

To start and quit smoking cigarettes: an evaluation of students in a Nigerian city

O.A. ATOYEBI¹, D.O. IBIORGBE¹, O.A. BABATUNDE¹, O.E. ATOYEBI²¹ Department of Community Medicine, ² Department of Ophthalmology, Federal Medical Center, Ido-Ekiti, Nigeria

Key words

Tobacco • Youths • University

Summary

Introduction. Several factors have been shown to influence cigarette smoking and are important in creating measures for tobacco control. The aim of this study is to identify the factors responsible for making decisions to start or stop cigarette smoking among students.

Methods. This was a cross-sectional study which sampled 280 youths in tertiary institutions using multi-stage sampling technique. The data was collected using self-administered questionnaire that had been pretested and validated. Data analysis was done using SPSS version 16. Frequency tables and cross-tabulations were generated with a 95% confidence interval and pre-determined p-value at less than 0.05.

Results. All the current smokers (100%) were males, most (73.2%) were within 21 to 25 years of age and 87.8% of them had

a relative or friend who smoked. Some (29%) of the students who currently smoked were willing to quit smoking while 73.2% of them had ever attempted to quit smoking. Students who smoked to relieve stress were willing to stop smoking (100.0%), while 40% of those who smoked for pleasure/relaxation were willing to stop smoking. Students who had received lectures on smoking were significantly willing to quit (100.0%) compared with those who had not received such lectures (0.0%) ($p=0.000$).

Discussion. Understanding the role of the factors associated with smoking initiating and cessation is very crucial in planning appropriate intervention for the control of cigarette smoking among the youths and there is need for more youth oriented health education directed towards a proper attitude to tobacco control.

Introduction

Cigarette smoking has been shown to adversely affect health and quality of life in humans of all age groups [1]. It also modifies and worsens several diseases like chronic obstructive airway disease (COPD) and has been implicated as a risk factor in the development of cancers, stroke, and ischaemic heart disease [2]. The cigarette smoking behavior mostly starts in adolescence and many smokers are initiated before the age of 16 [3, 4]. There are several preventive measures directed at reducing the prevalence of smoking and reducing the morbidity and mortality contributed by smoking-related diseases [5] but the prevalence of cigarette smoking is still high despite the measures in place for its control. According to the World Health Organization (WHO) report on Tobacco Use and Its Impact on Health [6], the global prevalence of cigarette smoking is 24% while the Center for Disease Control and prevention (CDC) stated that the United States of America has a tobacco use prevalence of 19.3% [7]. In England, the prevalence of tobacco smoking is 21% among adults but higher (27%) among those aged 20-24 [8] while the prevalence among adults aged 15 and above in South Africa is 27.1% [9]. In Nigeria, according to a study carried out in Ilorin by Fawibe and Shittu [3], 5.7% of university students were current smokers.

The attitude to smoking among young adults is vital to the tobacco control processes. Research has shown that up to 84% of current school adolescent smokers do not believe that cigarette smoking is harmful to health [10]. It is important to determine the factors responsible for initiating smoking so as to understand and create interventional measures that will be relevant for tobacco control. In previous studies, peer pressure, parental influence, stress, pleasure, lower self-esteem, absence of home-smoking restriction and exposure to cigarette adverts are very important sources of cigarette smoking initiation among the youths [11-13]. According to a study carried out among students in Kwara, Nigeria, 55.9% of smokers were introduced to cigarette smoking by their friends [14]. Also, alcohol intake and marijuana use have been shown to have an effect on cigarette smoking habits [15].

The desire and attempt to quit smoking have been studied over the years and certain factors have been associated with deciding to quit cigarette smoking. According to Arnsten et al. [16], 33.3% of the respondents intended to quit within the next six months and factors associated with their desire to quit include smoking related symptoms, social support for quitting and self efficacy (confidence in one's ability to quit). The effect of social support was also highlighted in another study [17] in which subjects were found to be quitting in groups. In this

study, cessation of smoking by a spouse reduced a person's chance of smoking by 67%, cessation by a friend reduced the chance by 36% and cessation by a sibling reduced the chance by 25%. Teater and Hammond [18] in their study found that 55.2% of respondents were planning to quit while 33.5% had made an attempt. They also discovered that people who smoked for 30 of the last 30 days before their research were least likely to desire to quit. Other factors that have been shown to impede readiness to quit smoking include depression and alcohol use [19].

Several factors have been shown to influence the onset and cessation of smoking of cigarette smoking among youths. Such factors directly or indirectly contribute to disease pattern, morbidity and mortality as well as social disruptions. These factors are important in further creating measures for tobacco control [20]. The aim of this study is to identify the factors responsible for making decisions to start or stop cigarette smoking among students in a tertiary institution in southwestern Nigeria in order to offer recommendations towards further research and policy making.

Materials and methods

This was a cross-sectional descriptive study of students in tertiary institutions carried out in 2012.

The sample size was calculated using Fischer's formula

$$N = \frac{Z^2 pq}{d^2}$$

Where:

N= sample size

Z= Standard normal deviation (1.96)

p= Population in the target population estimated to have a particular characteristic (in this case, prevalence of smoking among youths= 0.21 [21])

q= 1.0 – p

d= degree of accuracy required (0.05)

$$\begin{aligned} N &= \frac{1.96^2 p (1-p)}{0.05^2} \\ &= \frac{1.962 \times 0.21 \times 0.79}{0.052} \\ &= \frac{0.9600}{0.0025} \\ &= 254 \end{aligned}$$

The calculated sample size of approximately 254 was further increased to 280 to make up for cases of attrition. Multi stage sampling technique was used to select the students to whom the questionnaires were administered. There are two universities in Ekiti State: Afe Babalola University, Ado- Ekiti and University of Ado-Ekiti. One of the Universities was chosen by simple random sampling technique in the first stage, and five departments were selected in the second stage of sampling using simple random sampling technique by balloting.

In the third stage, systematic sampling was used to select the respondents. The total list of the students in the se-

lected departments served as the sampling frame and the sampling interval was determined by dividing the sampling frame by the sample size. The respondents were identified by matriculation numbers, departments, levels of education and the number on the sampling frame. Students that were not around during the time of the study or those that were not willing to participate were excluded from the study. Such students were replaced by the next person in the sampling frame.

The research instrument was a questionnaire that was pre-tested among 30 students of College of Education, Ikere Ekiti and validated by a departmental panel. The questionnaire was self-administered after obtaining an informed consent from each respondent and designed to elicit information on socio-demographic characteristics, reasons for initiating smoking, cigarette smoking pattern and reasons for quitting (for those that have stopped smoking). Data generated were edited for errors and entered into the computer for analysis with SPSS version 16 using descriptive statistics while association was established with Chi square with 5% level of significance. Ethical clearance for the study was obtained from the Ethical Committee of the Federal Medical Centre, Ido-Ekiti.

Results

Out of the 280 students sampled, 41 were current smokers giving a smoking prevalence of 14.6%. Most of the current smokers (73.2%) were within 21 to 25 years of age (Tab. I), while the mean age was 21.78 ± 2.35 years. All the current smokers (100%) were males, and most (78.0%) were Christians. The monthly expenditure of the smokers were $\leq \text{₦}5000$ (31.25 US Dollars) (34.2%), $\text{₦}5000 - \text{₦}10000$ (31.25-62.50 US Dollars) (43.8%), and $> \text{₦}10000$ (> 62.50 US Dollars) (22.0%). The mean monthly expenditure was ₦10,244 (64.03 US Dollars).

Tab. I. Socio-demographic characteristics of current smokers.

Variable	Frequency N = 41 (%)
Age Group (Years)	
18-20	11 (26.8)
21-25	30 (73.2)
Mean Age: 21.78 ± 2.35 (Range: 18-30)	
Sex	
Male	41 (100)
Female	0 (0)
Religion	
Christianity	32 (78.0)
Islam	9 (22.0)
Monthly expenditure Naira (Dollars) *	
< 5000 (< 31.25 US Dollars)	14 (34.2)
5000-10000 (31.25-62.50 US Dollars)	18 (43.8)
> 10000 (> 62.50 US Dollars)	9 (22.0)
Mean monthly expenditure: 10,244 (64.03 US Dollars)	

(* 1 US Dollar = 160 Naira).

Tab. II. Determinants of cigarette smoking initiation and sustenance.

Factor	Frequency N = 41 (%)
Main location of smoking	
Parties/Clubs	19 (46.4)
Friend's house	11 (26.8)
In school	6 (14.6)
Hostel	5 (12.2)
Relative/friend who smoke	
Yes	36 (87.8)
No	5 (12.2)
Ever asked to quit	
Yes	35(85.4)
No	6 (14.6)
Marijuana use	
Yes	11 (26.8)
No	30 (73.2)
Ever been asked for proof of age when buying cigarette	
Yes	16 (39.0)
No	25 (61.0)
Smoking restrictions at home	
Yes	28 (68.3)
No	13 (31.7)

Majority of the smokers, 19 (46.4%) smoked in parties/clubs (Tab. II), while some of them, 11 (26.8%) smoked in friend's houses. Thirty six (87.8%) of the smokers had a relative or friend who smoked, and 35 (85.4%) of them had been ever asked to quit smoking. Eleven (26.8%) of the students who currently smoked also use marijuana. Only 16 (39%) of the smokers had been asked proof of age, while 28 (68.3%) had smoking restrictions at home.

Tab. III. Attitude to tobacco control.

Attitude	Frequency N = 41 (%)
Support smoking control	
Yes	32 (78.0)
No	9 (22.0)
Attempt to quit	
Yes	30 (73.2)
No	11 (26.8)
Support smoking ban	
Yes	8 (19.5)
No	24 (58.5)
Abstain	9 (22)
Increase tax on cigarette	
Yes	8 (19.5)
No	24 (58.5)
Abstain	9 (22.0)
Ban cigarette adverts	
Yes	32 (78.0)
No	0 (0.0)
Abstain	9 (22.0)
Stop cigarette production	
Yes	8 (19.5)
No	24 (58.5)
Abstain	9 (22.0)

Table III shows the attitude of current smokers to smoking, with 32 (78.0%) of them supported smoking control as well as banning of cigarette adverts, and 8 (19.5%) supported smoking ban, increase in tax on cigarette, and stopping cigarette production out rightly. While only 29% of the students who currently smoked were willing to quit smoking, 30 (73.2%) of them had ever attempted to quit smoking.

Students who smoked to relieve stress were more willing to stop smoking (Tab. IV), while those who smoked for pleasure/relaxation were not. This was statistically significant. There was more willingness to cease smoking among students who were introduced to smoking by their friends (outside school) than those who were introduced to smoking by their siblings or colleague at school, with statistical significance. Students who had received lectures on smoking were significantly willing to quit compared with those who had not received such lectures. Also, use of marijuana was found to be associated with less willingness to cease smoking. This was statistically significant.

Discussion

The prevalence of smoking from this study was 14.6%. Relatively higher prevalence rates of smoking were reported in other studies: 19.3% from a CDC study in the United States of America [7], 21% from a study in England [8], and 27.1% from a South African study [9] in which the prevalence of smoking among adults aged 15 and above was 27.1%. This may imply that there is still a high prevalence of cigarette smoking despite global efforts at curbing the menace. Most of the current smokers (73.2%) were within the age range 21 to 25 years of age. This is comparable to a study done in England where a higher prevalence (27%) of smoking was found among those aged 20-24 years [8]. Intervention measures would have to focus on these adolescents and young adults as they have been found to have a high smoking prevalence. The decision to smoke among students from our study is mostly influenced by having a relative or friend who smoked, as found out in 36 (87.8%) of the current smokers. Introduction to smoking by friends was also reported by a study in Kwara, Nigeria where 55.9% of smokers were introduced to smoking by their friends [14]. Considering that 28 (68.3%) of smokers had smoking restrictions at home, the commonest place where smoking is carried out is in parties/clubs (46.4%), while some, 11 (26.8%) smoked in friend's houses. Such venues are more conducive for decision to smoke as there are no restrictions. Smoking among the students is also sustained by Marijuana use. It was found that eleven (26.8%) of the students who currently smoked also use marijuana. Use of Marijuana and alcohol intake has been identified by previous studies as having effect on smoking habits [15]. Though 35 (85.4%) of smokers in our study were ever asked to quit smoking, they had sustained the habit. It was also noted that only 16 (39%) of the smokers had been asked proof of age when buying

Tab. IV. Factors associated with willingness to smoke.

Characteristics of smokers	Willingness to quit (%)	
	No	Yes
Willing to quit	9 (21.9)	32 (78.1)
Reasons for smoking		
As a habit		5 (15.6)
For pleasure/relaxation	9 (100)	6 (18.8)
To reduce weight	0	3 (9.4)
To relieve stress	0	18 (56.3)
Total	9 (100)	32 (100)
Who introduced student to smoking		
Sibling	3 (33.3)	8 (25)
Colleague at school	6 (66.7)	8 (25)
Friends at home	0 (0)	16 (50)
Total	9 (100)	32 (100)
Received lecture on smoking		
Yes		32 (100)
No	9 (100)	0 (0)
Total	9 (100)	32 (100)
X ² = 84, p = 0.000		
Marijuana use		
Yes	3 (33.3)	8 (25)
No	6 (66.7)	24 (75)
Total	9 (100)	32 (100)
X ² = 1.31, p = 0.000		

cigarette, indicating the low level of societal contribution to smoking control. It was found out that many of the current smokers do not support strict intervention measures for tobacco control, including support for smoking ban (Yes, 19.5%), increase in tax on cigarette (Yes, 19.5%), and stopping cigarette production (Yes, 19.5%). They however support seemingly lighter smoking control measures (78.0%) and ban on cigarette adverts (78.0%).

While 32 (78.1%) of the students who currently smoked were willing to quit smoking, 30 (73.2%) of them had ever attempted to quit smoking. These values are different and more than those reported by Arnsten et al. [16] in a study in which 33.3% of the respondents intended to quit smoking within the next six months. They are also higher than what was observed by Teater and Hammond [18] who reported a 55.2% level of willingness to quit smoking in their study and recorded that 33.5% of smokers made an attempt to stop smoking. This disparity could be because many of the respondents (78.1%) in this study had received lectures on the risk of smoking, 85.4% had been asked to quit and up to 78.0% would support smoking control. This further shows the importance of organizing enlightenment lectures and programmes on the risks of tobacco smoking for young persons.

We found out that there was more willingness to stop smoking among students who smoked to relieve stress than among those who smoked for pleasure/relaxation. This could be due to the role of addiction in sustaining smoking habit. There was also more willingness to cease smoking among students who were introduced to smoking by their friends than those who were introduced to smoking by their siblings or colleague at school. This implies that smoking interventions should focus on peer groups for effectiveness in curbing smoking, as other studies have also identified the role of social support in smoking cessation showing that subjects quit smoking in groups [17]. Also, use of marijuana was found to be associated with less willingness to cease smoking. This compares to another study which shows that alcohol use impedes readiness to quit smoking [19]. In conclusion, understanding the role of these factors in smoking initiating and cessation is very crucial in planning appropriate intervention for the control of cigarette smoking among the youths. An important factor influencing willingness to quit smoking is being lectured on smoking. Students who had received lectures on smoking were significantly willing to quit compared with those who had not received such lectures. Thus, there is need for more health education towards a proper attitude to tobacco control and in the adolescents and young adults.

References

- [1] Adeyeye O.O. *Cigarette smoking habits among senior secondary school students in Lagos, south west Nigeria*. Int J Biol Med Res 2011;2:1047-50.
- [2] Salaudeen A, Musa O, Akande T, et al. *Effects of health education on cigarette smoking habits of young adults in tertiary institutions in a northern Nigerian State*. Health Science Journal 2011;5:216-28.
- [3] Fawibe AE, Shittu AO. *Prevalence and characteristics of cigarette smokers among undergraduates of the University of Ilorin, Nigeria*. Niger J Clin Pract 2011;14:201-5.
- [4] Zila MS, Emerita SO, Silvia SM, et al. *Adolescent gender differences in the determinants of tobacco smoking: a cross sectional survey among high school students in São Paulo*. BioMed Central Public Health 2010;10:748.
- [5] Friend K, Levy DT. *Reductions in smoking prevalence and cigarette consumption associated with mass-media campaigns*. Health Educ Res 2002;17:85-98. <http://her.oxfordjournals.org/content/17/1/85.full>.
- [6] World Health Organization. *Gender, women, and the tobacco epidemic: 3. Prevalence of tobacco use and factors influencing initiation and maintenance among women*. 2010. Available from: http://www.who.int/tobacco/publications/gender/en_tfi_gender_women_prevalence_tobacco_use.pdf. (accessed 18 August, 2012)
- [7] Centre for Disease Control and Prevention. *Smoking & Tobacco Use: Adult Cigarette Smoking in the United States: Current Estimate*. 2010. http://www.cdc.gov/24-7/?s_cid=24-7_004 (accessed 04 July, 2012).
- [8] NHS Information Centre. *Statistics on Smoking: England*. 2011. www.ic.nhs.uk/webfiles/publications/003_Health_Lifestyles/Statistics_on_Smoking_2011.pdf (accessed 23 September, 2012).
- [9] Van Walbeek C. *Recent trends in smoking prevalence in South Africa*. South African Medical Journal 2000;92:468-72.
- [10] Adebiyi OA, Faseru B, Sangowawa AO, et al. *Tobacco use amongst out of school adolescents in a Local Government Area in Nigeria*. Subst Abuse Treat Prev Policy (online) 2010; 4:24. Available from: www.ncbi.nlm.nih.gov/pmc/articles/PMC2978201 (accessed 17 October, 2012).
- [11] O'Loughlin J, Karp I, Kouli T, et al. *Determinants of first puff and daily cigarette smoking in adolescents*. Am J Epidemiol 2009;170:585-97.
- [12] Mwenifumbo JC, Sellers EM, Tyndale RF. *Socioeconomic and drug use determinants of smoking status in a Canadian urban adult population of black African descent*. Nicotine Tobacco Research 2008;10:1319-25.
- [13] Babatunde OA, Elegbede OE, Ayodele LM, et al. *Cigarette smoking practices and its determinants among university students in Ekiti state, Nigeria*. Journal of Asian Scientific Research 2012;2:62-9.
- [14] Salaudeen AG, Akande TM, Musa OI. *Attitudes and cigarette smoking habits among students of colleges of education in Kwara State, Nigeria*. Journal of Community Medicine and Primary Health Care 2008;20:13-20.
- [15] Richter KP, Kaur H, Resnicow K, et al. *Cigarette smoking among marijuana users in the United States*. Substance Abuse 2005;25:35-43.
- [16] Arnsten JN, Reid K, Bierer M, et al. *Smoking behaviour and interest in quitting among homeless smoker*. Addict Behav 2004;29:1155-61.
- [17] Christakis NA, Fowler JH. *The collective dynamics of smoking in a large social network*. N Engl J Med 2008;358:2249-58.
- [18] Teater B, Hammond GC. *Exploring smoking prevalence, quit attempts, and readiness to quit cigarette use among women in substance abuse treatment*. Soc Work Health Care 2010;49:176-92.
- [19] Joseph A, Lexau B, Willenbring M, et al. *Factors associated with readiness to stop smoking among patients in treatment for alcohol use disorder*. Am J Addict 2004;13: 405-17.
- [20] Yahya SJ, Hammangabdo A, Omotara BA. *Factors influencing the onset of cigarette smoking among adolescents in Konduga local government area*. Nigerian Journal of Medicine 2010;19:275-8.
- [21] Aghaji MN. *Cigarette Smoking and Quitting among Young Adults in Enugu, Nigeria*. Nigerian Medical Journal 2008;49(2).

■ Received on November 23, 2012. Accepted on April 8, 2013.

■ Correspondence: Oladele Ademola Atoyebi, Department of Community Medicine, Federal Medical Center, P.M.B 201, Ido-Ekiti, Nigeria - Tel. +2348035734043 - E-mail: delato_pet@yahoo.com