

## Tobacco Smoking and the Nigerian Tobacco Regulations: The Perspective of Students in a Semi-Urban Community

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### Abstract

Tobacco smoking is a global challenge especially as it is attributed as a risk factor of many Non Communicable Diseases (NCDs). Findings show that tobacco companies are targeting low and middle income countries with schools as their primary target. This study is aimed at investigating the knowledge and perception of the possible health effects associated with tobacco smoking and the National Tobacco Control Act (NTC Act) amongst secondary school students in Benin City.

The study adopted a cross sectional study design conducted amongst secondary school students in a semi-urban community. The study involved 203 participants drawn randomly from nine schools. Data was collected using a pre-tested semi-structured questionnaire which contained 10-items per knowledge and perception scale. A Knowledge/perception score  $\leq 5$  was categorized as poor while knowledge/perception score  $\geq 6$  was categorized as good. Data collected was analysed on SPSS using descriptive statistics.

Mean age of respondents was 13.9 years. Majority had good knowledge (91.60%) and good perception (98.50%) of the health risk associated with tobacco use. Most respondents (24.8%) reported asthma/breathing issues as a health effect of tobacco consumption. While majority (91.60%) had good perception of the NTC Act; a clear distinction could not be ascertained for knowledge on the Act. Most (79.10%) had seen someone smoking in public while majority (90.4%) agreed that people who sold cigarettes should sell to children.

This study revealed that students found health talks and television drama series as the best form of education on the health effects of tobacco consumption and NTC Act.

**Keywords:** Students, Tobacco, Knowledge, Perception, Health.

### Introduction

The health effects of tobacco smoking are widely known yet smoking is a common phenomenon <sup>[1]</sup>. According to the World Health Organization (WHO) about 1.1 billion people worldwide smoke and this number is expected to triple in the next 25 years. Worldwide over 7% of persons aged 13 - 15 smoke cigarettes while 4% use smokeless tobacco. Consumption of tobacco is estimated to cause around 6 million deaths per year, nearly 80% of which occur in low and middle income countries <sup>[2]</sup>. Among young persons in Africa, consumption of tobacco is on the rise and estimates show that 21% of boys and 13% of girls use any type of tobacco products <sup>[2]</sup>. Although compared to other areas in the world prevalence is relatively low in

Africa; it is estimated that in the absence of tobacco control measures, there will be increased by almost 39% by 2030. This is estimated to be the highest expected regional increase globally <sup>[3]</sup>.

Research indicates that teen tobacco users are more likely to suffer mental health problems, engage in high risk-sexual behaviour and other risky behaviours – use of alcohol and illegal drugs, engage in fights and carry weapons <sup>[4]</sup>. Findings from surveys have also shown that tobacco companies are targeting low and middle income countries with schools as their primary target <sup>[5]</sup>.

Several studies have been carried out to try to ascertain reasons why young person's engage in tobacco consumption. Mowery et al., <sup>[6]</sup> in their study amongst youths in the United States noted

a significant relationship between being receptive to tobacco industry promotions and being open to smoking. Leatherdale et al.,<sup>[7]</sup> in their study among youths in Canada also found that occasional and regular smoking behaviour was sufficiently associated with students' belief about tobacco companies doing "good deeds" in the community.

In the study by Omokhodion and Faseru<sup>[8]</sup> amongst secondary school students in Ibadan, 26% of study participants had an item with a cigarette brand name on it. The study concluded that though prevalence of cigarette smoking was low; moderately high exposure to tobacco advertisements could encourage students to engage in smoking.

The study by Oluwakemi et al.,<sup>[9]</sup> amongst in-school adolescents in Lagos State further highlighted that respondents with parents and friends who smoked and those who had been sent to purchase cigarette by an older adult were more likely to smoke in the future. In Adamawa State, Salawu et al.,<sup>[10]</sup> also found that majority of male and female smokers were influenced to engage in smoking by relatives, one or both parents, siblings or friends, and by advertisements.

Similarly, in a qualitative study by Catherine et al.,<sup>[11]</sup> in Southern Nigeria, majority of recruited smokers had secondary education and all respondents had a close friend who smoked. An overwhelming majority had a family relative who smoked and had been sent on errands (when they were still minors) to purchase cigarettes for elders in the community. The study also found that socialization practices like respect for the elderly was a key factor that influenced smoking among youths. Catherine et al., showed in their study that children and adolescents were expected to go on errands for elders to buy cigarettes and sometimes asked to light it at the point of purchase. Similarly, at the point of sale the adult selling the product does not question the child or adolescent that comes to buy the cigarette as it was common practice. These findings showed clear violations of the National Tobacco Control Act (NTC Act) which may have been done without prior knowledge of national tobacco regulations. These findings substantiate the need to assess the views and understanding of young persons on the provisions of the NTC Act to build a level of consciousness in them as regards sale of tobacco

products to minors and tobacco company interference through subtle promotional activities.

Nigeria became a party to the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) on January 18, 2006. The NTC Act of 2015 regulates all aspects of tobacco control including smoke free places, tobacco advertising, promotion and sponsorship, prevention of tobacco industry interference among other areas<sup>[12]</sup>. Although the NTC Act was established in 2015 during the administration of President Goodluck Ebele Jonathan it is yet to be fully implemented.

This study aims to investigate the knowledge and perception of the possible health effects associated with tobacco smoking and the National Tobacco Control Act (NTC Act) among students. Given that schools are potential targets of the tobacco industry, study findings will aid in gaining insight into the perspective of students which would in turn aid in ascertaining best measures for tobacco control among young persons.

## **Materials and Method**

This study aims to investigate the knowledge and perception of the possible health effects associated with tobacco smoking and the National Tobacco Control Act (NTC Act) amongst secondary school students in Benin City, Edo State, Nigeria. The survey was carried out amongst secondary school students in a semi-urban community in Edo State, Nigeria, during a community discuss on sustainability of tobacco control facilitated by Health Promotion Education and Community Development Initiative (HPECDI).

### **Study Design and Setting**

The study adopted a cross sectional study design conducted amongst secondary school students in a semi-urban community in Egor local government area of Benin City, Edo State, Nigeria. Egor local government area (LGA) is one of the eighteen local government areas in Edo State with headquarters in Uselu town. It has an area of 93km<sup>2</sup> and a population of 339,899 at the 2006 census. Some districts under Egor LGA includes: Agidigbi, Egor, Ugbiyokho, and Okhokhugbo.

### Sampling and Sampling size

Egor Local Government Area was randomly selected among the eighteen LGAs in Edo State. Ugbiyokho Community was also randomly selected for the survey. All fifteen secondary schools in the community were purposely selected for the survey and invited for a community discuss. Two hundred and three (203) students from nine schools gave consent to participate in the study and the community discuss.

### Instrument and Data Gathering

The study instrument was adapted after thorough literature review and from the provisions of the 2015 National Tobacco Control Act. The study made use of a pre-tested semi-structured questionnaire containing 10-items per knowledge and perception scale. A

Knowledge/perception score  $\leq 5$  was categorized as poor while a knowledge/perception score  $\geq 6$  was categorized as good. Data was collected from 203 respondents who gave informed consent and was analysed using descriptive statistics on SPSS (IBM 21.0).

## Result

### Basic Socio-Demographic Characteristics

Table I summarizes the socio-demographic characteristics of the respondents. The age of respondents ranged from 9 – 19 years with a mean age of  $13.9 \pm 1.9$  years. Most respondents (56.2%) were females and majority was Christians (96.5%). The largest proportion of the respondents (44.3%) was from the Bini ethnic group while most (26.6%) were from senior secondary school one (SSS 1).

**Table 1.** Respondents' Basic Socio-Demographic Characteristics

Characteristics	No	%
<b>*Age in years* [N=195]</b>		
9 - 12	43	22.0
13 - 16	140	71.8
17 < 19	12	6.2
<b>*Religion* [N=202]</b>		
Christian	195	96.5
Islam	5	2.5
Traditional	2	1.0
<b>*Sex* [N=203]</b>		
3Male	89	43.8
Female	114	56.2
<b>*Ethnic Groups* [N=203]</b>		
Yoruba	29	14.3
Igbo	23	11.3
Hausa	5	2.5
Bini	90	44.3
Esan	16	7.9
Others *Others: Urhobo, Ibibio, Igarra, Ijaw, Etsako, Isoko, Itsekiri, Tiv, Owan & Kwale	40	19.7
<b>*Level of Study [N=203]</b>		

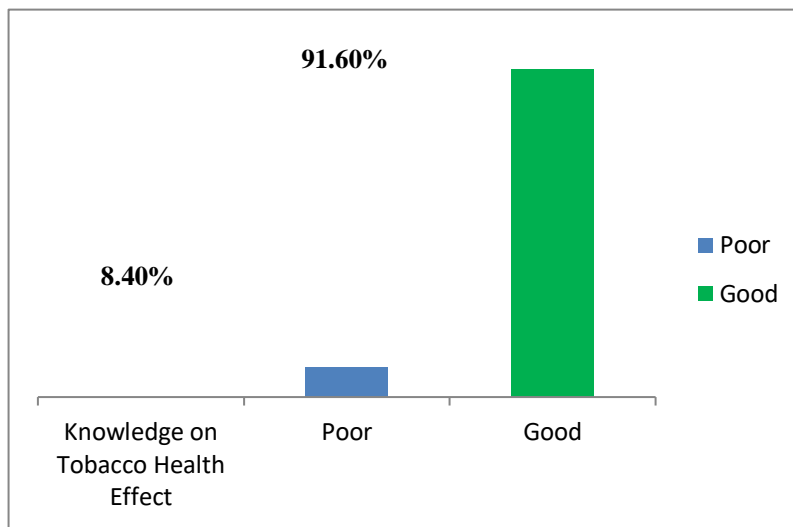
JSS 1	34	16.7
JSS 2	16	7.9
JSS 3	16	7.9
SS 1	54	26.6
SS 2	52	25.6
SS 3	31	15.3

### Distribution of Respondents by Knowledge

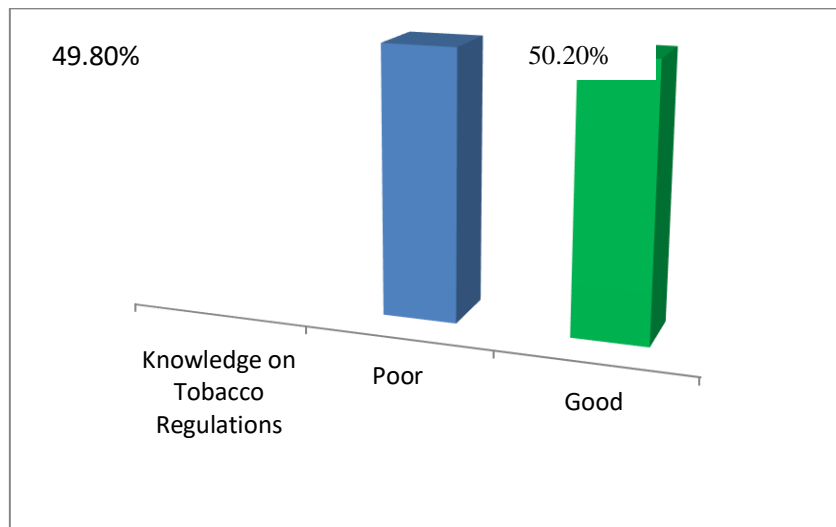
Figure I shows the distribution of respondents by knowledge on the possible health effects associated with tobacco smoking with majority having good knowledge (91.60%).

Figure II highlights the distribution of respondents with good and poor knowledge on the provisions of the NTC Act respectively (50.20%, 49.80%).

Poor (KS  $\leq 5$ ), Good (KS  $\geq 6$ ) \* The Knowledge categories were operatively defined for this study only\*



**Figure 1.** Distribution of Respondents by Knowledge on Possible Health Effects Associated with Tobacco Smoking



**Figure 2.** Distribution of Respondents by Knowledge on National Tobacco Regulations

### Distribution of Respondents by Perception

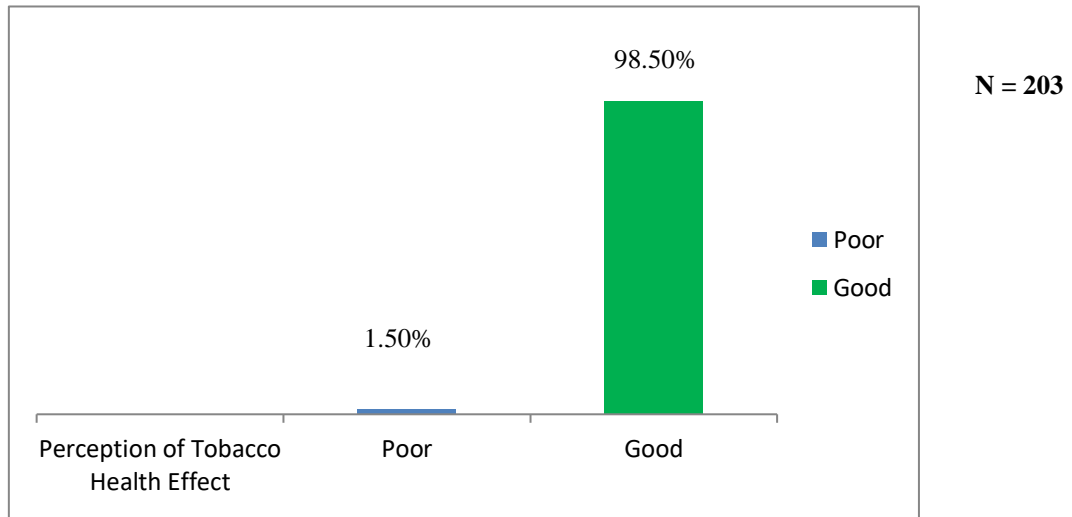
Figure III shows the distribution of respondents by perception of the possible health

effects associated with tobacco smoking with majority having good perception (98.50%).

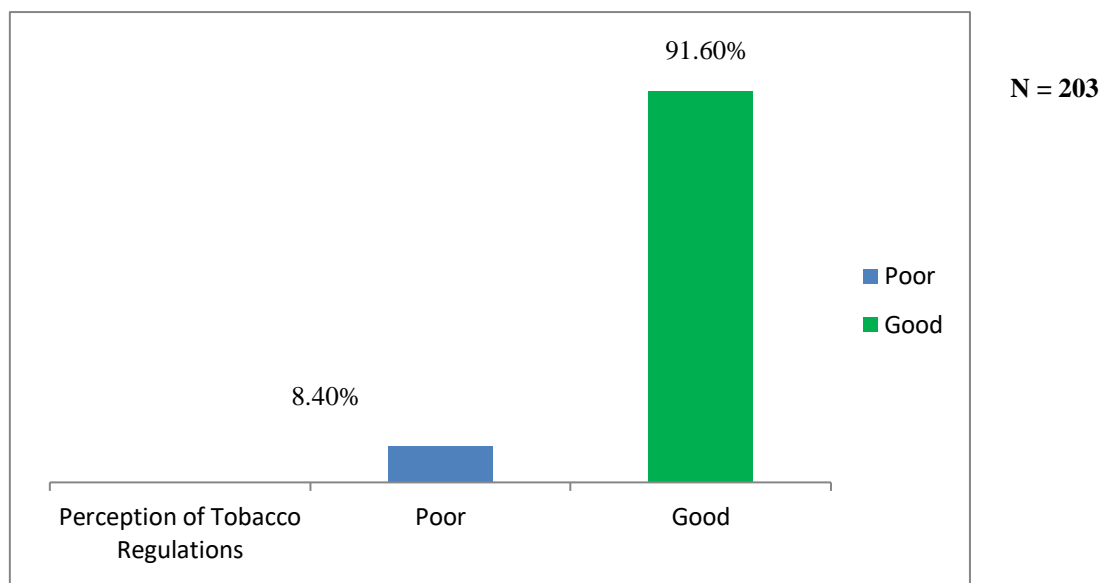
Figure IV highlights the distribution of respondents with good and poor perception of

the provisions of the NTC Act respectively (91.60%, 8.40%).

Poor (PS ≤5), Good (PS ≥6) \* The Perception Categories were operatively defined for this study only\*



**Figure 3.** Distribution of Respondents by Perception of Possible Health Effects Associated with Tobacco Smoking

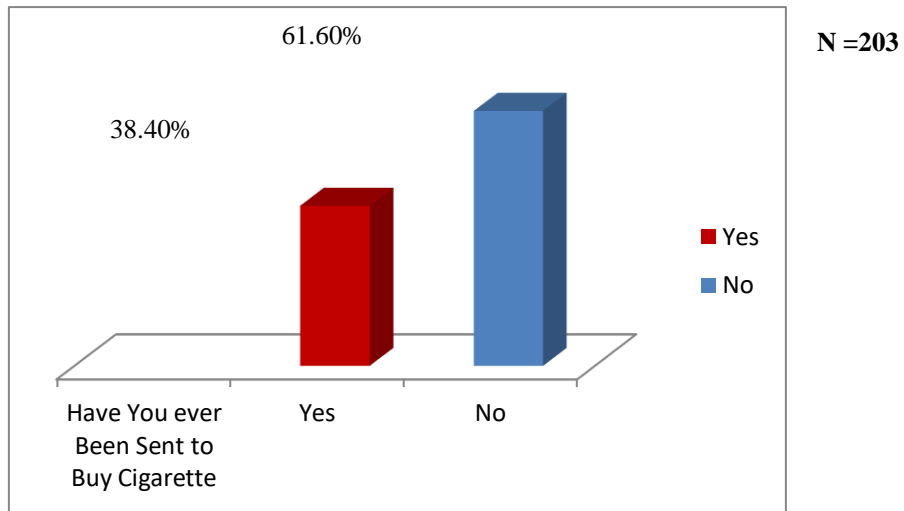


**Figure 4.** Distribution of Respondents by Perception of National Tobacco Regulations

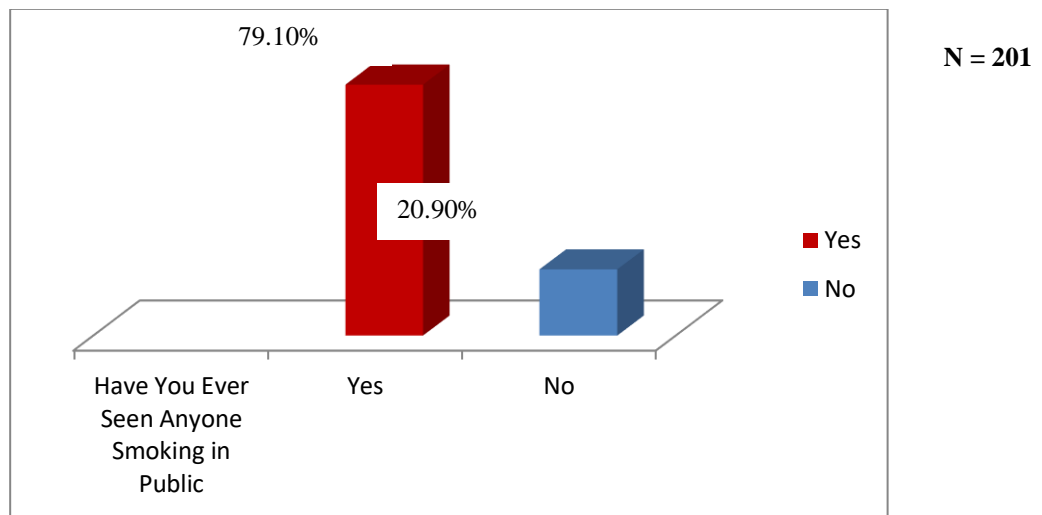
### Distribution of Respondents by Violation of Tobacco Regulations

Figure V shows the distribution of respondents who have been sent to purchase cigarette at a time with a minority answering in

the affirmative (38.40%). Figure VI highlights the distribution of respondents who have seen someone smoking in a public place with majority also answering in the affirmative (79.10%).



**Figure 5.** Distribution of Respondents who have been sent to buy cigarette at a time



**Figure 6.** Distribution of Respondents who have seen someone smoking in a public place N = 203

Table II shows the distribution of respondents by conditions they relate with tobacco use with majority selecting Asthma/Breathing problems (24.8%).

Table III shows the distribution of respondents by best ways to educate students on the effects of tobacco smoking and the Nigerian Tobacco Regulations with majority choosing health talks (58.0%) and drama series (22.80%).

**Table 2.** Distribution of respondents by conditions related to tobacco use

<b>Conditions Related to Tobacco Use</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Lung Cancer	89	11.6
Cardiac Problems	149	19.4
Madness/Mental Disorder	154	20.1
Asthma/Breathing Issues	190	24.8
Kidney Failure	184	24.0
Others	1	0.1

**\*Multiple Response\***

\*Others: Serious Cough, Cataract, Tuberculosis, Blood Disease, Liver Disease And Death\*

**Table 3.** Distribution of Respondents by best ways to educate students

**N =197**

<b>Best Way of Education</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Radio Program	19	9.6
TV Drama Series	45	22.8
Health Talk	114	58.0
Internet Videos	11	5.6
All of the Above	3	1.5
Others	5	2.5

Others: Add To School Curriculum, Public Rallies/Campaign and Parental Advice\*

## **Discussion**

### **Knowledge of Possible Health Effects of Tobacco Smoking and the 2015 NTC Act**

The study revealed that most respondents had good knowledge of the possible health effects associated with tobacco smoking. Most respondents were aware that smokers and those around smokers (passive smokers) were exposed to tobacco smoke and accompanying health risks. Majority also cited asthma/breathing issues and kidney failure as possible health effects while some opted for mental disorders, cardiac problems and lung cancer. This shows most students comprehend the wide range of possible consequences that can be associated with tobacco consumption.

The study also revealed that respondents found health talks and drama series on television as the best way to educate students on the health effects of tobacco consumption and the NTC Act. This finding is in tandem with the study of Adekunle et al.,<sup>[13]</sup> who concluded that health education is effective in influencing the attitude of students towards cigarette smoking. The mass media approach is also deemed cost effective according to the WHO cost effectiveness analysis (CEA). In a report by WHO<sup>[14]</sup> based on an update of appendix three of the Global

Action Plan for the prevention and control of Non-communicable Diseases (NCDs) 2013-2020; a list of options considered most cost-effective and feasible for implementation referred to as “best buys” are presented for each of the four key risk factors for NCDs (tobacco, use of alcohol, unhealthy diet and physical inactivity). In the list of best buys for tobacco prevention and control is the option of implementing effective mass media campaigns that educate the public about the harms of smoking and second hand smoke. According to the report this intervention is recommended as a best buy because it would cost less or equal to one US dollars per one hundred disability life years (DALYs) averted in low and lower middle Income Countries (LMICs).

The study also displayed no clear distinction between respondents who had good and poor knowledge of the National Tobacco Control Act (NTC Act). Majority of the students pointed out during the discuss that they were not aware that such an act existed. Majority also thought that anyone smoking in a public place in Nigeria may be sent to jail for 3 months as against the actual 6 months. Similarly, there was no clear distinction between respondents who affirmed or negated that tobacco companies are allowed to support public health programs with money.

This points to a knowledge vacuum that could be exploited by tobacco companies as shown in the study by Leatherdale et al.,<sup>[7]</sup> that smoking behaviour was greatly associated with students' belief about tobacco companies doing "good deeds" in the community. This also calls for a closer and more thorough evaluation of their knowledge.

### **Perception of Possible Health Effects of Tobacco Smoking and the 2015 NTC Act**

The study revealed that most respondents had a good perception of the possible health effects associated with tobacco smoking. While a great majority (87.1%) agreed that tobacco smokers had no right to smoke anywhere they wanted a greater majority (90.4%) thought that persons who sold cigarettes should sell to children. Whereas the former may be attributed to knowledge of the health risks associated to passive tobacco smoking; the latter could be attributed to cultural rules that give credence to young people running errands for elders with expected returns. This finding is in tandem with the study of Catherine et al.,<sup>[11]</sup> which clearly showed that socialization practices like respect for the elderly (and going on errands for them) was a key factor that influenced smoking among youths. Several studies<sup>[8, 9, 10, 11]</sup> all point to the fact that susceptibility to smoking and smoking behaviour is significantly influenced by relatives (who are most likely to send children on errands), friends and subtle tobacco adverts using promotional items. These findings further substantiates that of Elegbeleye and Femi-Pearse<sup>[15]</sup> who stated that health education on cigarette smoking should start in primary and secondary schools because their study showed that cigarette smoking by students in secondary schools were influenced by the smoking habits of their parents and friends.

The study further showed that respondents who had been sent to buy cigarettes at a time were not as many as those who had not; this could be due to the fact that all schools in the study were private schools which probably accounted for lesser persons and by extension lesser families with lower socioeconomic status by Nigerian standard. According to a report by the Centre for Disease Control and Prevention

(CDC) in 2017<sup>[16]</sup>, smoking is directly correlated with income level and education as adults with higher income and higher education are less likely to smoke. This could mean that adults with children or wards in private secondary schools may be less likely to send their children to purchase cigarettes.

### **Conclusion**

The findings from this study revealed that students had good knowledge and good perception of the possible health effects of tobacco consumption and the National Tobacco Control Act. Study findings also revealed that though few respondents had been sent to purchase cigarette at a time, majority had seen someone smoking in a public place. Majority also indicated Asthma/Breathing problems as the condition they relate with tobacco consumption.

The study further revealed that respondents found health talks and drama series on television as the best ways to educate students on the health effects of tobacco consumption and the NTC Act. These findings should be considered in the development of interventions for youth-focused tobacco control programs. The study was limited in that all schools within the community were not included in the study sample also the tobacco regulation policy used for developing questions in the study instrument is only applicable to Nigeria. The findings of this study are vital for the development of effective health education and health promotion intervention programs as regards tobacco control so as to significantly reduce the number of projected deaths attributable to tobacco consumption.

Based on the findings from this study it is recommended that health talks should be embarked on as a way of educating students on the health effects of tobacco consumption and the NTC Act to sustain influence on the attitude of students towards smoking. Drama Series on television should be utilized to inform students and the public at large on the health effects of tobacco consumption and educate them on the NTC Act as was done with the "I Need to know" and "Shuga" Television Series which focused on sex education and reached a wide range of Nigerian audience.



## Declarations

### Ethical Approval and consent to participate

Ethical Clearance was obtained from the Ethics and Research Committee of the Hospitals Management Board in Edo State, Reference 438/11/18. Permission was also obtained from the Edo state Ministry of Education and the school principal of each school for the study and community discuss. All participating schools were pre-informed and accepted the invite to participate in the community discuss and study. Through an informed consent form, participants were enlightened on the objective of the study and of their freedom to participate or withdraw at their discretion. They were also assured of confidentiality and anonymity of their identity in the publication of their responses. Participants signed the informed consent form as proof of this agreement. After data collection, participants were enlightened during the community discuss on the most appropriate responses and their questions were addressed.

### Competing interests

The authors declare that they have no competing interests

### Authors' contribution

Charity Aienobe-Asekhare was involved in the conceptualization of the research idea, developed the data collection tool, analysed and interpreted the data and was a major contributor in writing the manuscript.

Victor Ohenhen was involved in the conceptualization of the research idea, was a major contributor in developing the data collection tool, data analysis and writing the manuscript.

Egbe Enobakhare made contributions in writing the manuscript.

All authors read and approved the final manuscript

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