

# PREVALENCE AND PATTERN OF CIGARETTE SMOKING AMONG YOUNG ADULTS IN A RURAL COMMUNITY IN IMO STATE

<sup>1</sup>BADEMOSI Adetomi, <sup>2</sup>CHIJOKE Vivian Nkechi

Department of community medicine, College of medical sciences, Rivers State University, Rivers state, Nigeria

---

**Abstract:** Cigarette smoking is the leading cause of mortality and morbidity worldwide, smoking killed more than 8 million people each year, about 80% in low- and middle-income countries such as Nigeria, now it has become a public health problem. This study assessed the prevalence cigarette smoking among youths (18-29) years in Ikperejere community, Ihitte/Uboma LGA Imo State. A descriptive cross-sectional study was conducted among 348 young adults in the rural community and data was collected using interviewer administered questionnaire. The study showed that about half 145(44.8%) of the respondents have smoked cigarette and majority 68(46.3%) of the respondent who had ever smoked, reported smoking their first cigarette at 16-22 years of age, followed by 52(35.4%) at 10-15 years and 27(18.4%) at 21-29 years of age. The male gender significantly increased the likelihood of smoking by 5.1 times (95% C.I: 3.0 – 8.6). The history of smoking in parent also increased the likelihood of smoking by 1.8 times (95% C.I: 1.1 – 2.8) and friends that smoke increased the likelihood of smoking by 3.4 times (95% C.I: 2.1 – 5.4). It is imperative that measures should be employed to discourage the rate of smoking and relevant interventions should be created to counteract the factors that increases the likelihood of smoking among young adults. Hence, health education is vital to make these changes among young adults.

**Keywords:** Smoking, adolescents, youth, risk.

---

## 1. INTRODUCTION

Cigarette smoking continues to be a global scourge having been implicated in many chronic diseases, which affect vital organs of the human body like the heart, brain and lungs as well as the gastrointestinal, cardiovascular, respiratory, immune and metabolic systems(1–3). There are about 1.3 942 million men and 175 million women ages 15 or older who are currently smokers globally. The WHO estimates that tobacco causes 8.8% of deaths globally accounting for nearly eight million people dying of tobacco related diseases annually around the world(4,5). The WHO reports that more than 2/3<sup>rd</sup> of tobacco users and smokers live in low- and middle-income countries(6,7). It is reported that one person dies from tobacco use every eight seconds(8,9). It is of great concern that of the nearly six million annual global deaths resulting from cigarette smoke, more than half a million are non-smokers who are exposed to second hand smoke. Young adults and adolescents aged between 18 to 29 years have been noted as the highest risk group for smoking(10,11).

In Nigeria, smoking prevalence among adults in the North-Eastern region has been found to be 31.9%(12). This prevalence rate is higher when compared with the 8.6% obtained from the national survey and the 17.6% obtained among rural dwellers in the South-west region(7,9,13). Nigeria is the most populous country in Africa and about a quarter of the country's population is made up of youth between the ages of 18-29 years(3,14).

Developing countries, especially on the African continent, have since the last decade experienced a persistent increase in the prevalence of smoking, the most noticeable is among the youth generation. The majority of daily adult smokers (82%) began smoking before eighteen (18) years of age, and more than 3000 teenagers begin smoking each day. Due to the addictive nature of nicotine, successful cessation of smoking among those who initiate its use is rare. It is estimated that out of six smokers who attempt to quit, five will fail. Hence, as more people take up the habit of smoking, very few of them manage to quit. The majority of those who initiate the habit become long term smokers. The consequences of a high prevalence of smoking among the present youth population will manifest in the future adult population as increased morbidity and mortality rates, exerting more strain on the already stretched health system in the country. The study assessed the pattern and prevalence of cigarette smoking among young adults in a rural community Imo state, east Nigeria.

## 2. METHODS

### 2.1 Study Area

This study was carried out in Ikperejere, Ihitte Uboma Local Government Area Imo State. Ikperejere is a community situated in Ihitte Uboma local government area of Imo State, its geographical coordinates are 5 37' 0'' North, 7 22' 0'' East. Ikperejere is an autonomous community with traditional ruler called the Eze and has three other sub- communities (Umuoma, Ikpenweafor and Ehienaezeala) and 21 villages and all villages are bounded in common by cultural heritage and geographical continuity.

### 2.2 Study Population and Sample

The study population included individuals between 18 – 29 years that reside in the study area. The sample size was determined by using the formulae for proportions in an unknown population ( $n = \frac{z^2 pq}{e^2}$ ), where population is unknown, the sample size can be derived by computing the minimum sample size required for accuracy in estimating proportions, by considering the standard normal deviation set at 95% confidence level (1.96), percentage picking a choice or response (50% =0.5) and the confidence interval (0.05) The  $p$  for this study is determine using a related study on the prevalence pattern of smoking in Nigeria by Adeloye et al., (2019) which shows a pooled crude prevalence rate of current smokers 10.4% and 17.7% of ever smokers

$n = 310.46$ , Using a non- response rate of 10%  $= 31.46$ . Hence, the minimum samples size  $n = 310 + 31.46 = 342$

### 2.3 Ethical Consideration

Ethical approval was sought and obtained from the ethics committee of University of Port Harcourt Teaching Hospital, Also, a letter was written to the traditional ruler of Ikperejere autonomous community and heads of the other sub communities for permission to carry out the research in the community. Informed consent was obtained from respondents after explaining the purpose of the study and health education was given to respondent.

### 2.4 Data collection

Quantitative data was collected through conducting interviews that made use of a structured questionnaire. The questionnaire was interviewer-administered to each of the respondents.

### 2.5 Data Analysis

The data was analysed with the SPSS v25 software at a 95% confidence interval. Descriptive statistics was used to present the data in frequencies and percentage. The chi-square statistic was used to assess the distribution of risk factors and its association with smoking. Logistic regression was used to determine the likelihood of smoking in association with the identified risk factor. A  $p$ -value less than 0.05 was considered significant.

## 3. RESULTS

Table 1 shows the demographic distribution of the respondents. The majority of the respondent were male 211(64.3%) and 117(35.7%) were females. Most of them 204 (62.2%) are within the age range of 22-29 years while 124(37.8%) are within the age range of 18-21 years. However more than half of the respondents 179(54.7%) are or have their secondary school qualification, followed by tertiary 93(28.4%), primary 36(14.1%) while 9(2.8%) have no formal education. Most

of them 262(79.9%) are single, 62(18.9%) are married while 1(0.3%) is divorced. In terms of religion the highest proportion of respondent 315 (96.6%) was found to be Christians while 11(3.4%) are Muslims, in addition slightly more than half of the respondents 185(56.4%) are students, followed by 94(28.7%) who are into business while civil servants and others make up the remaining 49(15%).

**Table 1: Socio-demographic characteristics of the respondents**

Variable		Frequency N=328	Percentage %
<b>Gender</b>	Male	211	64.3
	Female	117	35.7
<b>Age</b>	18 – 21	124	37.8
	Above 21	204	62.2
<b>Educational qualification</b>	Informal	9	2.8
	Primary	46	14.1
	Secondary	179	54.7
	Tertiary	93	28.4
<b>Marital status</b>	Single	262	79.9
	Married	62	18.9
	Divorced	1	0.3
	Widow/Widower	3	0.9
<b>Religion</b>	Christianity	315	96.6
	Islam	11	3.4
	Others specify	0	0.0
<b>Occupation</b>	Student	185	56.4
	Business	94	28.7
	Civil servant	33	10.1
	Others specify	16	4.9

Table 2 shows that less than half 145(44.8%) of the respondents have smoked cigarette and majority 68(46.3%) of respondent who had ever smoked, reported having had smoked their first cigarette at 16-22 years of age, followed by 52(35.4%) at 10-15 years and 27(18.4%) at 21-29 years of age. Furthermore, 95(29.6%) of the participants currently smokes cigarette and it was evident that the highest frequencies of smokers 71(64.5%) smoked less than 5 sticks of cigarette a day and the remaining 39(35.5%) smokes 6 sticks of cigarette and above in a day.

**Table 2: Patten of smoking among respondents**

Variables		Frequencies n=328	Percentages %
<b>Have you ever smoked cigarette?</b>	Yes	145	44.8
	No	179	55.2
<b>How old were you when you first smoked you first cigarette?</b>	10-15	52	35.4
	16-20	68	46.3
	21-29	27	18.4
<b>Do you currently smoke?</b>	Yes	95	29.6
	No	226	70.4
<b>How many cigarettes do you smoke in a day?</b>	1-5 sticks	71	64.5
	6-10 sticks	39	35.5

Table 3 shows that it was evident that majority of the respondent 190(58.3%) do not have a parent that smokes cigarette while 86(26.4%) had a father that smokes. The data also reveals that 36(11.0%) had both parents that smokes cigarette and the remaining 14(4.3%) do not know if their parent smokes. The table also indicates that most of the respondents 160(49.2%) do not have a closest friend that smokes cigarette while others reveal that either some of their closest friends 91(22.2%), most of their friends 72(28.0%) or their entire closest friends 2(0.6%) smokes cigarette.

However, some of the respondents 50(29.8 %) reveal that their main reason of cigarette smoking initiation was as a result of curiosity, followed by peer pressure 43(25.6%), 31(18.5% ) do not know their reason of smoking initiation while the remaining 5(3.0%) said it is because cigarette is available. Furthermore, more than half the respondents 165(51.2%) have

been exposed to cigarette advertisement. Among the respondent who has been exposed to pro cigarette message it was established that majority of them 115(64.2%) saw the message on social media, 48(26.8%) heard it through the radio and 15(8.4%) of the respondents saw the message while watching television.

Meanwhile, it is evident that 167(52.4%) of the respondent have in the past thirty (30) days seen and heard messages that discourage cigarette smoking and 131(78.0%) out the respondent who have been expose to anti- tobacco messages in the past 30 days have only heard or seen it once in a while, 34(20.2%) report to have seen or heard the message often and very often for the remaining 3(1.8%)

**Table 3: Factors associated with smoking among the respondents**

Variable		Frequency N=328	Percentage %
<b>Pattern of smoking among parents</b>	None	190	58.3
	Both	36	11.0
	Father only	86	26.4
	Mother only	0	0.0
	Don` t know	14	4.3
<b>Do any of your closest friend smoke?</b>	None	160	49.2
	Most of them	91	28.0
	Some of them	72	22.2
<b>Why did you smoke your first cigarette?</b>	All of them	2	0.6
	Curiosity	50	29.8
	Peer pressure	43	25.6
	Stress/Depression	31	18.5
	Availability	5	3.0
	Others please specify	0	0.0
<b>In the past 30 days, have you seen or heard an advertisement for cigarette?</b>	Do not know	39	23.2
	Yes	165	51.2
<b>If yes, which media?</b>	No	157	48.8
	TV	15	8.4
	Radio	48	26.8
	Newspaper/Magazines	1	0.6
	Social media	115	64.2
<b>In the past 30 days, have you seen or heard anti-tobacco messages?</b>	Yes	167	52.4
	No	152	47.6
<b>How frequently have you seen this message?</b>	Once in a while	131	78.0
	Often	34	20.2
	Very often	3	1.8

Table 4 shows the likelihood of smoking in association with the identified risk factors. The male gender significantly increased the likelihood of smoking by 5.1 times. The history of smoking in parent also increased the likelihood of smoking by 1.8 times and friends that smoke increases the likelihood of smoking by 3.4 times

**Table 4: Logistic regression of Factors associated with smoking**

Factor	Persons that smoke (n=145,(%))	Chi-square	O.R(95% C.I)	p-value
Gender (Male)	121 (83.4)	40.24	5.1 (3.0 – 8.6)	0.0001*
History of smoking in parents	74 (51.1)	7.40	1.8 (1.1 – 2.8)	0.0064*
Friends that smoke	98 (67.6)	28.9	3.4 (2.1 – 5.4)	0.0001*
Exposure to Tobacco adverts	71 (48.9)	0.11	0.9 (0.6 – 1.4)	0.7387

\*statistically significant ( $p < 0.05$ )

#### 4. DISCUSSION

Finding from this study revealed that the proportion of youth that smoke cigarette is low since less than half (44.8%) of the respondents have ever smoked cigarette and 29.6% them currently smokes. This finding agrees with the study by Adeloye, *et al.* (2019) on the prevalence of smoking among youth in North-east part of Nigeria which found out a low prevalence rate of respondents who had ever smoked and those that currently smoke (43.6% and 32.1%) respectively.(10,11,15) Likewise, in a similar study on smoking prevalence among adults in the North-Eastern region Nigeria and amongst undergraduate students of the University of Nigeria, Nsukka which reveals a prevalence rate 31.6% and 31.6% respectively(5,10,14). The report of this study showed that peers pressure is a factor associated with smoking since more than half of the respondents (50.8%) have either some, most, or all of their closest friends that smokes cigarette. This finding is similar to a previous study in which reported 52.0% of the respondents were influenced to smoke by their peers smoking habits(4,6,16,17). The findings of this study were buttressed by the findings of similar studies which reported the main reason for initiation and continuation cigarette smoking was social acceptance by friends 52.8% and 62% respectively(9,13,18).

Furthermore, most of the respondents in this study that smokes cigarette reveals that their reason for smoking initiation was curiosity, this finding is consistent with findings of a similar study by Oyewole *et al.*, (2018) which some the respondents 30% reveals curiosity as reason for cigarettes smoking. More so majority of the respondents 51.6% and 52.4% have been expose to tobacco advertisement and anti-tobacco messages. The findings show that there was a higher likelihood of smoking among males, people with whose parents smoked and people that have friends that smoke, which is buttressed in previous studies(3,6,19–21).

#### 5. CONCLUSION

The study showed that smoking was prevalent among young adults and significant factors associated with smoking were identified to include, parent smoking history and having friends that smoke. It is imperative that measures should be employed to discourage the rate of smoking and relevant interventions should be created to counteract the factors that increases the likelihood of smoking among young adults. Hence, health education is vital to make these changes among young adults.

#### REFERENCES

- [1] Oyewole BK, Animasahun VJ, Chapman HJ. Tobacco use in Nigerian youth: A systematic review. PLoS One [Internet]. 2018 May 1 [cited 2021 Aug 11];13(5). Available from: [/pmc/articles/PMC5933721/](https://doi.org/10.1371/journal.pone.0193721)
- [2] Lawal FB, Fagbule OF. Knowledge of School-Going Adolescents About the Oral Effects of Tobacco Usage in Ibadan, Southwest Nigeria. *Int Q Community Health Educ*. 2020 Jul 1;40(4):337–43.
- [3] Jafari A, Rajabi A, Gholian-Aval M, Peyman N, Mahdizadeh M, Tehrani H. National, regional, and global prevalence of cigarette smoking among women/females in the general population: a systematic review and meta-analysis. *Environ Health Prev Med*. 2021 Dec 1;26(1).
- [4] Okagua J, Opara P, Alex-Hart BA. Prevalence and determinants of cigarette smoking among adolescents in secondary schools in Port Harcourt, Southern Nigeria. *Int J Adolesc Med Health* [Internet]. 2016 Feb 1 [cited 2021 Aug 11];28(1):19–24. Available from: <https://www.degruyter.com/document/doi/10.1515/ijamh-2014-0066/html>
- [5] Owopetu OF, Adebayo AM, Popoola OA. Tobacco Use Among Undergraduates in South-Western Nigeria: a Cross-Sectional Study. *Int J Ment Health Addict*. 2020;
- [6] M Fluharty ATMG. The Association of Cigarette Smoking with Depression and Anxiety: a systematic review. *Nicotine Tob Res*. 2017 Jan 1;19(1):3–13.
- [7] Hamzeh B, Farnia V, Moradinazar M, Pasdar Y, Shakiba E, Najafi F, *et al.* Pattern of cigarette smoking: intensity, cessation, and age of beginning: evidence from a cohort study in West of Iran. *Subst Abuse Treat Prev Policy* 2020 151 [Internet]. 2020 Oct 27 [cited 2021 Aug 11];15(1):1–9. Available from: [https://substanceabusepolicy.biomedcentral.com/articles/10.1186/s13011-020-00324-z](https://doi.org/10.1186/s13011-020-00324-z)

**International Journal of Novel Research in Healthcare and Nursing**

 Vol. 8, Issue 3, pp: (130-135), Month: September - December 2021, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- [8] Amrock SM, Weitzman M. Adolescents' perceptions of light and intermittent smoking in the United States. *Pediatrics*. 2015 Feb 1;135(2):246–54.
- [9] Wiener RC, Shockey AKT, Morgan SK. Adolescent Light Cigarette Smoking Patterns and Adult Cigarette Smoking. *Adv Epidemiol*. 2016 Jun 27;2016:1–7.
- [10] Adeloye D, Auta A, Fawibe A, Gadanya M, Ezeigwe N, Mpazanje RG, et al. Current prevalence pattern of tobacco smoking in Nigeria: a systematic review and meta-analysis. *BMC Public Heal* 2019 191 [Internet]. 2019 Dec 21 [cited 2021 Aug 11];19(1):1–14. Available from: <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-019-8010-8>
- [11] Gana GJ, Idris SH, Sabitu K, Oche MO, Abubakar AA, Nguku PM. Prevalence and perception of cigarette smoking among out of school adolescents in Birnin Kebbi, North-western Nigeria. *PAMJ* 2018; 30:304 [Internet]. 2018 [cited 2021 Aug 11];30(304). Available from: <https://www.panafrican-med-journal.com/content/article/30/304/full>
- [12] Aniwada EC, Uleanya ND, Ossai EN, Nwobi EA, Anibueze M. Tobacco use: prevalence, pattern, and predictors, among those aged 15-49 years in Nigeria, a secondary data analysis. *Tob Induc Dis* [Internet]. 2018 Mar 16 [cited 2021 Aug 11];16(March):1–8. Available from: <https://doi.org/10.18332/tid/82926>
- [13] M Holm LSEA. Predictors of smoking cessation: a longitudinal study in a large cohort of smokers. *Respir Med*. 2017 Nov 1;132:164–9.
- [14] Fawibe, Shittu A. Prevalence and characteristics of cigarette smokers among undergraduates of the University of Ilorin, Nigeria. *Niger J Clin Pract* [Internet]. 2011 Apr [cited 2021 Aug 11];14(2):201. Available from: <https://www.njcponline.com/article.asp?issn=1119-3077;year=2011;volume=14;issue=2;spage=201;epage=205;aulast=Fawibe>
- [15] Reitsma MB, Flor LS, Mullany EC, Gupta V, Hay SI, Gakidou E. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and initiation among young people in 204 countries and territories, 1990–2019. *Lancet Public Heal* [Internet]. 2021 Jul 1 [cited 2021 Aug 11];6(7):e472–81. Available from: <http://www.thelancet.com/article/S246826672100102X/fulltext>
- [16] Pradhan PMS, Niraula SR, Ghimire A, Singh SB, Pokharel PK. Tobacco use and associated factors among adolescent students in Dharan, Eastern Nepal: a cross-sectional questionnaire survey. *BMJ Open* [Internet]. 2013 Jan 1 [cited 2021 Aug 11];3(2):e002123. Available from: <https://bmjopen.bmj.com/content/3/2/e002123>
- [17] Zarallo GR, Chamorro MZC, Luque AG, Condón RM. Prevalence and Factors Related to Tobacco Use in Adolescent Students. *Divers Equal Heal Care* [Internet]. 2019 Feb 25 [cited 2021 Aug 11];16(1):18–21. Available from: <https://diversityhealthcare.imedpub.com/prevalence-and-factors-related-to-tobacco-use-in-adolescent-students.php?aid=24148>
- [18] Sutter ME, Everhart RS, Miadich S, Rudy AK, Nasim A, Cobb CO. Patterns and Profiles of Adolescent Tobacco Users: Results From the Virginia Youth Survey. *Nicotine Tob Res* [Internet]. 2018 Aug 14 [cited 2021 Aug 11];20(suppl\_1):S39–47. Available from: [https://academic.oup.com/ntr/article/20/suppl\\_1/S39/5073142](https://academic.oup.com/ntr/article/20/suppl_1/S39/5073142)
- [19] National Population Commission. NATIONAL POPULATION COMMISSION – data for national planning and development [Internet]. 2018 [cited 2021 Aug 11]. Available from: <http://population.gov.ng/>
- [20] Aniwada EC, Uleanya ND, Ossai EN, Nwobi EA, Anibueze M. Tobacco use: prevalence, pattern, and predictors, among those aged 15-49 years in Nigeria, a secondary data analysis. *Tob Induc Dis*. 2018;16(March):1–8.
- [21] Ahammed T, Ahmed NU, Uddin MJ. Changes in prevalence, and factors associated with tobacco use among Bangladeshi school students: evidence from two nationally representative surveys. *BMC Public Heal* 2021 211 [Internet]. 2021 Mar 23 [cited 2021 Aug 11];21(1):1–13. Available from: <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-021-10623-0>