



Research Article

Prevalence and Smoking Patterns of Cigarette Use Among Youths (12–20 Years) In Owerri Senatorial Zone, Imo State, Nigeria: A Cross-Sectional Survey

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Abstract

Cigarette smoking is still a major health problem as one of the major avoidable causes of illness and mortality worldwide. The initiation of smoking often occurs throughout adolescence and early adulthood, which increases the risk of long-term nicotine dependence and severe health outcomes. Knowledge about the extent and pattern of smoking among the youth is vital to the design of effective tobacco control initiatives. The study was conducted to evaluate the prevalence and pattern of cigarette smoking among youngsters aged 12–20 years. This was a descriptive cross-sectional study, conducted among 300 youngsters, between 12–20 years of age. Data were collected using a structured questionnaire that explored the smoking status of the respondents and the frequency of cigarette smoking. Data were analysed using descriptive statistics comprising frequencies and percentages. Among the 300 respondents, 70 (23.3%) reported smoking cigarettes currently and 230 (76.7%) reported not smoking. Of the 70 current smokers, 27 (38.6%) were daily smokers, 25 (35.7%) were occasional smokers and 18 (25.7%) were weekly smokers. The results showed that almost one in four of the respondents were current smokers and that the most common smoking pattern was daily smoking. This shows that a large number of the teenage smokers have graduated from the experimental stage of smoking to regular tobacco usage thereby increasing their risk of nicotine dependence and smoking related disorders. Cigarette smoking is rather frequent among kids aged 12–20 years; about one in four respondents reported currently smoking. The high prevalence of daily smoking among current smokers emphasises the importance of comprehensive tobacco prevention and cessation strategies for adolescents and young adults. To prevent smoking initiation and promote healthier lifestyles among youngsters, it is advised that school-based health education, community awareness programs, enforcement of tobacco control regulations and early smoking cessation therapies be implemented.

Keywords: Cigarette smoking, prevalence, pattern of smoking, teenagers, youths, tobacco usage, nicotine dependence, cross-sectional study.

Introduction

Tobacco use is one of the top preventable causes of disease, disability and premature death worldwide, killing more than eight million people each year [1]. The most widespread type of tobacco use is smoking cigarettes, which is a serious public health concern because it is associated with cardiovascular illnesses, chronic respiratory conditions, malignancies and many other non-communicable diseases. Although adult smoking prevalence has declined in many high-income countries, tobacco use among adolescents and young adults remains a major problem, particularly in low- and middle-income countries where tobacco control measures are often poorly enforced [2].

Adolescence and early adulthood are key developmental periods when health-related behaviours are established. Most adult smokers begin smoking cigarettes before age 18 years [3], and adolescents who start smoking are more likely to develop nicotine dependence, continue smoking into adulthood, and experience long-term adverse health outcomes [4]. During this period, young individuals are especially sensitive to experimenting and risk-taking activities due to psychological, social and environmental factors. Therefore, limiting smoking beginning among adolescents has become a priority in global tobacco control programs.

Cigarette smoking among young people remains common around the world despite ongoing public health campaigns. The WHO Framework Convention on Tobacco Control (FCTC) has called on nations to put in place evidence-based measures such as increased taxes, smoke-free settings, comprehensive bans on tobacco advertising, promotion and sponsorship, graphic health warnings and smoking cessation programmes. While such interventions have led to reductions in tobacco use in some countries, the industry continues to target young people through indirect marketing, social media promotion, flavoured tobacco products and other innovative approaches to promote smoking initiation among adolescents and young adults.

Rapid urbanisation, changing lifestyles, more exposure to mass media and aggressive marketing of tobacco products have all contributed to an increased burden of tobacco use among young people in Africa. While smoking incidence is lower in many African countries than in affluent countries, there is evidence of an increasing tendency among teenagers, especially in urban settings where access to tobacco products and exposure to smoking habits are higher. Weak enforcement of tobacco control legislation, coupled with low public knowledge, further compounds the situation in many sub-Saharan African countries.

Nigeria, with one of Africa's biggest youth populations, is facing a burgeoning problem of cigarette smoking among teenagers and young people. Despite the implementation of the National Tobacco Control Act and the country's commitment to the WHO Framework Convention on Tobacco Control, cigarette smoking remains a common habit among young people. Some of the factors that continue to promote smoking start among Nigerian teenagers include peer influence, parents' smoking, curiosity, social acceptance, easy accessibility of cigarettes, exposure to tobacco advertising, and rising urbanisation [5]. The continuation of these characteristics is cause for concern about future rises in tobacco-related morbidity and health care expenses.

Apart from the incidence of smoking, it is also vital to understand the pattern of cigarette use among youngsters. Data on smoking habits (occasional, weekly, daily) provide useful information on the development of tobacco use from trial to regular use. The problem with smoking every day in teens is that it means they are dependent on nicotine and greatly raises their lifetime risk of cardiovascular disease, chronic obstructive pulmonary disease, stroke, various malignancies, and other diseases associated with smoking [6]. Understanding these patterns enables public health practitioners to differentiate experimental smokers from regular users and to formulate interventions to deal with different stages of smoking behaviour.

Studies from different parts of Nigeria have revealed diverse prevalence rates of cigarette smoking among adolescents and young adults, indicative of variations in socio-cultural settings, educational standing and geographical locations. However, there is inadequate empirical research on the frequency and smoking patterns of cigarette use among youths in Owerri Senatorial Zone of Imo State. The majority of the existing studies have concentrated on urban secondary schools or university students in other parts of the country, hence there is a lack of localised data that can inform public health planning within the research area [7].

The Owerri Senatorial Zone is characterised by rapid urban growth, increased commercialisation, frequent social interaction among youths, and increased access to tobacco products. These socio-environmental features may impact smoking behaviour of teenagers and young adults. However, the extent of cigarette smoking and the proportion of youngsters who smoke in this community have not been clearly described. There is hence a need for reliable local evidence on the burden of tobacco use and to promote evidence-based treatments to prevent smoking initiation and reduce nicotine dependency among young people[8].

Against this background, this study was carried out to investigate the prevalence and smoking patterns of cigarette usage among the youths of 12–20 years in Owerri Senatorial Zone, Imo State, Nigeria. More specifically, the study analysed the prevalence of cigarette smoking among teenagers and the frequency of cigarette smoking among smokers. The findings are likely to provide useful baseline information for policy makers, public health experts, educators and community stakeholders involved in tobacco control efforts. Moreover, the findings will add to the body of knowledge on adolescent tobacco use in Nigeria and help in the development of focused health education, preventive and smoking cessation programs to reduce the burden of tobacco use among youths.

Materials And Methods

Study Area

This study was conducted in Owerri Senatorial Zone (Imo East), Imo State, South-East Nigeria. Owerri Senatorial Zone is one of the three senatorial districts in Imo State and comprises nine Local Government Areas (LGAs): Owerri Municipal, Owerri North, Owerri West, Mbaitoli, Ikeduru, Ngor-Okpala, Aboh Mbaise, Ahiazu Mbaise, and Ezinihitte Mbaise. The zone includes Owerri, the state capital, which serves as the administrative, commercial, educational, and transportation hub of the state.

The study area consists of urban, peri-urban, and rural communities with diverse socio-economic and cultural characteristics. It is characterized by numerous secondary schools, tertiary institutions, markets, recreational centres, motor parks, and residential communities where youths frequently interact. These characteristics make the area suitable for studying cigarette smoking among adolescents and young adults because they provide varying levels of exposure to peer influence, tobacco marketing, and cigarette accessibility.

The population is predominantly Igbo, with Christianity as the major religion. The principal occupations include civil service, trading, transportation, artisan work, farming, and small-scale businesses. The area experiences a tropical climate with distinct rainy and dry seasons.

Study Design

A descriptive cross-sectional survey design was employed to determine the prevalence and smoking patterns of cigarette use among youths aged 12–20 years in Owerri Senatorial Zone, Imo State, Nigeria. The design enabled the collection of data from respondents at a single point in time and was considered appropriate for estimating the prevalence of cigarette smoking and describing smoking frequency within the study population.

Study Population

The study population comprised youths aged 12–20 years residing in Owerri Senatorial Zone during the study period. Both in-school and out-of-school youths who met the eligibility criteria were included.

Inclusion Criteria

- Youths aged 12–20 years.
- Residents of Owerri Senatorial Zone for at least six months before the study.
- Individuals who voluntarily consented to participate.
- For participants below 18 years, parental or guardian consent and participant assent were obtained.

Exclusion Criteria

- Individuals younger than 12 years or older than 20 years.
- Visitors and non-residents of the study area.
- Eligible youths who declined participation or returned incomplete questionnaires.

Sample Size Determination

A total sample size of 300 respondents was used for the study. The sample size was considered adequate to provide reliable estimates of cigarette smoking prevalence among youths in the study area while ensuring adequate representation of the target population. The selected sample size also accounted for available resources, accessibility of respondents, and anticipated non-response.

Sampling Technique

A multistage sampling technique was adopted.

In the first stage, four Local Government Areas were selected from the nine LGAs constituting Owerri Senatorial Zone using simple random sampling.

In the second stage, three wards were randomly selected from each selected LGA.

In the third stage, three streets or enumeration areas were selected from each ward through simple random sampling.

In the fourth stage, households with eligible youths were identified through household listing, after which systematic random sampling was used to select households.

Where more than one eligible youth was present in a household, one respondent was selected by simple random sampling using balloting.

A total of 300 respondents were proportionately distributed across the selected clusters.

Instrument for Data Collection

Data were collected using a structured questionnaire adapted from the World Health Organization Global Youth Tobacco Survey (GYTS). The instrument was modified to suit the objectives of the present study and included both closed-ended and multiple-choice questions.

The questionnaire consisted of the following sections:

- Section A: Socio-demographic characteristics
- Section B: Cigarette smoking status
- Section C: Smoking frequency and pattern

- Section D: Exposure to secondhand smoke
- Section E: Accessibility and availability of cigarettes
- Section F: Media exposure
- Section G: Knowledge and perception of cigarette smoking

Validity of the Instrument

Content validity was established through adaptation of items from the WHO Global Youth Tobacco Survey (GYTS), a globally validated instrument for assessing tobacco use among adolescents. The questionnaire was further reviewed by experts in Public Health, Medical Laboratory Science, and Epidemiology to ensure clarity, relevance, and suitability for the study objectives and local context.

Reliability of the Instrument

A pilot study involving youths outside the study area was conducted before the main survey. Internal consistency of the questionnaire was assessed using Cronbach's alpha coefficient. A reliability coefficient of 0.70 or higher was considered acceptable for the study.

Data Collection Procedure

Data were collected after obtaining ethical approval and permission from relevant authorities. Trained research assistants administered the questionnaires through interviewer-administered and self-administered approaches, depending on the educational level of respondents.

Before questionnaire administration, informed consent was obtained from respondents aged 18–20 years, while parental consent and participant assent were obtained for respondents aged 12–17 years.

Completed questionnaires were checked daily for completeness and consistency before data entry.

Ethical Considerations

Ethical approval was obtained from the Ministry of Health Research Ethics Committee before commencement of the study. Permission was also obtained from relevant community leaders and school authorities where necessary.

Participation was entirely voluntary, and respondents were informed of the purpose of the study. Confidentiality and anonymity were maintained throughout the study by excluding personal identifiers from the questionnaires. Participants were informed of their right to withdraw from the study at any stage without penalty. The study adhered to the ethical principles outlined in the Declaration of Helsinki.

Data Analysis

Data were coded, entered, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 25.0.

Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the data.

The prevalence of cigarette smoking was determined as the proportion of respondents who reported current cigarette smoking.

Smoking patterns were described using frequencies and percentages according to smoking frequency (occasional, weekly, and daily smoking).

Where necessary, associations between categorical variables were assessed using the Chi-square test. Statistical significance was set at $p < 0.05$.

Results

Table 1: Prevalence of Cigarette Smoking Among Respondents

Smoking Status	Frequency	Percentage (%)
Smokers	70	23.3
Non-smokers	230	76.7
Total	300	100.0

Table 1 shows the prevalence of cigarette smoking among respondents. Out of 300 respondents surveyed, 70 respondents representing 23.3% reported that they currently smoke cigarettes, while 230 respondents representing 76.7% reported that they do not smoke.

This indicates that approximately one out of every four youths in the study area engages in cigarette smoking, suggesting a relatively high prevalence of smoking among adolescents and young adults.

Table 2: Pattern of Smoking by Frequency of Smoking

Smoking Frequency	Frequency	Percentage (%)
Occasionally	25	35.7
Weekly	18	25.7
Daily	27	38.6
Total	70	100.0

Table 2 presents the smoking pattern among respondents who smoke cigarettes. Among the smokers, 38.6% reported smoking daily, 35.7% smoked occasionally, while 25.7% smoked weekly.

The finding indicates that a considerable proportion of youth smokers have already progressed from experimental smoking to regular daily smoking, which may increase the risk of nicotine dependence and long-term health complications.

Objective 1: Smoking Prevalence

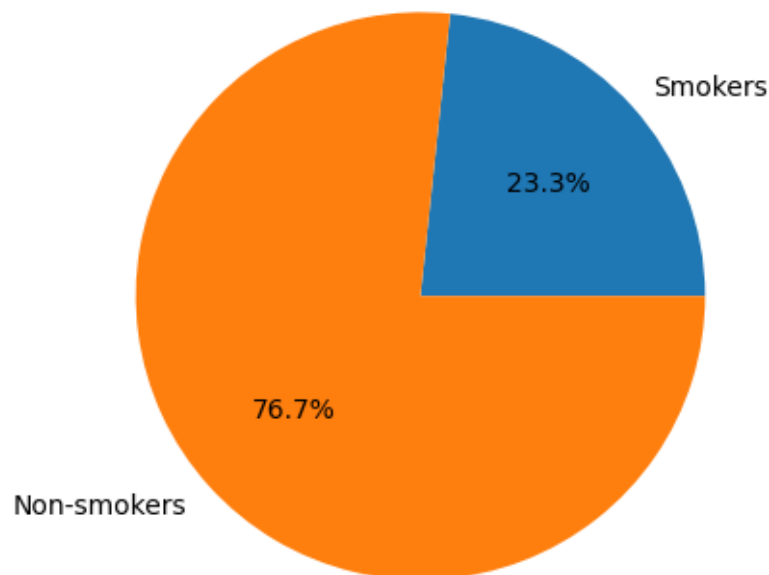


Figure 1: Smoking Prevalence Pie Chart

The pie chart above illustrates the prevalence of cigarette smoking among respondents. The majority of respondents (76.7%) were non-smokers, while 23.3% reported current smoking. Although non-smokers constituted the larger proportion, the percentage of smokers remains substantial and indicates a significant public health concern among youths in the study area.

Discussion

The study was conducted to determine the prevalence and pattern of cigarette smoking among youths aged 12-20 years in Owerri Senatorial Zone, Imo State, Nigeria. The data revealed that cigarette smoking remains a major public health problem in the study area among teenagers and young adults. Of the 300 respondents, 23.3% claimed current cigarette smoking and 76.7% reported that they did not smoke. Moreover, 38.6% of current smokers smoked cigarettes daily, 35.7% smoked sometimes, and 25.7% smoked weekly, demonstrating that many smokers had become habitual tobacco users.

The finding of 23.3% prevalence suggests that about one in four (1/4) youngsters in the study area presently smokes cigarettes. Most respondents were non-smokers but the number of current smokers is sufficiently high to justify severe

public health concern. Adolescence is a vital period of development characterised by experimentation, identity formation and an increased vulnerability to peer influence and risk-taking activities[9]. Therefore, cigarette smoking initiation during this era is more likely to lead to long-term nicotine dependence and persistent tobacco use in adulthood[10]. The unusually high frequency seen in this study may be due to a combination of variables such as peer pressure, curiosity, social acceptability of smoking in some groups of youth, ease of access to cigarettes, and weak enforcement of tobacco control regulations. Rapid urbanisation in Owerri Senatorial Zone, increased exposure to tobacco marketing, and frequent social interaction among youths may also promote smoking beginning. Other Nigerian research have shown similar findings, indicating that environmental and social variables were significant contributors to cigarette smoking among youths[11].

The present finding is consistent with the report of the [12] that most smokers commence tobacco use during adolescence and early smoking significantly increases the risk of lifelong nicotine dependency and smoking related disorders. Likewise, the U.S. Department of Health and Human Services said that nicotine exposure in adolescence negatively impacts brain development, encourages addictive behaviour and raises the chances of continued tobacco use during adult life[13].

The observed prevalence also concurs with the findings reported by [14] among adolescents in Lagos State, Nigeria where cigarette smoking was found to be prevalent among young people and was strongly associated with peer influence, environmental exposure and easy access to tobacco products. It has also identified that the non-implementation of tobacco control legislation, tobacco marketing continues and easy access to cigarettes as some of the important drivers of youth smoking in Nigeria. These commonalities show that despite the presence of tobacco control legislation, cigarette smoking among adolescents continues to be a prevalent public health problem in several regions of the country[15]. A major finding in the present investigation was the smoking pattern among the current smokers. More than one-third of smokers (38.6%) reported daily smoking, 35.7% claimed occasional smoking and 25.7% weekly smoking. The high prevalence of daily smoking is especially worrying as it suggests a transition from experimental to habitual cigarette use. Daily smoking is a high level of established nicotine dependence and greatly increases cumulative exposure to harmful tobacco constituents, increasing the long-term risk of cardiovascular disease, chronic obstructive pulmonary disease, stroke, multiple cancers, and other smoking-related disease[16].

The high proportion of daily smokers shows that a substantial number of young people may be developing addictive smoking behaviours which could continue into adulthood without effective interventions. This results is consistent with earlier data that adolescent smoking onset often evolves from experimentation to regular tobacco use as a result of repeated exposure to nicotine and the reinforcing effects of addiction. Early nicotine dependence makes it less likely that you will quit smoking on your own and makes it harder to quit later in life[17].

The results of this study have serious public health consequences. The high frequency of cigarette smoking among teenagers suggests that tobacco control measures aimed at adolescents still need to be improved in the research area. Nigeria has signed the WHO Framework Convention on Tobacco Control (FCTC) and passed the National Tobacco Control Act, however the effective implementation and enforcement of these measures is still lacking in many communities. Tobacco taxes, restrictions on tobacco advertising and promotion, stronger enforcement of age restrictions for cigarette sales, and expansion of smoke-free public places could significantly reduce access to cigarettes among young and deter smoking initiation[18].

Moreover, school-based tobacco education programmes should be strengthened to enhance the understanding of the detrimental effects of smoking before teenagers become regular smokers. School initiatives should be supplemented by community-based awareness programs that engage parents, teachers, religious organisations, youth groups and health care professionals, and that address social norms that promote tobacco use[19]. Peer-led health promotion activities may potentially be helpful because adolescents are heavily influenced by their social networks. In addition, primary health care facilities should include youth-friendly smoking cessation services to help teenagers who have become dependent on nicotine[20].

Conclusion

The result of this survey shows that cigarette smoking is still prevalent among the youngsters in Owerri Senatorial Zone and a significant proportion of smokers are already consuming tobacco on a daily basis. These findings provide important baseline evidence for tobacco control efforts of policymakers, public health practitioners, educators, and others. To reduce cigarette smoking among adolescents and young adults, and to reduce the future burden of tobacco related diseases in Imo State and Nigeria as a whole, comprehensive and sustained interventions with health education, policy enforcement, community engagement and smoking cessation support are needed.

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