EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 3
Issue: 12
157-163
Year: 2016

PREVALENCE, BEST ENVIRONMENT FOR SMOKING AND OTHER CORRELATES OF SMOKING HABITS IN YENAGOA LOCAL COUNCIL AREA OF BAYELSA STATE

***Owonaro A. Peter, Eniojukan F. Joshua and Owonaro A. E Daughter**

Public Health Pharmacy Unit, Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria. and Skypat Pharmacy Limited Yenagoa.

***Corresponding Author: Owonaro A. Peter**
Public Health Pharmacy Unit, Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria. and Skypat Pharmacy Limited Yenagoa.

Article Received on 20/10/2016 **Article Revised on 11/11/2016** **Article Accepted on 01/12/2016**

ABSTRACT
The prevalence of smoking among the young ones is still on the increase. About 400 000 deaths per year are associated to smoking. The trend of death due to smoking will decline with decreases on the prevalence of smoking. This study was poised at evaluating the prevalence of smoking, smoking environment, permitted age of smoking and other correlating factors. About 1,182 respondents agreed to participate after they were made to understand the full details of the study. The sample size was calculated using the formula for evaluating the sample size population. The questionnaire captured demographic data, prevalence/ smoking environment, permitted age of smoking and other correlating factors. 77.2% of respondents were male; married and mostly within the age of 18- 30 years. Annual income was 501,000-1, 000000. 73.7% were Christians and majority were I jaw people. Prevalence of smoking was 8.2% between 16-25 years. Most of the smokers were still smoking. Smokers 53.2% of respondents lived in the same house with relatives that were non- smokers; 42.7% smoked inside the house and 53.7% smoked outside closed room. Permitted Age for Buying and Smoking Cigarette was reported to be 18-20 years. 9.2% of respondents reported that smokers were aware that smokers are liable to die young. 56.7% of respondents that were smokers reported that, they strongly disagreed with banning smoking in public place while non- smokers strongly agreed on banning smoking in public places. 83.8% of smokers bought cigarette with their money and 92.6% reported that it was affordable. 35.9% of respondents reported that they spent 20-200 naira daily on smoking; 49.4% spent 1000-5000 naira monthly on smoking. Regarding the cost 47.1% reported that it was moderate. The need to enforce antismoking campaign is necessary to curtail the high prevalence of smoking in Yenagoa council area, the capital of Bayelsa State.

KEYWORDS: Cigarette Smoking, Prevalence, Setting, Yenagoa, Bayelsa State.

INTRODUCTION
Cigarette smoking has led to premature death globally. In United State one fifth of the deaths are linked to smoking and 28% deaths involved in lung cancer, 37% vascular disease and 26% respiratory diseases. About 400 000 deaths per year are associated to smoking. This trend of death due to smoking will decline with reduction in the prevalence of smoking. The prevalence of smoking of late is high with men; currently women have equaled the percentage of men that smoke [Bergen and Caporaso, 1999].[1]

Most people start smoking at the age of 20, while about 15% of women start smoking at age 25. Though, reports have however shown that the prevalence of smoking is lower with age 45 and above. The prevalence of smoking among the young ones is still high [**Schroeder, 2013].**[2]

In 2013 World Health Assembly advised Government agency to decrease the prevalence of smoking by about a third by 2025. This will prevent about 200 million deaths from tobacco use. Doubling the price of cigarettes, where low- and middle-income countries will have difficulties in buying cigarette will equally help in decreasing the prevalence of smoking.

World Health Organisation recommends a widespread cessation of smoking. This will help in achieving the reduction of smoking. To achieve this, the government, journalist, health professionals and opinion leaders have to be involved in the campaign on the danger and hazard of smoking cigarettes from early adulthood, the substantial benefits of stopping at various ages, the magnitude of the epidemic of tobacco-attributable deaths, if still persist in smoking cigarette [Jha, and Peto, 2014].[3]

In this study we evaluated prevalence of smoking, smoking environment, permitted age of smoking and other correlating factors.

METHOD

Study population

This study was carried out in Yenagoa local Government area of Bayelsa State, South- South region of Nigeria with a population of 266,008 at the 2006 census [Wikipedia 2009].[4]

Study Design and Sample

A total of 1,300 questionnaires were given out, but only 1, 182 respondents agreed to participate after they were made to understand the full objectives of the study. The sample size was calculated using the formula for evaluating the sample size population.[5] The questionnaire captured demographic data, prevalence/ smoking environment, permitted age of smoking and other correlating factors.

Data Analysis

SPSS version 20 was utilized for data analysis. A t-test was also conducted using one way ANOVA.

RESULTS

Demography

77.2% of respondents were male; married (43.4%); mostly within the age (39.2%) of 18- 30 years. 62.5% of respondents had tertiary education; 49.7% were civil servants; with an annual income (43.5%) of 501,000-1, 000000. 71.3% of the respondents lived in the urban city; I jaws were 57.8% and 73.7% were Christians.

Table 1: Bio-socio-characteristics of respondents

Variable	Frequency	Percent
N=1182		
Sex		
Male	912	77.2
Female	270	22.8
Marital status		
Single	476	40.3
Married	513	43.4
Widowed	193	16.3
Age group		
18-30	463	39.2
31-45	317	26.8
46-60	283	23.9
61 and above	119	10.1
Education		
Primary	97	8.2
Secondary	289	24.5
Tertiary	739	62.5
Others	57	4.8
Occupation		
Civil servants*	587	49.7
Military	142	12.0
Students	149	12.6
Unemployed/retired	268	22.7
Others**	36	3.0
Annual income (#)		
50,000-100,000	128	10.8
101,000-500,000	145	12.3
501,000-1,000000	514	43.5
1,000000-<2,000000	194	16.4
2,000000 and above	93	7.9
No response	108	9.1
Place of residence Urban	843	71.3
Rural	104	8.8
Semi-urban	235	19.9
Religion		
Christianity	871	73.7
Islam	207	17.5

Traditional	58	4.9
Others	46	3.9
Tribe		
Ijaw	683	57.8
Nembe	200	16.9
Ogbia	134	11.3
Igbo	30	2.5
Others***	135	11.4

*including lecturers and school teachers.
**including farmers, artisans, drivers traders/business owners and contractors.
***including Urhobo, Isoko, Itsekiri and Yoruba.

Prevalence of Smoking

About 88.2% had ever smoked; initiation age (49.3%) were within 16-25 years; 90.4% of smokers had not quitted smoking with 87.4% also took alcohol; however, they were mostly initiated at the age of 16-25, but 72.1% later quitted alcohol.

Table 2: Smoking prevalence and patterns

Variable		Frequency	Percent
Ever smoked?	Yes	1043	88.2
	No	139	11.8
Age of initiation	10-15	383	36.7
	16-25	514	49.3
	26-35	117	11.2
	36-50	29	2.8
Quitted smoking?	Yes	100	9.6
	No	943	90.4
Alcohol intake (for non quitters)	Yes	1033	87.4
	No	149	12.6
Age of initiation	10-15	32	2.7
	16-25	494	41.8
	26-35	444	37.6
	36-50	212	17.9
Quitted alcohol?	Yes	852	72.1
	No	330	27.9

Non-Smoker and Quitters

68.1% of respondents had friends that smoked; 69.5% of their uncle smoked and 65.6% of their husband smoked.

Smoking Environment

Smokers (53.2%) lived in the same house with relatives that were non- smokers; 42.7% smoked in the house; 53.7% smoked outside closed room.

Permitted Age for Buying and Smoking Cigarette

Regarding permitted age for buying and smoking cigarette, 72.4% of respondents was reported to be within 18-20 years. 89.2% of respondents reported that smokers were aware that smokers are liable to die young. 78.6% of respondents reported that their religion do not encourage smoking. Regarding public acceptance of smoking (52.7%) reported poor acceptance; 58.8%, 46.7%, 36.3% and 41.5% of respondents respectively, reported that public reaction to smokers was hostile, aggressive, isolated and rejected. 86.7% and 78.4% of respondents respectively were ready to advice their friends and relative to stop smoking.

Table 5: Non-smokers and Quitters

Variable	N=239	Frequency	Percent
Have friends who smoke?	Yes	163	68.1
	No	63	26.3
	No response	13	5.6
Which of your relatives smoke?	Father	46	19.4
	Mother	17	7.2
	Brother	161	67.3
	Uncle	116	69.5
	Aunt	12	5.1

	Sister	11	4.7
	Husband	157	65.6
	Others	32	13.2
Live in the same house with relatives that smoke?	Yes	127	53.2
Do they smoke in the house?	Yes	102	42.7
Does any of your colleagues smoke at your work place?	Yes	39	16.4
Smoking environment	In closed room	113	47.3
	Outside closed room	128	53.7
Permitted age for buying and smoking cigarette in Nigeria	10-17 years	42	17.6
	18-20 years	173	72.4
	21-25 years	16	6.7
	>30 years	8	3.3
Aware of the cliché "smokers are liable to die young"?	Yes	213	89.2
	No	26	10.8
Does your religion permit smoking?	Yes	51	21.4
	No	188	78.6
Are smokers generally accepted in the public?	Yes	113	47.3
	No	126	52.7
Public reactions smokers attract	Hostility	141	58.9
	Aggression	112	46.7
	Isolation	87	36.3
	Rejection	99	41.5
	Warm welcome	6	2.4
	Respect	9	3.7
	Disrespect	39	16.3
Are you willing to advice your friend to stop smoking?	Yes	206	86.7
	No	32	13.3
Are you willing to advice your relative to stop smoking?	Yes	187	78.4
	No	52	21.6

Opinion of smokers and non-smokers about smoking in public places

56.7% of respondents that were smokers reported that, they strongly disagreed banning smoking in public places, while non- smokers strongly agreed bounding of smoking in public places.

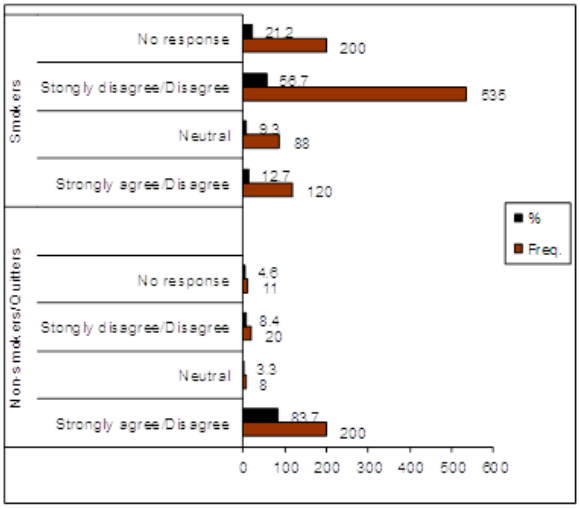

Fig.4: Smokers' and non-smokers' opinions about non-smoking policy in public places and restriction of advertisements/ manufacture of cigarettes in Nigeria

Source of Supply and Cost

83.8% of smokers bought cigarette with their money and 92.6% reported that it was affordable. 35.9% of respondents reported that they spent 20-200 naira daily on smoking; 49.4% spent 1000-5000 naira monthly on smoking. Regarding the cost (47.1%) reported that it was moderate.

Table4: Supply sources and effects of cost as reported by smokers

Variable		Frequency	Percent
Means of obtaining cigarettes	I buy with my money	790	83.8
	Family members	67	7.1
	Colleagues at work	86	9.1
Quantity readily affordable?	Yes	873	92.6
	No	70	7.4
Average amount spent on smoking/day (Naira)	50-200	339	35.9
	201-500	139	14.7
	Above 200	775	82.2
Average amount spent on smoking/month (Naira)	1000-5000	466	49.4
	5001-10,000	111	11.8
	10,001-15,000	57	6.0
Effect of cost on quantity smoked	Moderate	444	47.1
	Minimal	405	42.9
	No effect	94	10.0

DISCUSSION

The study revealed that more male within the age group of 18-30 years participated. The respondents were more of the working literates and majority earned 501,000- 1, 000000 annually. They were mostly from lzon and were Christians. This is not surprising since Yenagoa council area is the state capital of Bayelsa state and it is entirely dominated by the lzon people and are worshippers of Christianity [Wikipedia, 2010].[6]

Prevalence of Smoking

The prevalence of ever smoking in Yenagoa the state capital of Bayelsa sate was 88.2%. This is in line with other survey [Egbe et al., 2014 Desalu et al., 2004; Salawu et al., 2009][7,8,9] A lower prevalence rate of smoking has been recorded in Niger Delta region and south-east of Nigeria [Ebirim et al., 2014 and Odey et al., 2012].[10,11] Although, in the year 2012, GATS report revealed that the smoking prevalence in Nigeria was 5.6% compared to 20% for Australia and England.[12, 13,14] Owing to the fact that the population of Yenagoa is over two thousand, the smoking prevalence is high. Therefore, the smokers and non-smokers are in danger, most especially the youths are more affected. Although, the prevalence of cigarette smoking between countries, states, tribes and communities differs [Ebirim et al., 2014].[10] A survey on adult tobacco smoking in 19 States in the US in 2003-2007 revealed that 13.3%-25.4% of adults smoked cigarettes. This further buttress that most of the lung cancer cases of smokers were induced by cigarette smoking resulting to high prevalence of smoking.[15] Therefore the need to enforce antismoking/antisocial behaviour campaigns is eminent in the State capital.

Age of Initiation

The most prevalent age of smoking was at age 16-25 years (49.3%). This shows that more youths engaged in smoking. Similar reports have been recorded in other studies [Ebirim et al 2014; Abikoye et al 2014; 13, Morabia et al 2002].[10,16,17] However, a study by Frobishe et al., implicated smoking initiation at age 10-14 [Frobisher et al., 2008].[18] This contradicts the findings in this study. In the developed countries like United State and Europe the initiation age of smoking is just about 14 years [Ayankogbe et al., 2003].[19] The extent of freedom given to the youths and less religious emphasis on their daily life style are likely to result to this early age of smoking. This is farfetched with developing countries like Nigeria with a lot of restrictions on youths' moral conducts, coupled with a lot of emphasis on religion especially as a Christian State.

Smoking and Alcohol Consumption concurrently

About 87.4% of respondents that are smokers took alcohol also. This is more prominent within the age of 16-25. This is similar to other studies implicating smokers taking alcohol whenever they smoked; they even consume more drinks than non- smokers [Frobisher et al., 2008].[18] This may likely increase smoking or vice visa. Also it will result to a synergy effect in their body, since both can cause hazard to their body. A case study is the fast progression of cancer with smokers and drinkers [US Surgeon General 2010; Frobisher et al., 2008].[20,18]

Non-Smokers and Quitters

Over 90% of smokers at the time of this study had not quitted smoking. Their inability to stop smoking may be due to addiction and influence by peer groups and relatives who are likely smokers as well [Frobisher et al., 2008].[18] This is not far-fetched; as 68.1%, 69.5% and 65.6% respectively had friends, uncles and husbands that smoked

Smoking Environment

53.2% of the respondents that are non-smokers recorded that they lived together with smokers in the same houses with 42.7% of smokers that smoked inside the living houses. This has led to non-smokers' exposure to several side effects induced by inhalation of cigarette [Jarvie et al., 2008].[21] Previous studies have shown lung cancer rate of fast progression by being exposed to smokers that are relatives, friends or workmates that smoked.[15,22]

Studies have also shown that even when you open the windows, smoking can still affect the non- smokers' organs badly.[14] The need for enlightenment programmes and enforcing existing laws are prominent as this can cause danger to the society.[23]

Permitted Age for Buying and Smoking Cigarette

Age 18-20 (72.4%) was reported as the permitted age of buying and smoking in Nigeria. This is in line with purchasing of cigarettes but no reported age range for smoking at the time of this study.[22,23] This may have resulted to the high prevalence of smoking among the youths.

Smoker's Public Image, knowledge of early death

Most of the respondents reported that smokers were aware that smokers are liable to die young. Several studies have also enumerated this fact [Jarvie et al., 2008][21] In the same vein 78.6% of respondents also reported that their religion do not encourage smoking. Regarding public acceptance with smoking more than half of the respondent's reactions indicated that they were hostile, aggressive, isolated and rejected. This shows that smokers are not accepted in the public. Also previous study reports are similar with this study. Almost all the respondents reported that they were ready to advice their friends and relatives to stop smoking.

Opinion of smokers and non-smokers

Regarding respondent's opinion on smoking in public places, more than half of the non- smokers strongly agreed on banning smoking in public places, while smokers had a neutral opinion.

Source of Supply and Cost of Cigarette

About 80% of respondents bought cigarette with their own money. Self-financing of smoking by Smokers have been reported in previous studies [Eniojukan and Chichi, 2015].[24] Cost of cigarette was reported to be affordable. Smokers (49.4%) spent 1000-5000 naira per month, though less than half of the respondents that were smokers said the cost was moderate. This may have effect on their family as most of them earned low incomes that barely took care of their family responsibilities. Other studies have equally pointed out the facts that smoking can lead to socioeconomic difficulties [Laaksonen et al., 2005].[25] Hence, there is urgent need to protect children in families of smokers with low income [Thomson et al., 2002].[26]

CONCLUSION

The study revealed that more male, married, within the age of 18- 30 years participated in the study. Most of the respondents had tertiary education; 49.7% were civil servants; with an annual income of 501,000-1, 000000. Majority of the respondents lived in the urban city, more of I jaws and 73.7% were mostly Christians. The prevalence of smoking was high and smoking initiation was at age 16-25 years. Majority of the smokers also took alcohol with a good knowledge that smokers are liable to die young. Regarding withdrawal from smoking most of them had not stopped smoking at the time of this study. Almost all the respondents that smoked supported smoking in public places, whereas, more than half of the non- smokers strongly agreed on banning smoking in public places. About 80% of respondents bought cigarette with their own money and reported that the price was affordable. There is still need to enforce antismoking campaign in the city to reduce the reported high prevalence of smoking among the resident of Yenagoa council area, in Bayelsa State.

REFERENCE

1. Bergen AW and Caporaso, N Cigarette Smoking. Oxford Journals Medicine & Health JNCI: Jnl of National Cancer Institute, 1999; 91(16): 1365-1375.
2. Schroeder, SA. New Evidence That Cigarette Smoking Remains the Most Important Health Hazard. N Engl J Med, January 24, 2013; 368: 389-390.
3. Jha, P. and Peto, R Global Effects of Smoking, of Quitting, and of Taxing Tobacco. N Engl J Med, January 2, 2014; 370: 60-68.
4. www. Wekipedia 2009, 2006 Nigeria Census.
5. Araoye MO. Research methodology with statistics for health and social sciences. *Ilorin: Nathadex Publishers*, 2003; 117-118.
6. www.wekipedia 2010.
7. Egbe, Catherine O, Petersen, Inge, Meyer-Weitz, Anna and Asante, Kwaku Oppong An exploratory study of the socio-cultural risk influences for cigarette smoking among Southern Nigerian youth. *BMC Public Health*, 2014; 14: 1204.
8. Desalu O, Olokoba A, Danburam A Salawu F, Issa B. Epidemiology of Tobacco Smoking Among Adults Population In North-East Nigeria. *Internet journal of epidemiology*, 2004; 6(1): 15.
9. Salawu FK, Danburam A, Desalu OO, Olokoba A B, Agbo J, Midala JK. Cigarette smoking habits among adolescents in northeast Nigeria, 2009.
10. Ebirim CIC, Amadi1 AN, Abanobi1 OC and Iloh, GPU. The Prevalence of Cigarette Smoking and Knowledge of Its Health Implications among Adolescents in Owerri. *South-Eastern Nigeria. J. Health*, 2014; 6: 1532-1538.
11. Odey FA, Bassey l, Okokon L, Ogbeche lJ, Godwin Terver Jombo GT and Ekanem EE. Prevalence of cigarette smoking among adolescents in Calabar city, south-eastern Nigeria. *Journal of Medicine and Medical Sciences*, 2012; 3(4): 237-242.
12. http://www.africanjournalofrespiratorymedicine.com /articles/september_2009/.
13. http://www.nigerianstat.gov.ng/pages/download/157 .
14. Health and Social Care Information Centre (HSCIS). Statistics on Smoking, England 2014. www.hscic.gov.uk; enquiries@hscic.gov.uk @hscic campaigns targeting youth: case studies from USA and Canada. *Journal of Health Communication: International Perspectives*, 2012; 8(4).

15. Lung Cancer International Volume 2012 Article ID 790841, 7.
16. Abikoye GE, Kashimawo, *et al*. Tobacco smoking and awareness of smoking-cessation products in a university community. *J of public Epidemiology*, 2013; 5(8): 351-356.
17. Morabia A, Costanza MC, Bernstein MS and Rielle J. (2002). Ages at Initiation of Cigarette Smoking and Quit Attempts among Women: A Generation Effect. *Am J Public Health*. 2002; 92(1): 71–74.
18. Frobisher, C., Winter, DL., Lancashire, ER Reulen, RC Taylor, AJ., Eiser, C., Stevens, CG. and Michael M. Hawkin, MM. (2008). Extent of Smoking and Age at Initiation of Smoking Among Adult Survivors of Childhood Cancer in Britain. *Oxford Journals Medicine & Health JNCI J Natl Cancer Inst*, 2008; 100(15): 1068-1081.
19. Ayankogbe OO, Inem OA, Bamgbala OA, Robert OA. Attitudes and determinant of cigarette smoking among rural dwellers South West Nigeria .Nigeria Medical Practitioner. 2003; 44: 70-74.
20. United State of America Surgeon General, 2010.
21. Jarvie JA. Smoke Exposure in Private Homes and Cars: *An Ethical Analysis. Am J Public Health*. 2008; 98(12): 2140–2145.
22. A review of human carcinogens. Personal habits and indoor combustions. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, 2012; 100.
23. http://www.researchgate.net/publication., 2014, 279195824.
24. Eniojukan, J. F. & Chichi, R. M. (2015). Substance Abuse among Adolescents: Prevalence, Patternsand Determinants of Cigarette Smoking In Benue State, Nigeria. *World Journal of Pharmaceutical Research*; 4(9): 102-119.
25. Laaksonen, M., Rahkonen, O. & Karvonen, S. (2005). Socioeconomic status and smoking Analysinginequalities with multiple indicators. Eero Lahelma *European of Public Health*; 262-269.
26. Thomson, G.W., Wilson, N.A. & Dea, D.O. (2002). Tobacco spending and children in low income households. *Tob Control*; 11: 372-375.