

ISSN Online: 2162-2485 ISSN Print: 2162-2477

The Prevalence, Pattern, and Factors Affecting Cigarette Smoking among Undergraduate Students in a Tertiary Institution in Plateau State, Nigeria

Kingsley C. Okafor^{*} [□], Lucy O. Idoko, Love Temple-Obi, John S. Bimba

Department of Community Medicine & PHC, Bingham University, Karu, Nasarawa State, Nigeria Email: *drokaforkingsley@gmail.com, *kgb28ng@yahoo.com

How to cite this paper: Okafor, K.C., Idoko, L.O., Temple-Obi, L. and Bimba, J.S. (2023) The Prevalence, Pattern, and Factors Affecting Cigarette Smoking among Undergraduate Students in a Tertiary Institution in Plateau State, Nigeria. *Open Journal of Preventive Medicine*, 13, 169-182. https://doi.org/10.4236/ojpm.2023.135011

Received: August 19, 2023 Accepted: May 27, 2023 Published: May 30, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

http://creativecommons.org/licenses/by/4.0/





Abstract

Background: Cigarette smoking is a modern health hazard, and it is preventable. It starts in adolescence for 90% of adults with an average age of onset ranging between 13 - 15 years and is commoner among males. This study is aimed at the prevalence, pattern, and factors affecting Cigarette smoking among undergraduate students in a tertiary institution in Plateau State. Method: A cross-sectional descriptive study involving 290 undergraduate students of the University of Jos was selected using the multistage sampling method. Results: The prevalence of cigarette use was 5.3%. Seven (70.0%) of students smoke daily, 6 (60.0%), smoke cigarettes before Lecture Hours, and 90.0% are unwilling to stop smoking. Smoking was done to experience the highness feeling, 8 (80.0%), peer smoking 8 (80.0%), to reduce stress and tension 5 (50.0%), and Smoking for Fun 7 (70.0%). Most students first smoked a cigarette when with friends 6 (60.0%). Factors significantly associated with the current use of cigarettes among the respondents were religion ($\chi^2 = 4.167$, p = 0.041) Level/year of study (χ^2 = 32.266, p \leq 0.001), and type of family (χ^2 = 6.271, p = 0.043). Conclusion: Most students smoke daily, smoke before lectures start, and are unwilling to stop smoking. Health-promotion program to help smoking cessation and prevent initiation of smoking is recommended.

Keywords

Cigarette, Smoking, Students, Undergraduates, Plateau

1. Introduction

Tobacco smoking has become a leading cause of preventable morbidity and

mortality globally and the challenges it brings affect all nations of the world, each at different levels [1] [2]. Smoking of cigarettes has been associated with numerous health issues and is currently categorized as a preventable risk factor for most of the leading causes of diseases and death at the global level [3] [4]. The habit of smoking is a serious and growing public health problem globally, with an increasing number of tobacco-associated deaths occurring in low- and middle-income countries [5] [6].

Cigarette smoking and secondhand smoking are also big public health threats as it kills more than 8 million people a year, including around 1.2 million deaths [5]. Tobacco is harmful in all its forms and it has no safe levels or minimum limit of exposure. The most common form of tobacco use globally is cigarette smoking. Other types of tobacco products include waterpipe tobacco, cigars, cigarillos, roll-your-own tobacco, various smokeless tobacco products, pipe tobacco, bidis, and kreteks [5] [7]. There are about 1.3 billion tobacco users worldwide and over 80% of them live in low- and middle-income countries. Tobacco smoking has numerous detrimental effects on health in general and it has been estimated that tobacco smokers die 10 years earlier than non-smokers [8]. These countries also suffer the burden of tobacco-related illness and death. Cigarettes are contributing to poverty by diverting family and household spending from basic needs such as food, housing, and shelter to tobacco use.

Smoking usually starts in adolescence for 90% of adults [9] [10] with an average age of onset ranging between 13 - 15 years [9] [11] and commoner among males [9] [12]. Cigarette smoking is a modern health hazard, and it is preventable. Early commencement of cigarette smoking means adolescents will likely smoke for over 20 years and may end up with its consequences [9] [12]. Even though the health problems of smoking are well documented, young people still take up smoking and usually will add drinking alcohol. This scenario is on a steady rise in developing countries [13] [14] [15].

In Nigeria industrialization, modernization, and increasing exposure to western lifestyles and cultures have made it possible for the spread of cigarette smoking, alcohol use, and substance abuse [16]. Usually, cigarette smoking and alcohol use serve as "gateways drugs" to more dangerous substances like cocaine, heroin, amphetamine, inhalants, and hallucinogens [16].

Sensation seeking, fun, and risk-taking are major factors responsible for drugs, cigarettes and alcohol use among young people, especially those in higher institutions [17] [18]. This tendency is a normal developmental process for young people [19]. Youths or University students are these stages do not rely on information provided by others they want to have a feeling themselves. They want to experiment with new things and new experiences. This attraction toward risk-taking behaviors and actions has been associated with the underdevelopment of the orbital-frontal cortex [20] [21]. This makes them vulnerable to the temptation that cigarette, alcohol, and other psychoactive drugs would bring [3] [22].

Smokers are aware of the health risks of the habit and have been motivated to

stop, but it becomes difficult. In the United Kingdom and the United States, 40% of smokers report having efforts to quit in the past year and 75% of quit attempts fail in the first week [23] [24]. This trend may be similar in other countries. Smokers experience a difficult-to-control urge or need to smoke which overwhelms and undermines their resolution to quit. This is because nicotine acts as both a positive and negative reinforcement. Nicotine is positive reinforcement in the sense that it acts on the reward pathways in the brain, generating urges to smoke in the presence of smoking cues and situations that favour smoking. Similarly, nicotine serves as negative reinforcement in the sense that it causes long-term changes to the brain, leading to the urge [19] to smoke to alleviate "nicotine hunger" and raging withdrawal symptoms [23] [24].

Research has shown that nearly a third of the world's population, aged 15 years above, are smokers and smoking prevalence is on the rise, especially in developing countries [25]. A large number of young people are initiating smoking at earlier ages, which is a major public health concern [18] [26]. The prevalence of smoking among university students was 40% in Lagos [27], 72.4% in Amassoma Delta State, South-south Nigeria [23], 12.8% in Nsukka, Enugu [4], 55.8% in Calabar [19], 81.0% in South West, Nigeria [22], 22.0% in Ekiti [2] [28]. These values are higher than the pooled crude prevalence of current smokers in Nigeria which is 10.4% (95% CI: 9.0 - 11.7) [29]. Other studies showed that the overall smoking prevalence among University students in Riyad, Saudi Arabia was estimated at 14.5%, whereas the prevalence among male students was 32.7% but much less among female students, (*i.e.* 5.9%) [17], the prevalence was low in Brazil (5.7%) [30], 47.0% in Greece [31], 14.7% in Kuala Lumpur and Selangor state in Malaysia [32].

University undergraduates are a high-risk group for engaging in risky behaviors, such as smoking and illicit substance use, just like other young people [25] [33]. These students are at high risk of initiating and continuing smoking as they are likely to associate and are exposed to friends and peers who smoke [18] [19] [27] [34]. Similarly, they are faced with new emotional, social, and educational challenges when they enter the university settings [35] [36] [37].

The WHO has called for more efforts and support from health experts and advocates to stop and begin to reverse the rising use of cigarettes among young people [38]. This makes it imperative for researchers to study cigarette smoking among the youths especially in the university system, and the factors that lead to its onset [3] [5] [38]. This study seeks to assess the prevalence, pattern, and factors affecting Cigarette smoking among undergraduate students in a tertiary institution in Plateau State, North Central, Nigeria.

2. Methodology

This was a descriptive cross-sectional study done among undergraduate students at the University of Jos, Jos, Plateau State. The University of Jos is a federal government-owned tertiary institution located in Jos, it has 12 faculties and 87 de-

partments with about 21,374 students comprising both undergraduate and post-graduate students.

A minimum sample size of 290 was obtained using the cochrane [39], formula:

$$n = Z^2 pq/d^2$$

where n = minimum sample size; z = standard normal deviant at 95% confident interval equivalent to 1.96; d = level of precision which is usually 0.05; p = 78.0%; the proportion of the population having the characteristic of interest obtained from a previous study [40]. Allowing for 10% attrition and error in questionnaire administration, this brings the sample size to 290.1 and subsequently rounded up to 290 for ease of statistical analysis.

Sampling was done using the multistage sampling method. Data was collected using a structured, self-administered questionnaire. The Statistical package for social sciences (IBM SPSS) version 20.0 software was used for data entry and analysis.

Ethical clearance to conduct this research was sought from the Bingham University Teaching Hospital Research Ethics Committee (Protocol Number NHREC/ 21/05/2005/00656).

3. Results

3.1. Awareness of Tobacco Products Used and Current Smoking of Cigarette

Table 1 shows Only 10 (5.3%) of undergraduates are currently smoking cigarette, 117 (94.7%) are not smoking cigarette. Most of the respondents 258 (89.0%) were aware of cigarette, 180 (62.1%) were aware of snuff.

3.2. Pattern of Current Use of Cigarette by Undergraduates

Table 2 shows that seven (70.0%) of students smoke daily, 1 (10.0%) three times weekly, 2 (20.0%) four times weekly, 3 (4.8%). Most students 6 (60.0%), smoke cigarette before Lecture Hours, 2 (20.0%), after Lecture Hours, 2 (20.0%) smoke anytime they like. One in ten 1 (10.0%) is willing to stop cigarette smoking, while 9 (90.0%) were not willing to stop smoking.

Table 1. Awareness of tobacco products used and current smoking of cigarette.

Yes (%)	No (%)					
258 (89.0)	32 (11.0)					
180 (62.1)	110 (37.9)					
Currently smoking cigarette respondents. n = 187						
Yes (%)	No (%)					
10 (5.3)	177 (94.7)					
5 (2.7)	182 (97.3)					
	258 (89.0) 180 (62.1) Yes (%) 10 (5.3)					

Table 2. Pattern of current use of Cigarette by undergraduates n = 10.

Variables	Frequency	Percent (%	
Pattern of Use			
Daily	7	70.0	
Once weekly	0	0.0	
Two times weekly	0	0.0	
Three Times Weekly	1	10.0	
Four times weekly	2	20.0	
One a month	0	0.0	
Above once a month	0	0.0	
Period of use			
Before Lecture Hours	6	60.0	
After Lecture Hours	2	20.0	
Anytime I like	2	20.0	
Willingness to stop Cigarette smoking			
Yes	1	10.0	
No	9	90.0	
Reason for Cigarette smoking **(Multiple response)			
Highness feeling	8	80.0	
Peer Use	8	80.0	
To reduce stress & tension	5	50.0	
For Fun	7	70.0	
No reason	2	20.0	
Location of first Cigarette smoking			
Cannot Remember	1	10.0	
At home	2	20.0	
At school	7	70.0	
Event at First Use of Cigarette smoking			
Cannot Remember	1	10.0	
Party/Meeting with friends	6	60.0	
Meeting with family	1	10.0	
Alone	2	20.0	
Total	10	100.0	

Majority of students were smoking because of the highness feeling 8 (80.0%), Peer smoking 8 (80.0%), to reduce stress and tension 5 (50.0%) and Smoking for

Fun 7 (70.0%). Most respondents who smoke did so first while in school, 7 (70.0%), while 2 (20.0%) did so first at home. A higher proportion of students first smoked cigarette when with friends 6 (60.0%), 2 (20.0%) first smoked while alone, others smoked first 1 (10.0%) with family.

3.3. Association between Socio-Demographic Variables and Current Use of Cigarette

Table 3(a) shows factors statistically significantly associated with current use of cigarette among the respondents were religion ($\chi^2 = 4.167$, p = 0.041) Class ($\chi^2 = 32.266$, p ≤ 0.001) and type of family ($\chi^2 = 6.518$, p = 0.038). More Muslims (12.5%) smoked cigarettes than Christians (2.9%); More respondents in 500 L (26.3%) smoked cigarette was compared with 200 L (2.9%), 400 L (1.6%), 300 L (1.5%) and 100 L (1.4%); also, respondents from divorced families (16.7%) smoked more cigarettes than those from monogamous (2.4%) and polygamous (8.3%) families.

Factors not statistically significant were Sex ($\chi^2 = 3.806$, p = 0.501), Age ($\chi^2 = 0.808$, p = 0.848), faculty ($\chi^2 = 3.081$, p = 0.079), place of Residence ($\chi^2 = 0.825$, p = 0.662). There was not statistically significance between smoking and sex as more males (5.1%) than females (0.9%) smoke cigarette. There was not statistically significance between smoking and faculty as more law students (6.1%) than social sciences (2.1%) students smoke cigarette.

3.4. Association between Socio-Demographic Variables and Current Use of Cigarette

In **Table 3(b)** there was statistically significance between smoking and CGPA (Cumulative Grade Points Average) as more students had a CGPA of 1.1 to 2.0 (20.0%) were smoking when compared with those with CGPA of 3.1 to 4.0 (2.0%) or CGPA of 4.1 to 5.0 (5.0%).

Factors not statistically significant were Mother's Level of Education ($\chi^2 = 1.596$, p = 0.660), Fathers Level of Education ($\chi^2 = 2.556$, p = 0.465), Father's Occupation ($\chi^2 = 6.791$, p = 0.341), Mother's Occupation ($\chi^2 = 3.416$, p = 0.755).

4. Discussion

4.1. Main Finding of This Study

The prevalence of smoking (currently smokers) among undergraduates was 5.3%. A high (89.0%) proportion was aware of cigarettes, and snuff (62.1%). The prevalence of cigarette smoking was a bit low when compared with other studies.

Of those that smoke, 70.0% of students smoke daily, and one in ten smoke three times weekly. Sixty percent smoke cigarettes before lecture hours, and 1 in 10 smokes anytime they like. Almost all (90.0%) were not willing to stop smoking. Most students were smoking because of the highness feeling, peer smoking, and for fun-seeking, others smoked to reduce stress and tension. Most students who smoke did so first while in school, and a few did so first while at home. A

higher proportion (three-fifth) of students first smoked a cigarette when with friends, and a few did so alone and with family.

Table 3. (a) Association between socio-demographic variables and current use of Cigarette. n=290; (b) Association between socio-demographic variables and current use of Cigarette. n=290.

(a)	
-----	--

Variable	Yes (%)	No (%)	Total (%)	X ²	P-Valu
Sex					
Male	9 (5.1)	166 (94.9)	175 (100.0)	3.806	0.501
Female	1 (0.9)	114 (99.1)	115 (100.0)		
Age					
15 - 20	3 (4.3)	66 (95.7)	69 (100.0)	0.808	0.848
21 - 25	5 (3.1)	157 (96.9)	162 (100.0)		
26 - 30	2 (4.3)	44 (95.7)	46 (100.0)		
>30	0 (0.0)	13 (100.0)	13 (100.0)		
Religion					
Christianity	8 (2.9)	266 (97.1)	274 (100.0)	4.167	0.041
Islam	2 (12.5)	14 (87.5)	16 (100.0)		
Faculty					
Law	6 (6.1)	93 (93.9)	99 (100.0)	3.081	0.079
Social sciences	4 (2.1)	187 (97.9)	191 (100.0)		
Class					
100 L	1 (1.4)	72 (98.6)	73 (100.0)	32.266	<0.001
200 L	2 (2.9)	66 (97.1)	68 (100.0)		
300 L	1 (1.0)	65 (98.5)	66 (100.0)		
400 L	1 (3.6)	63 (98.4)	64 (100.0)		
500 L	5 (26.3)	14 (73.7)	19 (100.0)		
Place Of Residence					
Hostel	3 (3.3)	89 (96.7)	92 (100.0)	0.825	0.662
Off Campus	3 (2.6)	114 (97.4)	117 (100.0)		
Living With Family	4 (4.9)	77 (95.1)	81 (100.0)		
Type Of Family					
Monogamous	6 (2.4)	242 (97.6)	248 (100.0)	6.518	0.038
Polygamous	3 (8.3)	33 (91.7)	36 (100.0)		
Divorced	1 (16.7)	5 (83.3)	6 (100.0)		

(b)

	(0	,			
Variable	Yes (%)	No (%)	Total (%)	X ²	P-Value
Mother's Level Of Education					
None	0 (0.0)	29 (100.0)	29 (100.0)	1.596	0.660
Primary	1 (2.6)	37 (97.4)	38 (100.0)		
Secondary	2 (3.1)	63 (96.9)	65 (100.0)		
Tertiary	7 (4.4)	151 (95.6)	158 (100.0)		
Father's Level Of Education					
None	0 (0.0)	12 (100.0)	12 (100.0)	2.556	0.465
Primary	0 (0.0)	32 (100.0)	32 (100.0)		
Secondary	1 (2.1)	47 (97.9)	48 (100.0)		
Tertiary	9 (4.5)	189 (95.5)	198 (100.0)		
Father's Occupation					
None	0 (0.0)	13 (92.9)	13 (100.0)	6.791	0.341
Civil Servant	4 (2.9)	136 (97.1)	140 (100.0)		
Business	2 (4.3)	44 (95.7)	46 (100.0)		
Farming	0 (0.0)	28 (100.0)	28 (100.0)		
Professionals	3 (7.5)	37 (92.5)	40 (100.0)		
Retired	1 (8.3)	11 (91.7)	12 (100.0)		
Others	0 (0.0)	11 (100.0)	11 (100.0)		
Mother's Occupation					
None	0 (0.0)	21 (91.3)	21 (100.0)	3.416	0.755
Civil Servant	4 (4.0)	96 (96.0)	100 (100.0)		
Business	1 (1.1)	94 (98.9)	95 (100.0)		
Farming	0 (0.0)	26 (100.0)	26 (100.0)		
Professionals	4 (13.3)	26 (86.7)	30 (100.0)		
Retired	1 (14.3)	6 (85.7)	7 (100.0)		
Others	0 (0.0)	11 (100.0)	11 (100.0)		
CGPA					
1.1 to 2.0	2(20.0)	8 (80.0)	10 (100)	9.406	0.024
2.1 to 3.0	3 (3.2)	90 (96.8)	93 (100)		
3.1 to 4.0	3 (2.0)	144 (95.0)	147 (100)		
4.1 to 5.0	2 (5.0)	38 (95.0)	40 (100)		

^{*}means statistically significant.

Factors statistically significantly associated with the current use of cigarettes among the respondents were religion ($\chi^2=4.167$, p = 0.041) Class ($\chi^2=32.266$, p ≤ 0.001), and type of family ($\chi^2=6.518$, p = 0.038). More Muslims smoked cigarettes than Christians; More undergraduates in the 5th year smoked cigarette

when compared with those in 1^{st} and 2^{nd} year students. University students from divorced families smoked more cigarettes than those from monogamous. There was a statistically significant association between smoking and CGPA (Cumulative Grade Points Average) as more students who had a CGPA of 1.1 to 2.0 (20.0%) were smoking when compared with those with a CGPA of 3.1 to 4.0 (2.0%) or CGPA of 4.1 to 5.0 (5.0%). It will be interesting to further evaluate these associations in future studies. Factors not statistically significant were Sex ($\chi^2 = 3.806$, p = 0.501), Age ($\chi^2 = 0.808$, p = 0.848), faculty ($\chi^2 = 3.081$, p = 0.079), place of Residence ($\chi^2 = 0.825$, p = 0.662). Some of these findings were not statistically significant but may have Public Health relevance, a typical example is an association between smoking and sex as more males than females smoke cigarettes.

4.2. What Is Already Known on This Topic

In this study, the prevalence of cigarette use was 5.3%. This is lower than that obtained in a study done in 2018 among undergraduate students in Zaria where a prevalence of 13.9% was obtained [41], and 12.8% prevalence in Nsukka, Enugu [4]. High prevalence has been reported in other studies such as a prevalence of 20% among students drawn from Ambrose Ali University, Ekpoma [42], 22.6% among university students in Ekiti, Nigeria [43]. Similarly, a higher prevalence of smoking was observed among University students, it was 40% in Lagos [27], 72.4% in Niger Delta University, Amassoma Delta State, South-south Nigeria [23], 55.8% in University of Calabar [19], 81.0% in Private Universities in South West, Nigeria [22], 22.0% in Ekiti [2] [28]. Other studies done outside Nigeria showed that the overall smoking prevalence among University students in Riyad, Saudi Arabia was estimated at 14.5%, whereas the prevalence among male students was 32.7% but much less among female students, (i.e. 5.9%) [17], the prevalence was low in Brazil (5.7%) [30], 47.0% in Greece [31], 14.7% in Kuala Lumpur and Selangor state in Malaysia [32]. This lower prevalence may be because this study looked at smoking among the general population, while our study looked focused on students. This can be a tell-tale sign of a reduction in the number of cigarette smokers in the country and could be the reason for this relatively low finding in this study. This is a demonstration of the decreasing number of smokers among the young student population. On a general note, to review the prevalence of smoking in Nigeria, a study did a systematic search of publicly available evidence from 1990 through 2018. A random-effects meta-analysis and meta-regression epidemiologic model were employed to determine the prevalence and number of smokers in Nigeria in 1995 and 2015 [29]. The meta-analysis showed that the prevalence of current smokers in Nigeria when pooled together was 10.4% [29]. A geopolitical outlook can be summarized as, the prevalence rate of current smokers was significantly higher in the North-East (32.1%, 30.0 - 34.1), compared to the other five geopolitical zones. The South-West had a prevalence of 8.9% (6.9 - 11.0), South-South region had a prevalence of 13.0% (8.7 - 17.3), North-Central 10.3% (6.0 - 14.4), South-East

8.6% (4.1 - 13.0) and North-West 5.4% (3.7 - 7.2).

A look at the reason students give for smoking has revealed that, most students smoked for pleasure, relaxation, concentration, and because their friends smoked [18] [19] [27] [34]. This highlights the influence of social environment on youth smoking [4] [18] [19] [27]. About 90% of the student were unwilling to quit smoking, this is in consonance with studies done in the Niger Delta where 80% of respondents in the present study admitted to having difficulty quitting smoking [18] [19] [23]. This is a huge problem in tobacco control programs, it is a bit cumbersome to pursue a smoking cessation program [3] [37].

4.3. What This Study Adds

This study brings to bear the possibility of a reduction in the prevalence of smoking among university students. A prevalence of 5.3% for current smokers is lower than that seen in different literature [2] [4] [19] [22] [23] [27] [28] [41] [42] [43]. This could be an outward sign of progress in the ongoing advocacy and health education on the dangers of cigarette smoking to the health of young people in the community. A sustained effort may see the end of this Public Health scourge.

This study also emphasizes the importance of friends and school in the commencement of smoking as a habit. These factors were prominent as most students who smoke started it while in school and were influenced by their peers. This allows Public Health experts to focus their attention on advocacy and health education in schools especially Universities and the communities around them. It can be observed that as students come in, they become more interested in smoking as more 5th-year students were smoking when compared with 1st or 2nd-year students. This can also be an opportunity to target 1st-year students with antismoking campaigns and sustain this message up to the final year class.

The study reminds the academic community that family problems, divorce, and separation can also affect the behaviour and habits of children. Youths can take up rebellious, antisocial behaviour like smoking, alcohol, and drug abuse as a sign of protest or get away from family challenges. This is shown as more students from divorced families smoked more cigarettes than those from monogamous and polygamous families. This finding elucidates the importance of a united family unit in the control of social vices and bad habits. The family unit can be a protective factor in controlling cigarette smoking.

This study reiterated the difficulties in cessation of smoking as most students who smoke are not willing to stop. This means it is better to help students to avoid smoking as it is more difficult to stop smoking once the habit is formed.

This study shows target areas for health education, to prevent the diseases associated with cigarette smoking. These efforts should target the preuniversity, universities, and first-year students, then sustain the antismoking messages till final year. The creation of peer educators to combat cigarette smoking on campus, since friends and peers are significant drivers. Finally, this study provides a baseline against which future studies on smoking among university students can

be measured especially in North Central Nigeria and West Africa.

5. Limitations of This Study

This study followed a cross-sectional study design that cannot establish causal inferences and trends between cigarette smoking and potential risk factors. Therefore, a longitudinal study would overcome this limitation in understanding potential causal relationships. The modestly sized sample within the University of Jos is only representative of the Universities and students in Plateau State and might not be representative of other areas, geopolitical zones, or other countries. Therefore, studies utilizing bigger samples from more representative populations are needed. The responses from respondents were based on self-reports and depended on the truthfulness of the respondents. Recall bias could have occurred especially among respondents who have used several substances at various times. Efforts were made to ensure that students were comfortable with stating the truth by guaranteeing anonymity and the use of peers during data collection.

6. Conclusion

The prevalence of cigarette use was 5.3%. Most students smoke daily and will smoke more before lectures start. Majority of the students are unwilling to stop smoking. Undergraduate students smoke because their peers smoke, they smoke for fun, and to feel high, and to reduce stress and tension factors significantly associated with current use of cigarettes among the respondents were religion, level or year of study, and type of family.

Data availability Statement

All data are fully available without any restriction upon reasonable request.

Acknowledgments

The authors would like to thank all of the participants who consented willingly and enrolled in the study voluntarily.

Funding

Self-funded.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Sanchez, Z.M., Opaleye, E.S., Martins, S.S., Ahluwalia, J.S. and Noto, A.R. (2010) Adolescent Gender Differences in the Determinants of Tobacco Smoking: A Cross Sectional Survey among High School Students in São Paulo. *BMC Public Health*, **10**, Article No. 748. https://doi.org/10.1186/1471-2458-10-748

- [2] Babatunde, O.A., Omowaye, O.A., Alawode, D.A. and Omede, O. (2012) Smoking Prevalence, Willingness to Quit and Factors Influencing Smoking Cessation among University Students in a Western Nigerian State. *Asian Social Science*, **8**, 149-156. https://doi.org/10.5539/ass.v8n7p149
- [3] World Health Organization (2013) WHO Framework Convention on Tobacco Control: Guidelines for Implementation Article 5.3; Article 8; Article 9 and 10; Article 11; Article 12; Article 13; Article 14-2011 Edition. ISO 26000 Business Guide to the New Standard on Social Responsibility. WHO Press, Geneva, 163-178.
- [4] Amorha, K.C., Jiburu, E.M., Nduka, S.O. and Okonta, M.J. (2017) Cigarette Smoking Prevalence and Awareness amongst Undergraduate Students of the University of Nigeria, Nsukka. *Journal of Basic and Clinical Pharmacy*, **8**, 239-244.
- [5] World Health Organization (2008) WHO Report on the Global Tobacco Epidemic, 2008: The Empower Package. World Health Organization, Geneva. https://apps.who.int/iris/handle/10665/43818
- [6] IHME (2019) Global Burden of Disease [Database]. Institute of Health Metrics, Washington DC.
- [7] World Health Organization (2021) WHO Updated Fact Sheet on Tobacco. World Health Organization, Geneva. http://www.who.int/mediacentre/factsheets/fs339/en/
- [8] Jha, P., Ramasundarahettige, C., Landsman, V., *et al.* (2013) 21st-Century Hazards of Smoking and Benefits of Cessation in the United States. *New England Journal of Medicine*, **368**, 341-350. https://doi.org/10.1056/NEJMsa1211128
- [9] El-Mhamdi, S., Wolfcarius-Khiari, G., Mhalla, S., Ben Salem, K. and Soltani, S.M. (2011) Prevalence and Predictors of Smoking among Adolescent Schoolchildren in Monastir, Tunisia. *Eastern Mediterranean Health Journal*, 17, 523-528. https://doi.org/10.26719/2011.17.6.523
- [10] Etter, J.-F., Prokhorov, A.V. and Perneger, T.V. (2002) Gender Differences in the Psychological Determinants of Cigarette Smoking. *Addiction*, **97**, 733-743. https://doi.org/10.1046/j.1360-0443.2002.00135.x
- [11] Fawibe, A.E. and Shittu, A.O. (2011) Prevalence and Characteristics of Cigarette Smokers among Undergraduates of the University of Ilorin, Nigeria. *Nigerian Journal of Clinical Practice*, 14, 201-205. https://doi.org/10.4103/1119-3077.84016
- [12] Salawu, F., Danburam, A., Isa, B. and Agbo, J. (2010) Cigarette Smoking Habits among Adolescents in Northeast Nigeria. *The Internet Journal of Epidemiology*, **8**, 1-7.
- [13] Mpabulungi, L. and Muula, A.S. (2004) Tobacco Use among High School Students in Kampala, Uganda: Questionnaire Study. *Croatian Medical Journal*, **45**, 80-83.
- [14] Can, G., Topbas, M., Oztuna, F., Ozgun, S., Can, E. and Yavuzyilmaz, A. (2009) Factors Contributing to Regular Smoking in Adolescents in Turkey. *Journal of School Health*, **79**, 93-97. https://doi.org/10.1111/j.1746-1561.2008.0392.x
- [15] Rahman, S., Chang, L., Hadgu, S., Salinas-Miranda, A.A. and Corvin, J. (2014) Prevalence, Knowledge, and Practices of Hookah Smoking among University Students, Florida, 2012. *Preventing Chronic Disease*, 11, Article ID: 140099. https://doi.org/10.5888/pcd11.140099
- [16] Arute, J.E., Oyita, G.I. and Eniojukan, J.F. (2015) Substance Abuse among Adolescents: 2. Prevalence and Patterns of Cigarette Smoking among Senior Secondary School Students IN Abraka, Delta State, Nigeria. *IOSR Journal of Pharmacy*, 5, 40-47.
- [17] Mandil, A., BinSaeed, A., Ahmad, S., Al-Dabbagh, R., Alsaadi, M. and Khan, M.

- (2010) Smoking among University Students: A Gender Analysis. *Journal of Infection and Public Health*, **3**, 179-187. https://doi.org/10.1016/j.jiph.2010.10.003
- [18] Hossain, S., Hossain, S., Ahmed, F., Islam, R., Sikder, T. and Rahman, A. (2017) Prevalence of Tobacco Smoking and Factors Associated with the Initiation of Smoking among University Students in Dhaka, Bangladesh. *Central Asian Journal of Global Health*, 6, Article No. 244. https://doi.org/10.5195/cajgh.2017.244
- [19] Ukwayi, J.K., Eja, O.F. and Unwanede, C.C. (2012) Peer Pressure and Tobacco Smoking among Undergraduate Students of the University of Calabar, Cross River State. *Higher Education Studies*, **2**, 92-101. https://doi.org/10.5539/hes.v2n3p92
- [20] Farajat, M., Hoving, C. and De Vries, H. (2011) Psychosocial Determinants of Cigarette Smoking among University Students in Jordan. *Journal of Developmental Origins of Health and Disease*, 2, 152-161. https://doi.org/10.1017/S2040174411000122
- [21] Warren, C.W., Jones, N.R., Eriksen, M.P. and Asma, S. (2006) Patterns of Global Tobacco Use in Young People and Implications for Chronic Disease Burden in Adults. *Lancet*, *367*, 749-753. https://doi.org/10.1016/S0140-6736(06)68192-0
- [22] Adekeye, O.A., Adeusi, S.O., Chenube, O.O., Ahmadu, F.O. and Sholarin, M.A. (2015) Assessment of Alcohol and Substance Use among Undergraduates in Selected Private Universities in Southwest Nigeria. *IOSR Journal of Humanities and Social Science*, **20**, 1-7.
- [23] Abikoye, G.E., Kashimawo, A.J. and Eze, C.U. (2013) Tobacco Smoking and Awareness of Smoking-Cessation Products in a University Community. *Journal of Public Health and Epidemiology*, **5**, 351-356.
- [24] West, R. (2010) Smoking and Health. UK Center for Tobacco Control Studies, London.
- [25] Dai, X.C., Gakidou, E. and Lopez, A.D. (2022) Evolution of the Global Smoking Epidemic over the Past Half Century: Strengthening the Evidence Base for Policy Action. *Tobacco Control*, 31, 129-137. https://doi.org/10.1136/tobaccocontrol-2021-056535
- [26] CDC (2011) Global Smoking: Gateway to Health Communication & Social Marketing Practice. Centers for Disease Control and Prevention, Atlanta. https://www.cdc.gov/healthcommunication/index.html
- [27] Elegbeleye, O.O. and Femi-Pearse, D. (1976) Incidence and Variables Contributing to Onset of Cigarette Smoking among Secondary School Children and Medical Students in Lagos, Nigeria. *Journal of Epidemiology & Community Health*, **30**, 66-70. https://doi.org/10.1136/jech.30.1.66
- [28] Elegbede, O.E., Babatunde, O.A., Ayodele, L.M., Atoyebi, O.A., Ibirongbe, D.O. and Adeagbo, A.O. (2012) Cigarette Smoking Practices and Its Determinants among University Students in Southwest, Nigeria. *Journal of Asian Scientific Research*, **2**, 62-69.
- [29] Adeloye, D., Auta, A., Fawibe, A., et al. (2019) Current Prevalence Pattern of To-bacco Smoking in Nigeria: A Systematic Review and Meta-Analysis. BMC Public Health, 19, Article No. 1719. https://doi.org/10.1186/s12889-019-8010-8
- [30] Granville-Garcia, A.F., *et al.* (2012) Smoking among Undergraduate Students in the Area of Health. *Ciência & Saúde Coletiva*, **17**, 389-396. https://doi.org/10.1590/S1413-81232012000200013
- [31] Alexopoulos, E.C., Jelastopulu, E., Aronis, K. and Dougenis, D. (2010) Cigarette Smoking among University Students in Greece: A Comparison between Medical and Other Students. *Environmental Health and Preventive Medicine*, **15**, 115-120.

https://doi.org/10.1007/s12199-009-0110-0

- [32] Saravanan, C. and Heidhy, I. (2014) Psychological Problems and Psychosocial Predictors of Cigarette Smoking Behavior among Undergraduate Students in Malaysia. Asian Pacific Journal of Cancer Prevention, 15, 7629-7634. https://doi.org/10.7314/APICP.2014.15.18.7629
- [33] Wangeri, T., Kimani, E. and Mutweleli, S.M. (2012) Transitional Challenges Facing University First Year Students in Kenyan Public Universities: A Case of Kenyatta University. *Interdisciplinary Review of Economics and Management*, **2**, 41-50.
- [34] Nwabueze, S.A., Adinma, E.D., Egenti, B.N., Anameje, O.A., Okafor, K.C., Aniemena, R.C., Azuike, E.C. and Ilozumba, O.C. (2016) Substance Abuse among Secondary School Students in an Urban and a Rural Local Government Area in Anambra State, Nigeria. *International Journal of Medical Sciences*, 2, 12-30.
- [35] Poscia, A., Parente, P., Frisicale, E.M., Teleman, A.A., Waure, C.D. and Pietro, M.L.D. (2015) Risky Behaviours among University Students in Italy. *Annali dell Istituto Superiore di Sanita*, 51, 111-115.
- [36] Aslam, Z., Asim, M., Javaid, I., Rasheed, F. and Akhter, M.N. (2023) Analyzing Risky Behaviors among Different Minority and Majority Race in Teenagers in the USA Using Latent Classes. Frontiers in Behavioral Neuroscience, 17, Article ID: 1089434. https://doi.org/10.3389/fnbeh.2023.1089434
- [37] Itanyi, I.U., Onwasigwe, C.N., Ossip, D., Uzochukwu, B.S., McIntosh, S., Aguwa, E. N., et al. (2020) Predictors of Current Tobacco Smoking by Adolescents in Nigeria: Interaction between School Location and Socioeconomic Status. Tobacco Induced Diseases, 18, Article No. 13. https://doi.org/10.18332/tid/117959
- [38] World Health Organization (2021) WHO Report on the Global Tobacco Epidemic 2021: Addressing New and Emerging Products. World Health Organization, Geneva. https://www.who.int/teams/health-promotion/tobacco-control/global-tobacco-repo rt-2021
- [39] Okafor, K.C., Azuike, E.C. and Okojie, P.W. (2017) The Causes and Prevalence of Road Traffic Accidents amongst Commercial Long Distance Drivers in Benin City, Edo State, Nigeria. *Nigerian Journal of Medicine*, 26, 220-230. https://doi.org/10.4103/1115-2613.278844
- [40] Babalola, E.O., Ogunwale, A. and Akinhanmi, A. (2013) Pattern of Psychoactive Substance Use among University Students in South-Western Nigeria. *Journal of Behavioral Health*, 2, 334-342. https://doi.org/10.5455/jbh.20130921013013
- [41] Aremu, S.B., Adamu, S. and Markus, B.Y. (2018) Drug Factors Influencing Its Use among Undergraduate Students of a Tertiary Institution in Nigeria. *Advances in Social Sciences Research Journal*, 5, 388-397. https://doi.org/10.14738/assrj.55.4357
- [42] Okoza, J., Aluede, O., Fajoju, S. and Okhiku, I. (2009) Drug Abuse among Students of Ambrose Alli University, Ekpoma, Nigeria. *European Journal of Social Sciences*, **10**, 85-92.
- [43] Park-Lee, E., Ren, C., Cooper, M., Cornelius, M., Jamal, A. and Cullen, K.A. (2022) Tobacco Product Use among Middle and High School Students—United States, 2022. Morbidity and Mortality Weekly Report, 71, 1429-1435. https://doi.org/10.15585/mmwr.mm7145a1