Cigarette Smoking Prevalence and Awareness of Health Problems of Tobacco Use Among University Students in Enugu State, Nigeria.

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ABSTRACT

The use of tobacco products is a significant health issue in the **world**, and it is a leading cause of avoidable morbidity and mortality. Social, psychological and environmental factors have all been found to play a role in cigarette smoking among young adults, especially among the university students. The aim of this study is to measure the prevalence of cigarette smoking and the level of knowledge and awareness of health risks caused by tobacco use among the state university students. This study adopts a descriptive cross-sectional, and the target population is undergraduate and postgraduate students. Cochran formula is used to calculate the sample size and participants were selected using a multi-stage method of sampling. A structured questionnaire is use for data collection via online social media channels like WhatsApp and Facebook via Google forms. The questionnaire is use to obtain data on socio-demographics, smoking behaviour and health risk awareness. SPSS is use to analyze data, and descriptive statistics (frequencies, percentages, means, and standard deviations) and inferential statistics were applied where necessary. This research indicate that 76% of the total number of students had smoked at some point, half were now regular smokers, and 64 percent of the sample smoked socially. Knowledge regarding key health risks was mostly good, with 84% having heard of lung cancer and 78% having heard of heart disease as effects of tobacco consumption. The reproductive health effect awareness was moderate (66%), with awareness of second-hand smoke and shortened life expectancy being high. Finally, cigarette Experimentation and social smoking is widespread among university students, in spite of the fact they are usually well informed about the dangers. These outcomes demonstrate the necessity of a multidimensional health education, campus-wide cessation programmes, and a stringent policy implementation to decrease the prevalence of smoking and to make university environments healthier.

Keywords: Cigarette smoking; Health awareness, University students.

INTRODUCTION

The use of tobacco has been among the major causes of morbidity and mortality in the world that can be prevented. The World Health Organization estimates that millions of people die every year due to tobacco usage with an ever-increasing number of smokers in low- and middle-income nations where more than 80 percent of the smokers in the world live (Perez-Warnisher et al., 2019). Cigarette smoking is one of the major causes of non-communicable diseases, which include cardiovascular diseases, chronic respiratory illness and some types of cancer. Even with all the global tobacco control efforts, the prevalence of smoking is still high among the young populations especially in the developing countries where the tobacco regulations and education on healthy lifestyles may not be enforced despite the efforts (Kopp, 2022). Tobacco consumption remains a significant community health issue in Nigeria. Despite the national prevalence rates being lower in comparison with some countries with high income, the growing number of the adolescents and young adults doubling up on smoking is a cause of concern (Adeloye et al., 2019). Cigarette smoking has become a normal behavior among youths brought about by urbanisation, intensive tobacco advertisement, peer pressure, stress, and economic status. Colleges, especially, reveal students to new social circles, greater autonomy, and educational stresses, which can be stimulated to experiment and continue smoking (Leshargie et al., 2019). Research studies have identified that students in the university are a vulnerable population globally and locally with unique smoking habits. The young adults tend to see smoking as a stress coping behavior, a form of social identification or leisure, without taking into consideration the health effects in the long term (Alromima & Sutantri, 2024). Despite the knowledge of

certain health risks linked to tobacco consumption, it is still possible that there are some misunderstandings and incomplete information that can lessen the desire to prevent or stop smoking. Such disparity between awareness and behaviour highlights the necessity of context-specific research in the population of universities (Dawood et al., 2016). Health hazards of tobacco use are well known and they comprise lung cancer, oral cancer, heart disease, stroke, impaired lung functioning and reproductive health issues. In addition, smoking starts early in life heightens risks of nicotine addiction and long-term exposure, and thus, long-term health risks (Md Yusuf et al., 2025). Second-hand smoking is also life threatening to non-smokers in the university societies. It is especially relevant to pay attention to universities in Enugu State because of the increase in the number of students in this state and the presence of federal, state, and even privated tertiary institutions (Onyema & Onyekwere, 2022). Regardless of this, the prevalence of cigarette smoking and awareness of health issues related to tobacco use among the students in the state has less empirical evidence (Istenic et al., 2023). Local smoking trends and health awareness rates can be critical in understanding the requirements of effective, evidence-based interventions and policies that could be implemented in the face of university students in Enugu State, Nigeria.

Problem Statement

The use of cigarette smoking is still common among the young adults although global and national campaigns are fighting the vice through preventive measures such as raising awareness and restricting the access of smoking materials to underage young children (Villanti et al., 2019). In Nigeria, the risk of smoking initiation and continuation is increased among students due to increasing contact with peer influence, stress, and urban living conditions. Despite the established evidence on health effects of tobacco consumption, it is proposed that a significant proportion of university students have poor or disjointed knowledge about these health effects and that this may lead to chronic smoking habit (Igwe et al., 2021). The Enugu State lacks an empirical research on the status of cigarette smoking and awareness concerning the health issues associated with tobacco consumption among university students in various institutions (Nnaji et al., 20019). The lack of this kind of data restricts the capacity of policy makers, university administrators and those in the public health practice to develop specific prevention and cessation programs (Schmidt et al., 2014). Devoid of context-specific data on smoking habits of students and their health cognisance, tobacco control interventions might be either inconsequential or ill informed to the Enugu State University setting in Nigeria reality.

LITERATURE REVIEW

Concept of Tobacco Use and Cigarette Smoking

Tobacco use has been defined as the consumption of products derived out of the leaves of the tobacco plant, which is mainly used because of the psychoactive properties of nicotine. Nicotine is a very addictive drug, it acts as an activator of the central nervous system, and can modify mood, attention and stress reactions. The tobacco product may be used in different forms such as cigarettes, cigars, pipes, smokeless tobacco (snuff and chewing tobacco) and more recently, electronic nicotine delivery system (Litvin et al., 2012). Cigarette smoking is the most prevalent and most researched type of tobacco consumption in the world, particularly in adolescents and young adults. Cigarette smoking is the burning of processed tobacco in a paper, and the smoke that is emitted is then inhaled into the lungs (Danraka & Saleh, 2023). Cigarette smoke has more than 7000 chemical compounds, most of which are toxic, carcinogenic, or toxic to the human body. Such major components are nicotine, tar, carbon monoxide, formaldehyde, and heavy metals. When nicotine is inhaled, it quickly reaches the brain causing temporary effects, which include relaxation, increased concentration and decreased appetite. However, with repeated exposure, there is development of tolerance, physical dependence and withdrawal symptoms, which maintain smoking behaviour (Benowitz, 2019). A complex set of individual, social, cultural and environmental factors determine the onset and persistence of cigarette smoking. Peer pressure, curiosity, stress, media influence and perceived social acceptability are some of the values that are prominent among the youth. College students, especially, might find smoking as a way of relieving the academic stress, a social connecting activity or a mark of adulthood and freedom (Park et al., 2023). Smoking behaviour is further supported by easy availability of cigarettes and laxity of tobacco control policies. In the sense of public health, tobacco consumption is known to be the ultimate cause of avoidable disease and early mortality. Cigarette smoking is closely linked to very diverse diseases, such as lung and oral cancers, cardiovascular diseases, chronic obstructive pulmonary disease, stroke, and reproductive health issues (West, 2017). The earlier the smoking is introduced, the more

prone one is to chronic dependence and extended exposure to harmful substances and thus the risk increases. Moreover, second-hand smoking is life-threatening to non-smokers. Knowledge of tobacco use and cigarette smoking can be of critical importance in evaluating prevalence, awareness and behavioural trends (Abdelkader et al., 2024). This knowledge plays a fundamental role in the design of effective health education, prevention and cessation activities, especially among susceptible groups like the university students in developing nations.

Prevalence of Cigarette Smoking among University Students

Cigarette smoking among university students remains a significant public health concern worldwide, as this population represents a transitional stage between adolescence and adulthood when lifelong health behaviours are often established (Abdelraouf et al., 2024). Globally, studies indicate that smoking prevalence among university students varies widely across regions, influenced by cultural norms, socioeconomic conditions, tobacco control policies, and accessibility of cigarettes. In many low- and middle-income countries, prevalence rates among university students range from moderate to high, reflecting weaker regulatory enforcement and increasing exposure to pro-smoking social environments (Alromima & Sutantri, 2024). In sub-Saharan Africa, cigarette smoking among university students has shown a gradual increase over recent years. Research from several African countries reports prevalence rates ranging from approximately 5% to over 30%, with higher rates commonly observed among male students (Belete et al., 2025). Factors such as peer influence, stress related to academic demands, experimentation, and socialization contribute to smoking initiation and continuation in university settings. Urban campuses, in particular, provide greater access to tobacco products and social spaces where smoking is normalized (Taqiyuddin, 2025). In Nigeria, available studies suggest that cigarette smoking prevalence among university students varies across regions and institutions. Reported prevalence rates generally fall between 10% and 25%, although higher rates have been observed in some urban universities (Igwe et al., 2021). Male students consistently demonstrate higher smoking prevalence than their female counterparts, reflecting cultural norms and gender-related differences in smoking acceptability. Many student smokers report initiating smoking before or shortly after gaining admission into the university, highlighting the influence of campus life on smoking behavior (Chinwong et al., 2018). Patterns of smoking among university students often include occasional or social smoking, although a proportion of students progress to regular or daily smoking, increasing their risk of nicotine dependence. Despite awareness of some health risks, many student smokers underestimate the severity or long-term consequences of tobacco use, which may contribute to sustained smoking behavior (Alanazi et al., 2025). Understanding the prevalence of cigarette smoking among university students is essential for public health planning. Accurate prevalence data provide insights into the magnitude of tobacco use within university communities and inform the development of targeted prevention and cessation programmes (Amorha et al., 2017). In the context of Enugu State, Nigeria, assessing smoking prevalence among university students is particularly important for designing institution-specific interventions and strengthening tobacco control strategies within higher education environments.

Factors Influencing Smoking Behaviour among University Students

The smoking behaviour of university students takes a complicated interplay of personal, social, and environmental factors. This is a period in life when the students are exposed to peer influence, academic pressure, cultural expectations and greater independence that influence views on the use of cigarettes and the probability of smoking initiation or persistence (Zhou et al., 2025).

1. **Peer influence:** Friends who smoke often encourage initiation and sustain smoking through social acceptance and group norms (Liu et al., 2017).

2. **Stress and academic pressure:** Examinations, coursework, and financial challenges may lead students to smoke as a coping mechanism (Basith et al., 2021).

3. **Curiosity and experimentation:** Desire to try new behaviours during the transition to independent university life promotes smoking initiation (Nodora et al., 2014).

4. **Perceived social identity:** Smoking may be viewed as a symbol of maturity, confidence, or belonging within certain social groups.

5. **Family smoking background:** Students from households where parents or siblings smoke are more likely to adopt smoking habits (Omozusi et al., 2018).

6. **Limited awareness of health risks:** Incomplete or inaccurate knowledge about long-term health consequences reduces perceived danger.

7. **Easy accessibility and affordability:** Availability of cigarettes around campuses and low cost increase smoking opportunities.

8. **Weak enforcement of smoke-free policies:** Lack of strict campus regulations normalises smoking behaviour.

9. **Media and advertising exposure:** Tobacco promotion and portrayals in films or social media influence positive perceptions of smoking (Lovato et al., 2011).

10. **Cultural and gender norms:** Greater social acceptance of smoking among males contributes to higher prevalence among male students (Agaku et al., 2024).
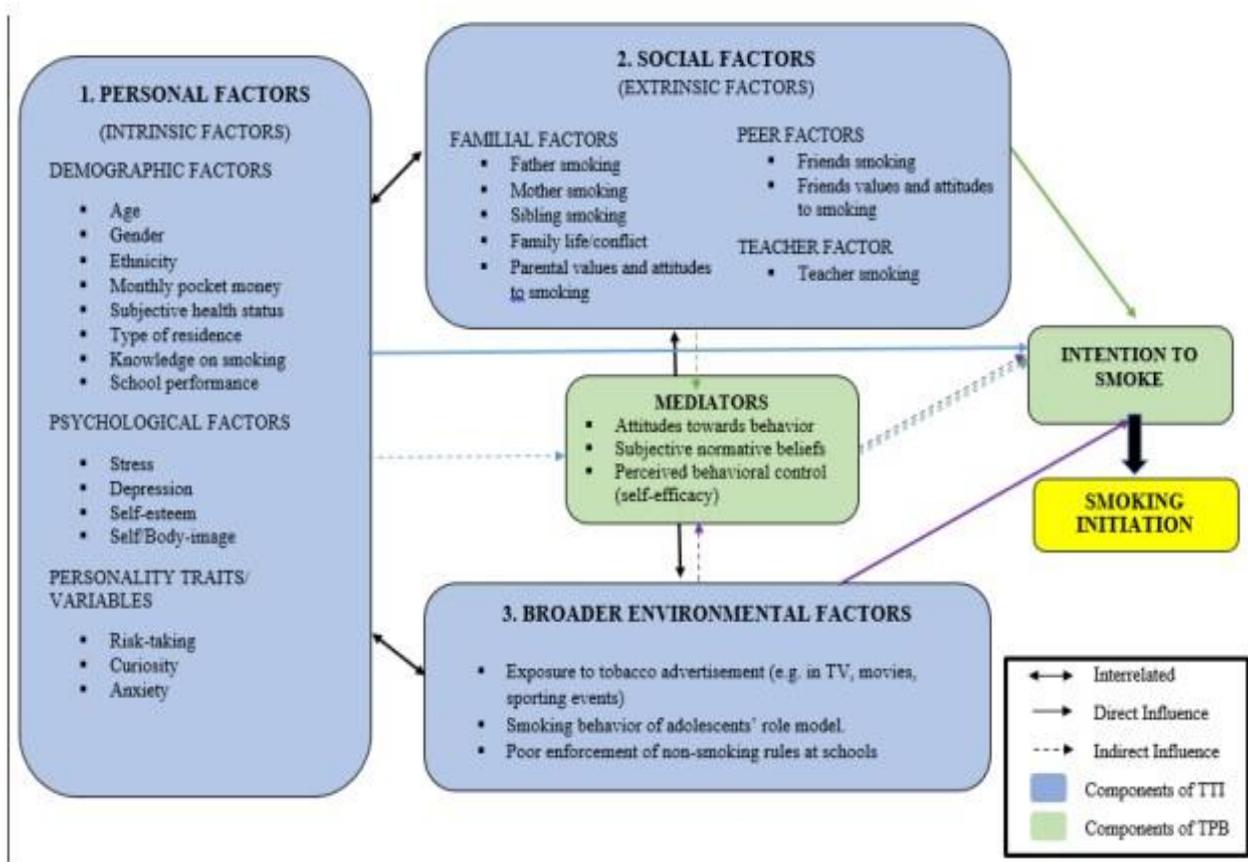

Figure 1: Factors Influencing Smoking Behaviour (Talip et al., 2016).

METHODOLOGY

Study Design

This study adopted a descriptive cross-sectional design in order to examine the prevalence and awareness of tobacco-related health issues among university students in Enugu State, Nigeria. As compared to cross sectional designs, which give a picture of prevalence and the factors involved, they are not causal. Sampling and data collection procedures were also planned to minimize the bias and increase the representativeness to boost the reliability.

Study Area

The study was carried out at federal and state universities in Enugu State as they were selected due to the multicultural nature of students with different socio-economic, cultural and academic backgrounds. Campuses provide the environment in which students stay alone and are subjected to peer pressure and cigarette products.

Study Population

The study targeted undergraduate and postgraduate students, as they are in transitional life stages and may engage in risky behaviours like smoking.

Sample Size Determination Cochran's formula was used:

$n = Z^2 \cdot p \cdot (1-p)/ d^2$

Where Z=1.96Z = 1.96Z=1.96 (95% confidence), p=0.15p = 0.15p=0.15 (estimated smoking prevalence), and d=0.05d = 0.05d=0.05 (precision). The sample size was adjusted for potential non-response to ensure adequate representation.

Sampling Technique

Multi-stage sampling method was used. Universities were intentionally chosen to get a diversity, and then stratification of departments and faculties occurred. Stratified random sampling was applied within strata in order to minimize clustering bias, representativeness, and error accumulation.

Data Collection Instrument

Socio-demographics, smoking behaviour, and health risks knowledge regarding tobacco-related health risks were measured using a structured questionnaire. Questions were asked in a neutral manner in order to minimize self-report bias and the participants were assured of anonymity.

Data Collection Procedure

The questionnaire was conducted online through Google forms, and the links were distributed online on WhatsApp, Facebook, and university mailing lists to include a larger number of participants. Informed consent, instructions and reminders were given. The students that had little internet connectivity were taken care of through the paper questionnaires that were distributed to some of them.

Data Analysis

The SPSS v25 was used to analyze data. Demographic, prevalence, and awareness were described using the descriptive statistics. Associations were examined using chi-square tests and logistic regression with the p less than 0.05 taken as significant. The adjustments of weighting were done to consider the effect of clustering and enhance representativeness. Sensitivity analyses were used to deal with the possibility of biases that are nonresponse and self-reporting.

RESULTS

The socio-demographic profile of the respondents is important to understand the smoking behaviour and awareness of health risks regarding smoking among university students. Age, gender, level of study, and marital status are some of the variables that may affect exposure to cigarette smoking, peer pressure vulnerability, and health knowledge. These characteristics are described, and their analysis assists in determining the population in question and identifying the most vulnerable subgroups.

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Frequency (n)	Percentage (%)
Age (years)	120	24.0
16–20	280	56.0
21–25	80 20	16.0
26–30		4.0
31 and above		
Gender	250	50.0
Male	259	50.0
Female		
Level of Study	400	80.0
Undergraduate	100	20.0
Postgraduate		
Marital Status	420	84.0
Single	80	16.0
Married		

Research Question 1

What is the smoking behaviour and prevalence of cigarette use among university students in Enugu State, Nigeria?

Table 2: Smoking Behaviour and Prevalence of Cigarette Use among University Students

Statement	Mean (x)	Standard Deviation (S.D)	Percentage (%)	Remark
I have ever smoked a cigarette in my lifetime	3.8	12	76	High
I currently smoke cigarettes regularly	2.5	1.1	50	Moderate
I smoke mostly in social gatherings or parties	3.2	1.0	64	High
I started smoking before entering university	2.1	1.3	42	Low
I intend to continue smoking in the next year	1.9	1.0	38	Low

Table 1 shows a high level of experimentation among the university students in terms of smoking cigarettes with 76 percent of all having ever smoked. Moderate (50%), common (64%), peer-based smoking. Early initiation is less (42%), and only 38% have plans to keep smoking, indicating the knowledge of health risks. In general, experimentation and social smoking are deeply rooted, whereas sustained usage is less.
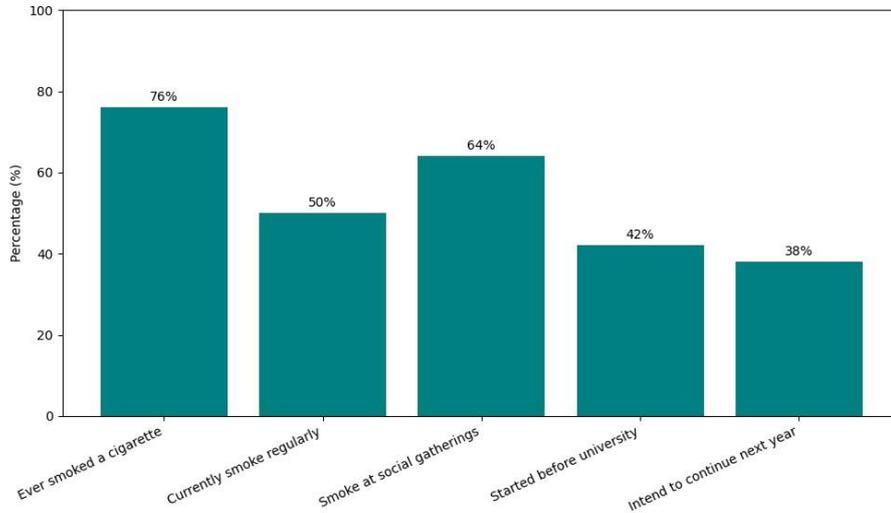

Figure 2: Graph of smoking behaviour and prevalence of cigarette use among university students based.

Figure 2 indicates different rates of cigarette smoking behaviour among university students in Enugu state. Most students (76%) indicated that they had smoked at some time in their lives, which shows that most students have experimented with cigarettes. There is also social smoking where the proportion was 64 saying they smoked during gatherings. At 50% regular smoking is not exceptionally high, but it is less common among those who started smoking before the university (42%). The number of students who plan to keep smoking within the future year is just 38 per cent, which indicates that some of them are aware that smoking is not good or they want to quit. Generally, the chart shows that, experimentation and social smoking is high, however long term or habitual smoking is relatively less.

Research Question 2

What is the level of knowledge and awareness of the health risks associated with tobacco use among university students in Enugu State, Nigeria?

Table 2: Knowledge and Awareness of Health Risks Associated with Tobacco Use

Statement	Mean (x)	Standard Deviation (S.D)	Percentage (%)	Remark
I am aware that smoking causes lung cancer	4.2	0.8	84	High
I know that smoking can lead to heart disease	3.9	1.0	78	High
I am aware that tobacco use can affect reproductive health	3.3	1.2	66	Moderate
I know that second-hand smoke is harmful to nonsmokers	3.6	1.1	72	High
I am aware that smoking can reduce overall life expectancy	3.5	1.0	70	High

Table 2 indicates that tobacco-related health risks are well known to university students in Enugu State. The majority of the respondents are aware of the fact that smoking leads to lung cancer (84%), heart disease (78%). Knowledge concerning harm of second-hand smoke (72%), life expectancy decrease (70%), and knowledge concerning reproductive health is moderate (66%). In general, the awareness levels of students are rather high, though a bit uneven.
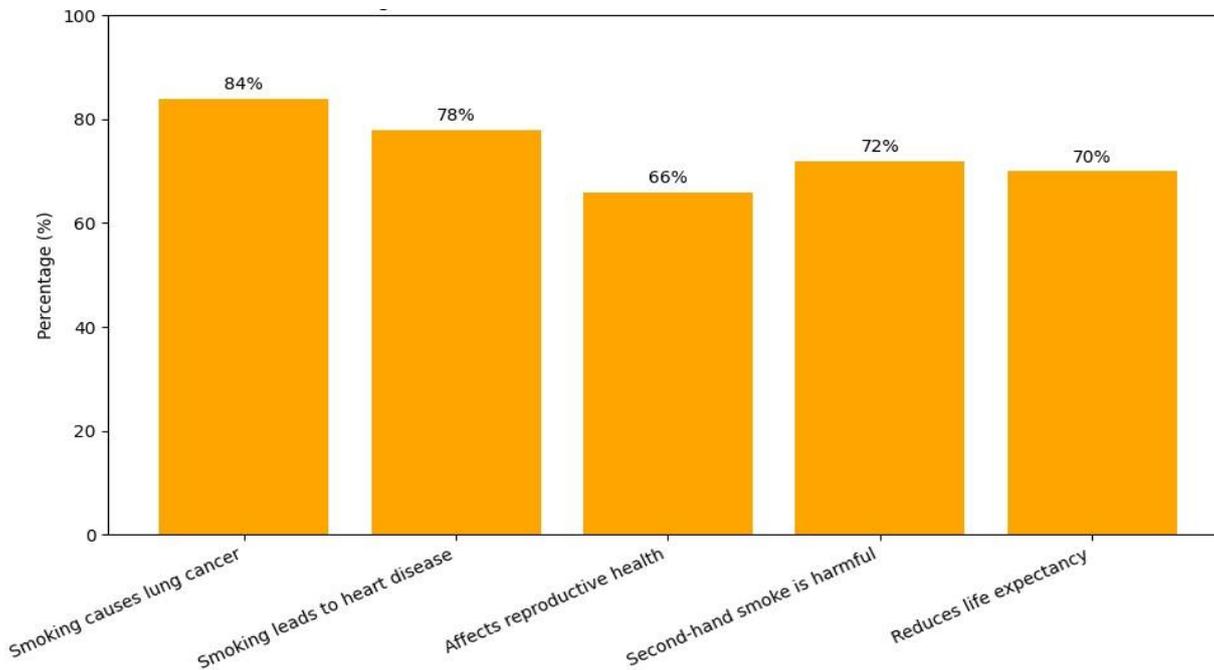

Figure 3: Graph of knowledge and awareness of health risks associated with tobacco use among university students.

Figure 3 indicates that the awareness of the health hazards of using tobacco among university students in Enugu State is generally high. Most people are aware that smoking leads to lung cancer (84%) and heart disease (78%), so there is a high level of awareness about significant tobacco-related diseases. The prevalence of awareness of second-hand smoke harm (72) and diminished life expectancy (70) is also significant; whereas, the awareness of the reproductive health effects is slightly lower (66), which is a moderate level of understanding. In general, the chart shows that students have a good understanding of overall health risks, yet specific education might be required to cover the gaps, specifically, less evident outcomes of tobacco use.

DISCUSSION

This study shows that cigarette smoking is quite prevalent among university students in Enugu State with 76 percent describing themselves as being smoked and half of them smoking regularly. Social smoking was also high (64%), implying that peer pressure is an important factor that contributes to smoking behaviour among students. Before University, initiation was not as prevalent (42%), and only 38% of the respondents had the intention of smoking the next year, which was a sign of some degree of awareness regarding the health consequences of smoking. These findings imply that experimentation and social smoking are more common, but the long-term and long-term use is relatively lower. Students showed overall high levels of knowledge about health risks associated with tobacco. The majority of the respondents (84 and 78 percent respectively) were aware that smoking is the cause of lung cancer and heart disease. Knowledge of second-hand smoke harm (72%) and life expectancy (70) and reproductive health effects (66) were also strong and moderate, respectively. These results affirm that there is a significant amount of knowledge about significant ijnt health impact on students but there are areas with less focus. The results are in line with the literature on the same topic in Nigeria and other sub-Saharan African nations, where a moderate to high level of experimentation is reported among university students, with males demonstrating higher levels than females. Akinbami et al. (2020) and Odukoya et al. (2019), in their studies, also noted that social events and peer pressure are potent stimuli to initiate smoking in students.

The levels of awareness are in line with studies that indicate that health education in higher institutions enhances the general knowledge but might not necessarily translate to behaviour change. The health implications to the population are serious. The high experimentation rates and social smoking among students are pointers that campus-based programs such as anti-smoking campaigns, peer-led education, and ready cessation programmes are necessary. The lesser-known risks, including reproductive health consequences, should be the focus of targeted awareness. Surprisingly, although health risks are highly known to students, a significant percentage of students still smoke, which demonstrates a knowledge-behaviour disconnect. This can be caused by stress, social pressure, or social perceived benefits of smoking. In general, the research highlights the significance of holistic tobacco management interventions that are specific to the university context in Enugu State to limit experimentation and habitual smoking.

CONCLUSION

This research found that cigarette smoking is common among the university students in Enugu State with 76% noting that they had ever smoked and 50 percent noting that they were in the habit of smoking. There was also social smoking in which 64% of the students practiced smoking in events and social settings, which was great impact by peer groups and social situations. Pre University starting smoking was less common (42%), and fewer students (38%), also planned to smoke next year, which is indicative of some degree of consciousness of the health dangers involved. On the knowledge, students were very aware of significant health impacts, such as lung cancer (84% and heart disease (78%), with awareness of second-hand smoking (72% and less life expectancy (70% also high. The level of awareness regarding reproductive health effects was moderate (66%), which means that there are some minor gaps in understanding. Overall, these results indicate a paradox in the situation whereby students are mostly aware of the harmfulness of tobacco use and still indulge in smoking habits especially in social situations. This gap highlights the role of peer pressure, stress, and social advantages in maintaining smoking. The experimentation and social smoking rates are very high and therefore the student health is at a risk of developing nicotine dependence, chronic illnesses, and morbidity in the long term. The paper highlights the importance of the whole campus based interventions that integrate health education, peer led awareness campaigns and easy access to smoking cessation support. It will be possible to fill the gaps in knowledge and the behavioural drivers to promote healthier lifestyles, mitigate the prevalence of smoking, and safeguard students against the negative impacts of tobacco consumption on their health.

RECOMMENDATION

Based on the findings of this study, the following recommendations are proposed to reduce cigarette smoking and improve awareness of health risks among university students in Enugu State:

1. **Health Education and Awareness Campaigns**: Regular health education programmes should be introduced in the universities through which students take correct, all-encompassing information regarding both short and long-term health effects of using tobacco. Misconceptions can be addressed through awareness campaigns, which may include seminars, workshops, posters and social media outreach, and the dangers of active and passive smoking should be highlighted. Programs conducted by peers may improve the engagement and behavioural change.

2. **University-Based Smoking Cessation Programmes**: There should be easy availability of smoking cessation facilities within the campus in the form of counselling, smoking support groups and nicotine replacement therapy where possible. These programmes are able to equip the students with the methods to cope up with the cravings, stress and remain motivated towards quitting. Cessation support integrated into the student health services will guarantee the provision of cessation assistance to people wishing to quit/decrease smoking on time.

3. **Policy and Enforcement Measures**: Strict smoke-free campus policies should be implemented and enforced in universities in terms of having non-smoking zones and having sanctions against noncompliance. Monitoring and enforcement of restriction of tobacco products around campuses can help minimize accessibility and dishearten smoking among students. The policies must be supported by educational programmes to create compliance and a culture of smoke free.

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