

A Population Based Study on the Prevalence of Cigarette Smoking and Smokers' Characteristics at Osogbo, Nigeria

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Abstract

Background: Cigarette smoking has been linked to several cancers worldwide. The characteristics of smokers have not been well documented among Nigerians.

Objective: This study assessed the prevalence and characteristics of cigarette smokers among the residents of Osogbo, in southwestern Nigeria.

Method: The study, a population based cross-sectional study of randomly selected consenting adult residents of Osogbo, was conducted in September of 2011. Data was collected using a semi-structured interviewer administered questionnaire on cigarette smoking.

Results: A total of 759 respondents were interviewed. Mean age was 42.1 ± 12.5 years. There were 364 (48%) males and 395 (52%) females. About 22% had ever smoked while 8.7% were current smokers, smoking an average of 22.9 ± 10.1 cigarettes per day. Males constituted the majority of current smokers. Most smokers (71%) were introduced to smoking by friends and ill health was the most often reported reason for quitting.

Conclusion: Cigarette smoking is commonly practiced among males in the studied population and awareness creation and advocacy should be conducted throughout the city in order to inform current smokers about the hazards and cumulative effects inherent in smoking.

Keywords: cigarette smoking, prevalence, smoking cessation, Nigeria

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Introduction

Worldwide, cigarette smoking has been noted to contribute to higher morbidity and mortality.¹ Cigarette smoking has been implicated in a number of diseases and is a risk factor for six of the eight leading causes of death in the world. Tobacco has killed an estimated 100 million people in the 20th century and continues to kill approximately 5.4 million people every year. This figure is expected to rise to 8 million deaths per year by 2030, 80% of which are expected to occur in the developing world.¹

Many chronic diseases are associated with exposure to cigarette smoke. Cigarette smoke has been shown to be dangerous to health. Smokers are also advised through several adverts that they are liable to die young if they do not stop smoking.² Several countries had therefore tried to control tobacco use among the population in order to reduce the prevalence of tobacco associated diseases in the general population.¹ The number of cigarette smoked, duration of smoking, and even stopping cigarette use have all been found to determine the prevalence of life threatening diseases such as lung cancer.³ Smoking cessation improves both the quality and duration of life for smokers.¹ Passive smoking has also been shown to be dangerous to health.^{4,5} The prevalence of breast cancer and other cancers have been found to be higher among wives of smokers who themselves had never smoked.^{5,6} The need to stop smoking has led several countries to control tobacco use through legislations aimed at preventing smoking in public places. Additionally, in some countries tobacco companies are made to pay higher taxes to deliberately increase the cost of cigarettes above what the general populace can easily afford, therefore discouraging cigarette production.¹

Osogbo is the capital of the state of Osun and is therefore located in Southwestern Nigeria. Its population according to the 2006 census is 288,455.⁷ The Osun State house of assembly passed anti-smoking legislation which was signed into law by the Osun State government in December 2009; the act made smoking in designated public areas in the state a punishable offence. The current situation regarding public smoking is not known; it is therefore difficult to assess the success or failure of the antismoking act since its passage. This study serves as a baseline study which could inform and guide policymakers on implementation strategies.

Methods

The study aimed to determine the prevalence of cigarette smoking and characteristics of cigarette smokers in Osogbo, southwest Nigeria. The study was conducted in September of 2011 and consisted of a population based cross-sectional study of consenting adult residents in Osogbo, the capital city of Osun State. Multi-stage sampling method was used to select a total of 759 participants in the study area. In the first stage, nine wards were selected through simple random sampling (balloting) of the twenty seven wards in the two local government areas of Osogbo. Each ward had an average of one hundred and ten households, with about ten of them not habitable. In the second stage, a systematic random sampling method was applied, with 7 as the sampling interval, in order to select 127 habitable households that were chosen for the study. Members of each household that were 18 years old and above were identified and their consent sought to participate. This was done after explaining the purpose of the study. Each respondent was interviewed in their homes for about 20 to 30 minutes. No respondents declined interview.

This survey was conducted using a pre-tested, semi-structured interviewer administered questionnaire containing questions on socio-demographic information, motivation for smoking, and smoking habits for all respondents. Other questions designed solely for cigarette smokers included question on current smoking issues and exposure to cigarette smoking. The questionnaire was translated to Yoruba—the indigenous language—and pretested in Ede town (Osun state) before being used for data collection. Thereafter, the survey was conducted using the pre-tested semi-structured interviewer administered questionnaire.

Respondents who ever smoked included persons who had smoked cigarette for at least six months during their lives; ‘current smokers’ include the respondents who smoked cigarettes in the one month prior to the start of the study. ‘Former smokers’ had smoked for at least six months but had not smoked in the one month prior to the start of the study, whereas ‘never smoked’ described respondents that had never smoked a cigarette.⁸

The data were entered into SPSS 16 software and analyzed using univariate and chi square statistics as appropriate. *P* values < 0.05 were considered statistically significant.

**Table 1.** Sociodemographic characteristics of the study population.

Sociodemographic characteristics	Frequency (N = 759)	Percentage (%)
Age group (years)		
20–34	244	32.1
35–49	264	34.8
50–64	222	29.3
≥65	29	3.8
Sex		
Male	364	48.0
Female	395	52.0
Highest level of education		
None	89	11.7
Primary	124	16.4
Secondary	269	35.4
Tertiary	277	36.5
Socio-economic status		
Low (less than \$28 per month)	219	28.9
High (\$28 and above per month)	540	71.1

Permission to conduct the study was granted from the State Hospital Ethics and Research Committee. Informed consent was taken from respondents. Additionally, confidentiality of information obtained was assured.

Results

The mean age of the respondents was 42.1 ± 12.5 years. There were 364 (48%) males and 395 (52%) females. About 37% had tertiary education (Table 1). Only 22% of the respondents had ever smoked, while 8.7% were current smokers. A higher proportion of current smokers were males (13.2% vs. 4.6%; $P = 0.001$) (Table 2). Most smokers were introduced to smoking by friends (71%) and parental influence (13%) (Table 3).

Eighty five percent of the current smokers started smoking after their eighteenth birthday. The majority (77%) smoked 22.9 ± 10.1 (range 1–36) cigarettes

per day, while 73% of smokers had smoked for more than 5 years (Table 4). The most common reasons for quitting cigarette smoking were ill health (56%) and economic factors (25%) (Table 5).

Discussion

The prevalence of cigarette smoking was low among the respondents when compared with previous studies in Nigeria.^{9,10} However, with the report that tobacco kills one person every six seconds worldwide^{11,12} and the fact smoking could be responsible for one billion deaths in the 21st century,^{11,13} it becomes imperative that urgent steps are taken to reduce cigarette smoking among the population. The promulgation of the anti-smoking law in Osun state is a step in the right direction as this will reduce the prevalence of passive smokers in public places and its attendant consequences.

The study found that the prevalence of cigarette smoking was low among female respondents. Previous studies have shown similar findings among female Nigerians.^{3,10} This is a positive development, but with the higher prevalence among males the risks associated with passive smoke continues to endanger the health of innocent citizens, predominantly wives and children of smokers. In previous studies done across the globe passive smoking has been found to also result in high morbidity and mortality.^{1,2,4} These females may be non-cigarette smokers who are exposed at home and at workplaces to second and third hand smoke.⁵

This study reported that both current and former smokers were influenced to smoke by their peers and parental smoking habits. This finding is similar to previous studies conducted across the globe that have shown that peer pressure and parental smoking could determine tobacco use among the populace.^{14,15}

The study reported heavy smoking of about 23 sticks per day among the smoking population.

Table 2. Pattern of cigarette smoking among the respondents.

Smoking status	Total N = 759 (%)	Male n = 364 (%)	Female n = 395 (%)	Statistic* χ^2 P value
Current smokers	66 (8.7)	48 (13.2)	18 (4.6)	42,218; 0.001
Former smokers	101 (13.3)	69 (18.9)	32 (8.1)	
Never smoked	592 (78)	247 (67.9)	345 (87.3)	

Note: *Chi square test.

**Table 3.** Reason for initiation of cigarette smoking.

Reason for initiating smoking	Frequency	Percentage (%)
Peer pressure	118	71
Parental smoking	22	13
Advertisement	17	11
Not stated	10	5

This showed a high level of addiction, which suggested that to ensure tobacco use cessation, it might be necessary to refer these smokers for tobacco cessation therapy. Additionally, the anti-smoking law recently enacted by the Osun State Government of Nigeria might actually drive the smoking population to smoke in their homes, thereby exposing their wives, children, and neighbors to passive smoke. Various studies have shown that tobacco smoking and secondhand smoke constitute overwhelmingly the most significant risk factor for premature and preventable deaths from cancer, and across the board for chronic diseases in Nigeria.^{4,16}

The finding in this study that ill health and economic reasons were adduced for stopping cigarette smoking showed that it is necessary to put in place information, education, and communication strategies that will help the general populace and individuals to stop smoking. This will in turn reduce the high morbidity and mortality among smokers and non-smokers alike. Increasing tax rates on cigarette products will increase the price of these products, thereby making cigarettes not readily available to the consumer. The revenue accrued from higher taxes could be used to educate the public about the dangers of smoking.

Table 4. Smoking pattern among current smokers.

Smoking pattern	Frequency (66)	%
Age respondents start smoking		
Less than 18 years	10	15.2
18 years and above	56	84.8
Cigarette sticks smoked/day		
1–12	15	23.3
13–24	12	18.6
25 and above	39	58.1
Duration of cigarette smoking (years)		
1–5	18	27.2
6–10	27	41.3
≥11	21	31.5

Table 5. Reason for quitting cigarette smoking.

Reason for quitting smoking	Frequency	Percentage (%)
Ill health	55	56
Economic	25	25
Religion	9	9
Received counseling	8	8
Fear of the no smoking law	2	2
Total	99	100

The study is limited to being a cross-sectional study that determined the prevalence of cigarette smoking and characteristics of cigarette smokers; no cause-effect relationship could be established. Additionally, while every effort was made to reassure the participants, some may have still refused to disclose their smoking status.

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Author Contributions

EGA and SAO made substantial contributions to the conception and design of the study while all the authors were involved in data collection, analysis, and interpretation. All authors were involved in writing the manuscript and approved the final copy.

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References

1. World Health Organization. 2008 World report on the global tobacco epidemic. The MPOWER package. Geneva; 2008.
2. World Health Organization. WHO country mortality fact sheet 2006 Nigeria. Death and DALY estimates by cause, 2002. Available at <http://www.who.int/entity/healthinfo/statistics/bodgbdeathdalyestimates.xi>. Accessed Sep 09, 2011.
3. Ayankogbe OO, Inem OA, Bamgbala OA, Robert OA. Attitudes and determinant of cigarette smoking among rural dwellers South West. *Nigeria Niger Med Pract.* 2003;44:70–4.
4. Desalu OO, Onyedum CC, Adewole OO, Fawibe AE, Salami AK. Secondhand smoke exposure among nonsmoking adults in two Nigerian cities. *Ann Afr Med.* 2011;10:103–11.
5. Nebot M, Lopez MJ, Tomas Z, Ariza C, Borrell C, Villalbí JR. Exposure to environmental tobacco smoke at work and at home: a population based survey. *Tob Control.* 2004;13:95.
6. Skorge TD, Eagan TML, Eidec GE, Gulsvik A, Bakke PS. Exposure to environmental tobacco smoke in a general population. *Respir Med.* 2007;101:277–85.
7. Adeniran AJ, Akinlabi FJ. Perceptions on cultural significance and heritage conservation: A case study of Sussan Wenger's building, Osogbo, Nigeria. *Afr J Hist Cult.* 2011;3(5):73–88.
8. Yang G, Ma J, Chen A, et al. Smoking cessation in China: findings from the 1996 national prevalence survey. *Tobacco Control.* 2001;10:170–4.
9. Adejuwon GA. Tobacco use and second hand smoke as risk factors for diseases in Nigeria: implications for collaborative research and multilevel tobacco control strategies. *Afr J Med Med Sci.* 2009;38 Suppl 2:21–9.
10. Desalu OO, Olokoba AB, Danburam A, Salawu FK, Batulu IM. Epidemiology of Tobacco smoking among adult population of north eastern Nigeria. *Internet Journal of Epidemiology.* 2008;6(1). Available at <http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ije/vol6n1/tobacco.xml>. Accessed Sep 09, 2011.
11. Binu VS, Subba SH, Menezes RG, et al. Smoking among Nepali Youth—Prevalence and Predictors. *Asian Pacific J Cancer Prev.* 2010;11:221–6.
12. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Medicine.* 2006;3:442.
13. Peto R, Lopez AD. Future worldwide health effects of current smoking patterns. In: Koop CE, Pearson CE, Schwarz MR, editors. *Critical Issues in Global Health.* San Francisco, Wiley (Jossey-Bass). 2001:154–61.
14. Pinilla J, González B, Barber P, Santana Y. Smoking in young adolescents: an approach with multilevel discrete choice models. *J Epidemiol Community Health.* 2002;56:227–32.
15. Shiva F, Padyab M. Smoking practices and risk awareness in parents regarding passive smoke exposure of their preschool children: a cross-sectional study in Tehran. *Indian J Med Sci.* 2008;62:228–35.