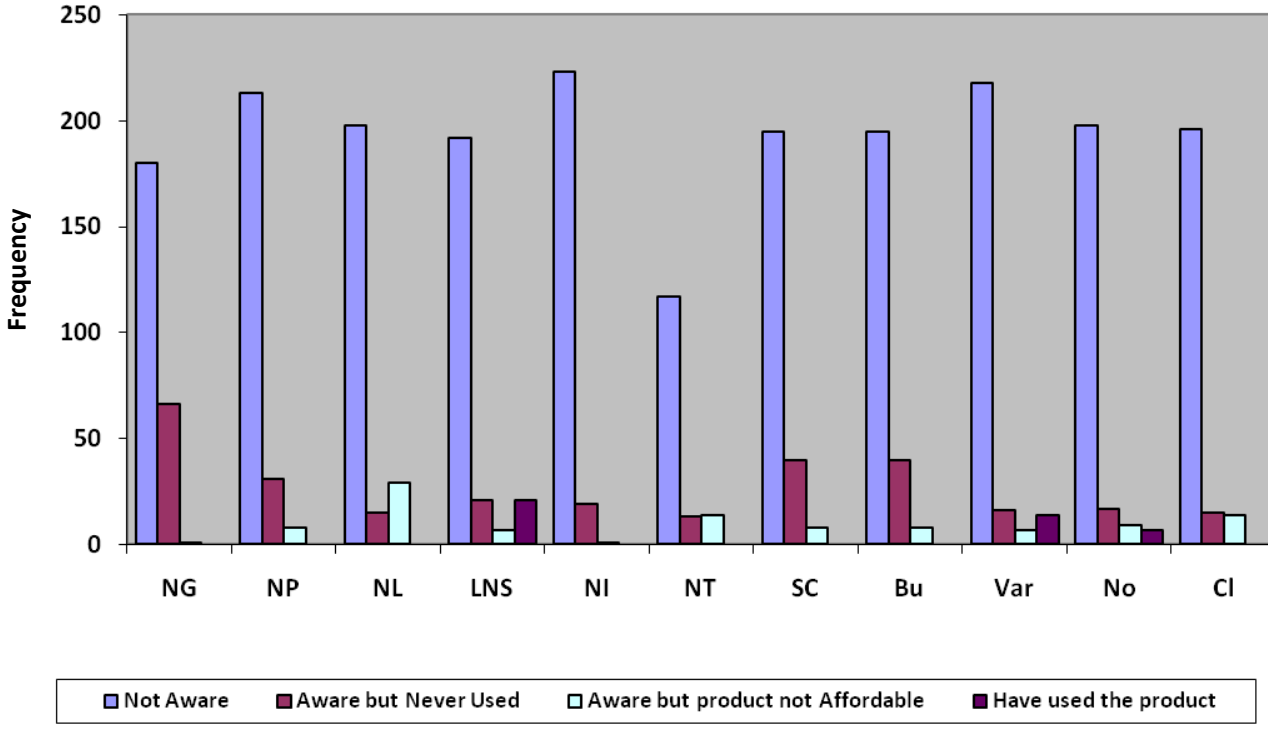

Figure 1. Participants' awareness of selected smoking-cessation products. NG = Nicotine gum; NP = Nicotine patch; NL = Nicotine lozenges; LNS = Nicotine nasal spray; NI = Nicotine inhaler; NT = Nicotine sublingual tablets; SC = Smokeless cigarette; Bu = Bupropion; Var = Varenicline; No = Nortriptyline; Cl = Clonidine.

DISCUSSION

The present study has thrown more light on smoking among patrons of pubs or "joints" in a sub-urban university community: history, previous quit attempts and awareness of smoking-cessation products. Findings indicated that majority of the participants smoked cigarettes. A large number of the participants also took other substances in addition to tobacco, indicating that tobacco smoking is associated with other substance use. The reason for the high incidence of smoking and other substance use could be the proximity of the pubs or joints to the university campuses, and the fact that the pubs are primarily alcohol consumption outlets. Another reason could be the influence of the inhabitants of the host community on the students.

The finding that the average age of smoking debut was less than sixteen years is consistent with recent findings in Nigeria (for example, Abikoye and Fusigboye, 2010; Salawu et al., 2009; Fawibe and Shittu, 2011; AHI, 2009), and this has serious implications for interventions aimed at encouraging smoking cessation in Nigeria. The finding also implies that university students among the participants had probably acquired the smoking habits from peers, mass media and other influences before entering the university (since the minimum age of entry into the university in Nigeria is sixteen years), and such influences should be the focus of preventive intervention among young people.

The average number of cigarette smoke per day was found to be 9.2. This finding appears to corroborate previous empirical evidence showing that although smoking is highly prevalent among diverse Nigerian populations (Adeyeye, 2011; Abikoye and Fusigboye, 2010; Ekanem, 2008: Obot, 1990; Odey et al., 2012), the average Nigerian smoker is a light smoker. This, however, does not imply that the situation is a positive one, considering the fact that even second-hand smoking is deleterious to health. A very worrisome finding in the present study to the effect that 91% of respondents who smoked were also users of other psychoactive substances portends serious health and socio-economic implications for the users but for the society at large. Given the plethora of health consequences associated with multiple substance use, and its attendant ripple effects on families and other social networks, there is need for more concerted effort by stakeholders to reduce smoking and mitigate its effects. This need to intervene

becomes particularly germane considering the finding that about 80% of respondents in the present study admitted to having difficulty quitting smoking, 72% had made unsuccessful attempts to quit smoking, while 91% realised that they would require help to stop smoking.

Not surprisingly, a vast majority of participants were ignorant of the various NRTs and medications that could aid smoking-cessation. This is an issue that stakeholders should address through awareness creation and advocacy. Since unaided attempts at quitting smoking have been shown to have very low success rate (West, 2010), it is expedient that people who are motivated to quit be helped in achieving this through every legitimate means possible, especially through empirically-tested and clinically-validated products such as the NRTs, varenicline, bupropion, nortriptyline, and clonidine. The use of these pharmacological smoking-cessation products, however, should be used with psychologically-oriented strategies. As noted by West (2010), highest abstinence rates are achieved when psychological approaches are combined with either the use of one of the NRTs and one of the medications.

It is recommended, therefore, that more awareness about pharmacological smoking-cessation products should be created among smokers, clinicians, policy makers, and other stakeholders with a view to sensitising them to the availability and efficacy of the products in helping smokers who are motivated to stop smoking. Since findings have consistently shown that incidents of substance use and abuse are highly prevalent among patrons of joints/pubs (and in most cases, multiple substance use), it is recommended that joint patrons should be targeted for psychological intervention or substance abuse intervention. While people other than students participated in the present study, majority of participants were university students. It is therefore, needful to recommend that pubs/joints should not be situated very close to university or college campuses in order to minimise proximity and accessibility. Finally, joint/pub patrons, as an at-risk population, have received a disproportionately scanty research attention, especially in Nigeria where pubs/joints business is a thriving venture. It is recommended, therefore, that researchers and other stakeholders should devote adequate attention to this vulnerable population.

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