



## KNOWLEDGE, PERCEPTION AND EXPOSURE RISK TO PASSIVE SMOKING AMONG IN-SCHOOL ADOLESCENTS IN IBADAN SOUTHEAST LOCAL GOVERNMENT AREA NIGERIA

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**ABSTRACT:** *Passive smoke contains more than 7,000 chemicals, including hundreds that are toxic and about 70 that can cause cancer. This is because the smoke that burns off the end of a cigar or cigarette contains more harmful substances (tar, carbon monoxide, nicotine, among others) than the smoke inhaled by the smoker. The study investigated the determinants knowledge, perception and exposure risk to passive smoking among in-school Adolescents in Ibadan Southeast Local Government Area, Nigeria. The study adopted a cross-sectional survey design. Multi stage sampling techniques were used to select four hundred and ten participants (414) among in-school Adolescents in Ibadan Southeast Local Government Area, Nigeria. The instrument was a self-report questionnaire to collect data in the study and was subjected to validation. Obtained data was analyzed using descriptive statistics of frequency and percentages. Also, correlation analyses were used to test the hypothesis at 95% confidence level ( $\alpha=0.05$ ). Three research questions and two research hypotheses were tested in the study. The results showed that the mean age was  $17.05 \pm 1.39$  years. The result revealed that the majority of the participants 337(82.2%) had poor knowledge about passive smoking, while 73(17.8%) of the respondents had good knowledge about passive smoking. Also, the result revealed that the majority of the participants 165(40.2%) reported low exposure risk of passive smoking. Correlation analyses show that there is a significant relationship between adolescents' knowledge and exposure risk to passive smoking among in-school adolescents in Ibadan southeast local government area ( $r=0.22$ ;  $p=0.000$ ). There is also a significant relationship between perception and exposure risk to passive smoking among in-school adolescents in Ibadan south east local government area ( $r=0.13$ ;  $p=0.009$ ). The study therefore concluded and recommended that training programmers' should be provided to increase the adolescents' awareness, change their perceptions, increase their ability to protect themselves and help to have a smoke-free environment.*

**KEYWORDS:** Knowledge, Perception, Exposure Risk, Passive Smoking And Adolescents



## INTRODUCTION

Passive smoking also known as secondhand smoke (SHS), or environmental tobacco smoke (ETS), is the inhalation of smoke, by persons other than the intended active smoker. It occurs when tobacco smoke enters an environment, causing its inhalation by people within that environment. Passive smoking is a growing public health problem worldwide, especially in developing countries like Nigeria undergoing rapid socioeconomic and technological development characterized by a transition from traditional to Western lifestyles (WHP 2016; Desalu, Onyedum, Adewole, & Fawibe, Salami, 2011). Passive smoke is a mixture of gases and fine particles that include smoke from a burning cigarette, cigar, or pipe tip, smoke that had been exhaled (breathed out) by someone who smokes (National Toxicology Program, 2011). Passive smoke had also been reported as one of the most important and most widespread exposures in the indoor environment.

Smoking behaviour as a harmful trend among adolescents and young adults has increased over the last two decades. Many children and adolescents are at the risk of "second-hand" smoking at home due to their exposure to parents' or siblings' smoking. These second hand smokers are called "passive smokers" and are at risk of several health complications like cardiometabolic risk factors.

Tobacco smoking remains a major public health concern particularly among young people (Odukoya, Odeyemi, & Oyeyemi, 2013). It is the leading preventable cause of mortality and over five million people die globally from the effects of tobacco every year. Every eight seconds someone, somewhere in the world, dies as a result of using tobacco (Iloh, & Collins, 2017).

According to the World Health Organization (WHO) it is estimated that 1.1 billion people, representing a third of the world population above the age of 15 years, use tobacco, principally in the form of the cigarettes and of these, 700 million of them being males live in developing countries. While smoking rates have been on the decline in the developed countries, they have however been on the high side in the developing countries and it has increased by as much as 50 %, especially in Asia and in the Pacific region. Over the last decade about four million deaths occurred annually as a result of about a 50% increase in the rate of smoking cigarettes in developing countries. In Europe, an estimate of 26% of people aged 15 years and above approximately 100 million people smoke on a daily basis (Action on smoking and health, 2014).

Passive smoke contains more than 7,000 chemicals, including hundreds that are toxic and about 70 that can cause cancer. The explanation is that, the smoke that burns off the end of a cigar or cigarette contains more harmful substances (tar, carbon monoxide, nicotine, among others) than the smoke inhaled by the smoker. Exposure to passive smoke is widely recognized as a significant cause of short-term and long-term health effects with particular concern for the health of vulnerable groups, particularly children (Adejuwon, 2009; Onyeonoro, Chukwuonye, & Madukwe, 2016). There is also evidence linking exposure to passive smoke with various health conditions such as lung cancer, cardiovascular diseases, respiratory conditions, and obstetric complications (Centers for Disease Control and Prevention, 2016).

As the global prevalence of smoking increases so does the health hazards and harm associated with exposure to passive smoke increases with implications for the family and community



health in Nigeria and other parts of the world such as India, Canada, Spain, and New Zealand. Globally, more than a third of the adult world population is exposed to passive smoke, and passive smoke was responsible for 600,000 deaths annually contributing to 1% of global burden of diseases (Eid, Selim, Ahmed, & El-Sayed, 2015). A considerable number of Nigerians are exposed to secondhand smoke (SHS). It has been more reported that more than two million non-smoking adults are exposed to secondhand smoke at home (6.6%), in the workplace (16.2% of adults who work indoors), and in public places (27.6% of adults who visited restaurants, 16.4% in government buildings, and 9% in public transportation (Federal Ministry of Health 2014). Awareness of the adverse health effects of SHS exposure is an especially important factor shaping public attitudes towards smoke-free policies (Desalu, Cajetan, Adewole, Ademola, Fawibe, & Salami, 2011) Research indicates that increased knowledge about the harmfulness of SHS is associated with greater efforts to minimize exposure (Ibama, 2017) reduced SHS exposure among both smokers and non-smokers (WHO, 2009), and adoption of smoke-free home rules (Malek, Cushman, Lackland, Howard, & McClure, 2015; Wipfli HL, & Samet, 2011). Increased awareness of the adverse health effects of SHS exposure is also associated with lower smoking initiation among youth (Tan, & Glantz, 2014) and more favorable attitudes toward smoke-free environments [Ajzen, & Fishbein, 1980; Desalu, Cajetan, Adewole, Ademola, Fawibe, & Salami, 2011].

Residents who have very poor knowledge of passive smoking could hold a positive perception toward passive smoking, such residents could see benefit in passive smoking because of his limited understanding of the danger inherited in passive smoking,

Such residents could likely have positive attitudes and ideas such as staying where a smoker is smoking cigarettes or tobacco, or feel good when a smoker is smoking cigarettes. Residents who also hold a good knowledge about passive smoking could likely have a negative attitude toward passive smoking. The kind of knowledge could inform the type of attitude a resident will have toward passive smoking which invariably will determine the level of exposure to passive smoking. Residents who hold low knowledge toward passive smoking could likely have a positive attitude which invariably could increase their level of exposure to passive smoking. It is against this background that the researchers examine the knowledge, perception and level of exposure of passive smoking among residents in Ibadan Southeast local government area of Oyo state, Nigeria.

Worldwide, it is documented that more than half a million non-smokers die from passive smoking however, the burden of tobacco related morbidity and mortality is considerably higher in developing countries (Malek, Cushman, Lackland, Howard & McClure, 2015).

In a developing country like Nigeria, the problem of passive smoking is so challenging that it constitutes a major threat to the health and wellbeing of non-smokers in Nigeria (Wipfli, & Samet, 2011). These health challenges have also been associated with increased morbidity in adults and children. Studies such as Iloh, and Collins (2017); Olufemi et.al., 2011; Ibama, (2017) have study passive smoking among different population but the role of exposure to passive smoking among residents especially in Ibadan Southeast Local Government Area, Nigeria is relatively scarce in the literature. Hence the gap this study hopes to fill.

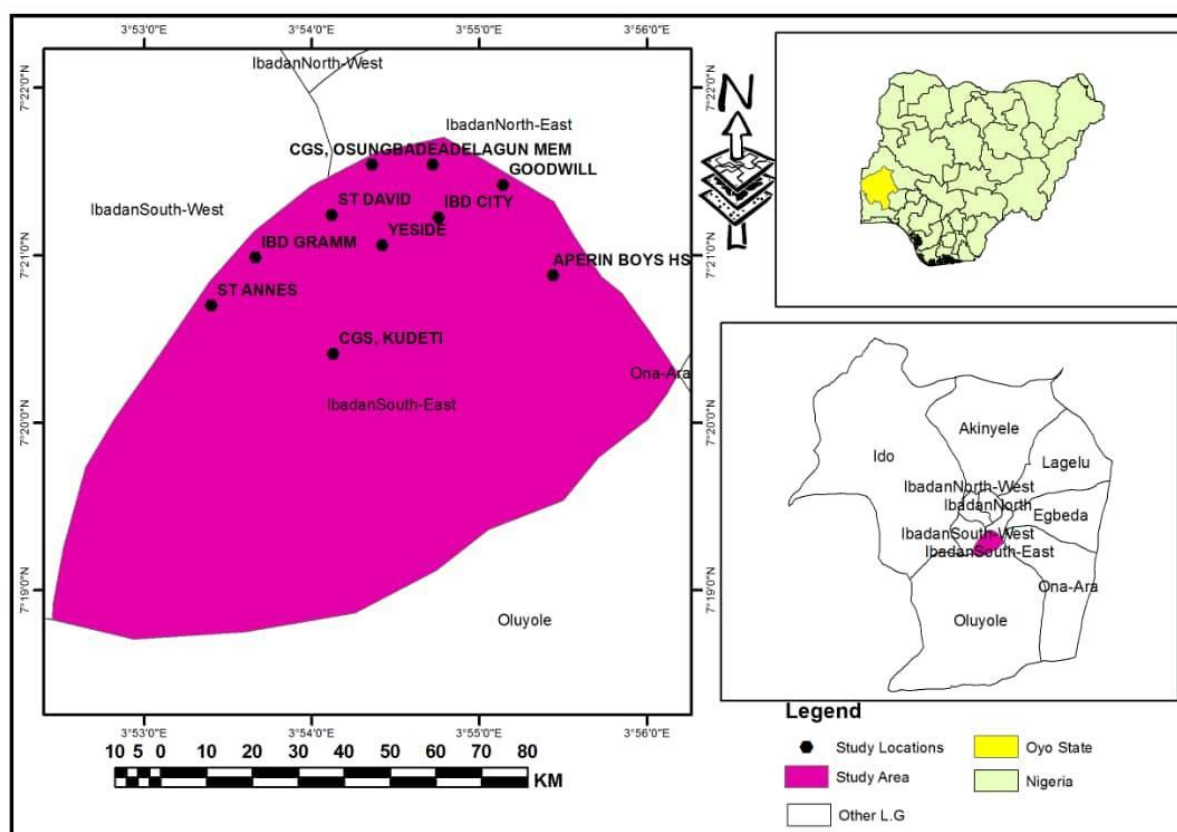
## MATERIALS AND METHODS

### Research Design

This study employed cross-sectional survey using expos-facto design, this is because these variables of interest (knowledge, perception and exposure risk to passive smoking) had already happened or occurred in nature prior to the commencement of the study.

### Description of the Study Area

The study was carried out among in-school adolescents Ibadan South-East Local Government Area in Oyo State, Nigeria (Figure 3). Its headquarters are at Mapo Hall. It has an area of 17 km<sup>2</sup> and a population of 266,046 at the 2006 census.



**Figure 1: Map Showing Ibadan South East Local Government Area**

### Study Population

The study population consists of in-school adolescents in some selected public secondary schools, who have been in Ibadan South East Local Government Area for upwards of a year and given informed consent were recruited to participate in the study.



### Inclusion criteria

Be a Nigeria from any tribe and must be attending public secondary schools in Ibadan South-East Local Government from SS1 to SS3

### Exclusion criteria

Teachers, non-teaching staff, principal, vice principal

### Sample Size Determination:

Participants for the study were selected from some selected public secondary schools in Ibadan South East Local Government in Oyo State. The sample size was calculated using the following sample size calculation method.

A prevalence rate of secondhand smoking was obtained from a study on the Prevalence and factors associated with secondhand smoke exposure among Malaysian adolescents. The study was carried out in 2019.

N= minimum sample size

$$= \frac{Z^2 pq}{d^2}$$

Z = confidence interval at 95%(1.96)

p = prevalence of previous study= 41.5 (which is 0.415 in percentage) (Ghazali et.al.,)

q = 1-P

d= precision (acceptance margin of error=0.05

q=1-(0.415) = 0.585

$$N = \frac{(1.96)^2 \times (0.415) \times (0.585)}{0.05^2}$$

$$N = \frac{3.84 \times 0.415 \times 0.585}{0.0025}$$

$$N = \frac{0.9322560.932256}{0.0025 \quad 0.0025}$$

N = 372.90

N ≈ 373 ≈ 373





To cater for 10% attrition rate

$$n = \frac{n}{1-NR}, \text{ NR} = \text{Non-response rate (10\%)}$$

$$n = \frac{373}{1-0.1}$$

$$n = \frac{373}{0.9}$$

$$n = 414$$

### Data Collection Instrument

#### SECTION A: Consists of socio-demographic variables

Relevant socio-demographic information /characteristics of the participant include: age, gender, Class, religion and ethnicity.

**SECTION B: This section measured knowledge of the participant as regards passive smoking.** This study adopted the Questionnaire developed by Kurtz, Contreras and Booth, (2002): This questionnaire contained six (6) items the scale was in the form of a 5-point Likert response scale ranging from (1 = strongly agree; 2 = agree; 3 = undecided; 4 = disagree; 5 = strongly disagree). With a possible range of 6–30 points. The scoring method applied indicates that higher scores describe more accurate or better knowledge about SHS. The Cronbach alpha reported by the author (0.90) and (0.80) reveals a good internal consistency of the scale.

**SECTION C & D:** These sections measured perception and exposure risk of the participant to the passive smoking. The Avoidance of SHS Exposure Scale developed by Martinelli was adopted. This scale included 19 items that assessed the participants' efforts to prevent SHS exposure. This scale was in the form of a 4-point Likert response scale (1 = almost always true; 2 = usually true, 3 = usually not true; and 4 = almost never true). The author reported a Cronbach alpha of 0.70 which shows a good internal consistency of the scale.

#### Sampling Technique:

The study adopted a multistage sampling technique in the process of selection and collection of data. Simple random sampling which was used to select the school for the survey in Ibadan South East Local Government.

Out of the twenty-six (26) schools in the local Government, ten (10) public secondary schools were randomly selected using balloting. Also, Accidental Sampling Techniques was used to select the participants who gave their consent to participate in the study and meet the inclusion criteria.



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## **Validity and Reliability**

### **Validity**

In order to ensure validity of the questionnaire, a wide range of literature on related studies was reviewed and variables of interest were gathered from the literature reviewed. These variables were used to construct the questionnaire for the study in line with the conceptual framework. My supervisor and experts in public health were given drafts of the questionnaire to examine its relevance, appropriateness and adequacy.

### **Reliability**

The instrument was pretested using a sample of 10 percent of the study sample size, from a similar study population but not the actual study population. Findings from the pre-test were used to scrutinize and reset the items of the instrument for necessary adjustments before the main administration of the instrument to the target population. The Cronbach's Alpha coefficient analysis was used to test internal consistency of the instrument to confirm its reliability. The following Cronbach alpha coefficients were obtained after a pilot study; knowledge (0.64) and perception (0.74), risk of exposure (0.73).

### **Data collection procedure**

The study was a questionnaire driven survey and was administered to the respondents in their various schools. Research assistant who is fluent in speaking both English and Yoruba language was recruited in the collection of the data for the study. The research assistant was adequately trained on administering the questionnaire. The researcher monitored the data collection process so as to avoid errors.

### **Data management and Data analysis**

Data collected was subjected to statistical analysis starting with the data entry and followed by analyzing the research hypotheses. Statistical Package for Social Sciences version 23 (SPSS 23) was used for the data entry and analysis. Descriptive statistics such as frequency counts, percentage, mean and standard deviation were calculated to explain and describe the demographic information while inferential statistics of correlation analysis were used to analyse the hypotheses of the study.

### **Ethical Considerations**

Approval for this study was obtained from Babcock University Health Research Ethical Committee (BUHREC). Permission and participants' consent was sorted from the local government authorities and the schools authorities used for the study. Consent of the participants was sought, after letting them know the purpose of the study, its importance and benefits to their health and education. The students were informed about measures put in place to ensure confidentiality throughout the study. Participation in the study was voluntary and participants were given the option to withdraw from the study at any time they wish.



## RESULTS

A total of four hundred and fourteen questionnaires were prepared and distributed to the respondents and four hundred and ten were returned for statistical analysis.

### Demographic Characteristics of Respondents

The respondent's age ranged from 12 to 20 years with a mean of  $17.08 \pm 1.39$  years. It was revealed that 122 (29.8%) were between 12-16 years old, while 288 (70.2%) were between 17-20 years of age. Results on gender distribution of respondents shows that 226 (55.1%) were male, while 184 (44.9%) were female.

### Respondents Level of Knowledge of passive smoking

The respondents' level of knowledge of passive smoking which showed the total mean score of  $15.58 \pm 4.78$ . The result revealed that majority of the participants 337 (82.2%) had poor knowledge about passive smoking, while small percent 73 (17.8%) of the respondents had good knowledge about passive smoking.

### Respondents' perception about passive smoking

the respondents' perception about passive smoking which showed the total mean score of  $12.57 \pm 4.62$ . The result revealed that majority of the participants 368 (89.8%) had poor perception about passive smoking, while 42 (10.2%) of the respondents had good perception about passive smoking.

### Respondents' level of Exposure risk of passive smoking among in-school Adolescents

The respondents' level of exposure risk of passive smoking with a total mean score of  $38.72 \pm 7.57$ . The result revealed that 165 (40.2%) of the respondents reported low exposure risk of passive smoking, while larger percent 245 (59.8%) had high level of exposure risk of passive smoking.

**Table 4.1: Distribution of respondents based on demographic characteristics**

N=410			
Variables	Options	Frequency	Percent
Age in years (m= $17.05 \pm 1.39$ )	13-15 years	122	29.8
	16-19 years	288	70.2
Sex	Male	226	55.1
	Female	184	44.9
Class	SSS1	22	5.4
	SSS2	156	38.0
	SSS3	228	55.6
	JSS3	4	1.0





Religion	Christianity	241	58.8
	Islam	169	41.2
Ethnicity	Hausa	11	2.7
	Igbo	54	13.2
	Yoruba	345	84.2

### Knowledge of passive smoking among in-school

**Table 4:2** knowledge of passive smoking

Question (N=410)	Response	Frequency	Percentage%
Smoke from other people Cigarettes will shorten my lifespan	Strongly agree	193	47.1
	Agree	120	29.3
	Undecided	25	6.1
	Disagree	35	8.5
	Strongly disagree	37	9.0
Smoke from other people' cigarettes is harmful for me	Strongly agree	184	44.9
	Agree	137	33.4
	Undecided	22	5.4
	Disagree	27	6.6
	Strongly disagree	40	9.8
Smoking should be banned in all public places	Strongly agree	205	50
	Agree	119	29.0
	Undecided	35	8.5
	Disagree	23	5.8
	Strongly disagree	28	6.8
SHS smoke makes my health worse	Strongly agree	138	33.7
	Agree	131	32.0
	Undecided	58	14.1
	Disagree	39	9.5
	Strongly disagree	44	10.7
I let visitors smoke in my home	Strongly agree	40	9.8
	Agree	38	9.3
	Undecided	28	6.8
	Disagree	113	27.6
	Strongly disagree	191	46.6
I ask people around me to put out their cigarettes	Strongly agree	77	18.8
	Agree	63	15.4
	Undecided	46	11.2
	Disagree	76	18.5
	Strongly disagree	148	36.1

**Table 4.2.1 Respondents Level of Knowledge of passive smoking**

N=410		
	Frequency	Percentage (%)
<b>Poor</b>	337	82.2
<b>Good</b>	73	17.8

**Table 4.3: Perception of passive smoking among in-school Adolescents**

Question	Response	Frequency	Percentage
Second Hand smoking causes low birth weight	Strongly agree	168	41.0
	Agree	135	32.9
	Undecided	52	12.7
	Disagree	44	10.7
	Strongly disagree	11	2.7
Secondhand smoking causes ear infections	Strongly agree	128	31.2
	Agree	115	28.0
	Undecided	73	17.8
	Disagree	63	15.4
Secondhand smoking causes heart attacks	Strongly agree	31	7.5
	Agree	195	47.6
	Undecided	138	33.7
	Disagree	38	9.3
Second hand smoking is associated with crib death (SIDS)	Strongly disagree	21	5.1
	Disagree	17	4.3
	Agree	166	40.5
	Strongly agree	128	31.2
Second Hand smoking is associated with allergies in people	Undecided	67	16.3
	Disagree	22	5.4
	Strongly disagree	27	6.6
	Agree	135	32.9
Secondhand smoking is associated with asthma in people.	Strongly agree	140	34.1
	Agree	70	17.1
	Undecided	37	9.0
	Disagree	28	6.8
Secondhand smoking is associated with asthma in people.	Strongly agree	182	44.4
	Agree	136	33.2
	Undecided	35	8.5
	Disagree	27	6.6
Secondhand smoking is associated with asthma in people.	Strongly disagree	30	7.3
	Strongly agree	30	7.3

**Table 4.3.1 Respondents perception about passive smoking**

	<b>N=410</b>	
	Frequency	Percentage (%)
<b>Poor</b>	368	89.8
<b>Good</b>	42	10.2

**Table 4.4.1 Respondents Level of Exposure risk to passive smoking among in-school Adolescents**

	<b>N=410</b>	
	Frequency	Percentage (%)
<b>Low</b>	165	40.2
<b>High</b>	245	59.8

### Hypotheses Testing

The first hypothesis stated that there will be a significant relationship between knowledge and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area. The result of the correlation analysis showed that there is a significant relationship between adolescents' knowledge and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area ( $r=0.22$ ;  $p=0.000$ ). The result is presented in table 4.5

**Table 4.5: Relationship between Knowledge and exposure risk to passive smoking**

<b>Variables</b>	<b>r</b>	<b>P</b>
Knowledge		
Exposure risk to passive smoking	.22**	.000

*\*\*Correlation is significant at the 0.01 level*

The second hypothesis stated that there will be a significant relationship between perception and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area. The result of the correlation analysis showed that there is a significant relationship between perception and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area ( $r=0.13$ ;  $p=0.009$ ). The result is presented in table 4.6

**Table 4.6: Relationship between perception and exposure risk of passive smoking**

Variables	r	P
Perception exposure risk to passive smoking	.13**	.000

*\*\*Correlation is significant at the 0.01 level*

## DISCUSSION

The study indicates that the majority of the participants had poor knowledge about passive smoking, while a small percent of the respondents had good knowledge about passive smoking. This is a contrast with study by Mansour (2017) revealed a higher knowledge score regarding SHS health risks. Compared to the percentage of medical students with adequate knowledge in our study (57.5%), a larger proportion (71.7%) of medical students had adequate knowledge regarding the risks of SHS in three different medical schools in the Central, Western, and Southern regions of the kingdom.

It was also revealed from the results that the majority had poor perception about passive smoking. Given that perceptions about the harm of passive smoking exposure were higher among respondents, this could be attributable to the changing social norms related to the social acceptability of tobacco use and the increased prevalence of smoke-free environments. These findings were not consistent with studies by Center for Disease Control and Conlisk E, Proescholdbell, Pan (2006) showing that smokers are less likely to perceive that passive smoker exposure is harmful. Similarly, a Gallup poll conducted during July 2014 found that 57 % of U.S. adults viewed SHS as ‘very harmful’ (Saad, 2014).

Also, larger percent of the respondents had high exposure risk to passive smoking among in-school adolescents. this support studies by Singh and Lal (2011); Janson (2004); Action on Smoking and Health (2014) adult parents and significant others who smoke in the presence of children have been found to have the greatest impact on young children's respiratory health, with the most common respiratory health effect being the precipitation of asthmatic conditions. Children are especially vulnerable to the health effects of secondhand smoke, according to these studies, since their bodies are still developing and they breathe more rapidly with a higher relative breathing rate, inhaling more toxins from secondhand smoke per body weight than adults.

There was a significant relationship between knowledge and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area. This was in contrast with a study by Centers for Disease Control and Prevention, (2014) which showed that the risk of lung cancer in non-smokers exposed to secondhand smoke has increased by 20%–30%.

Also, Tsai, Huang, Hwang, and Lee (2014) opine that the great concern in the study area was that cigarette smokers have poor knowledge of the magnitude of harm and hazards of sidestream and mainstream smokes from burning cigarettes while innocent non-smokers are not knowledgeable of the possible adverse long-term consequences of exposure to carcinogenic



chemicals from secondhand smoke. The longer one inhales secondhand smoke from burning cigarettes, the greater the risk of developing lung cancer.

There is a significant relationship between perception and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area. The result demonstrates that poor perception of the participants significantly relates to increase in exposure risk to passive smoking which could be damaging to the individual's health. This corroborates the study by Licht, Hyland and Travers (2013) that found that there was relationship between SHS exposure in out-door campuses and respiratory symptoms among adolescents, and found that out-door SHS exposure was positively associated with respiratory symptoms in a monotonically increasing trend.

## SUMMARY

This study investigated knowledge, perception and exposure risk to passive smoking among in-school Adolescents in Ibadan Southeast Local Government Area, Nigeria. Three (3) objectives and two (2) research hypotheses were formulated and tested at 0.05 level of significance. The study adopted a cross-sectional design. Multi-stage sampling technique was used to select ten (10) public secondary schools in Ibadan Southeast Local Government Area. A total of four hundred and fourteen students participated. The questionnaire was subjected to validity with the aid of pilot study. Data was collected through self-administered questionnaires and data collected were analyzed by using descriptive statistics of frequency table, mean and inferential statistics of correlation.

The result of the findings revealed that the majority of the participants had poor knowledge about passive smoking, while a small percent of the respondents had good knowledge about passive smoking.

Larger percent of the respondents had poor perception about passive smoking with small percent of them with good perception.

In addition, most of the respondents were exposed to the risk of passive smoking in their environment.

There was a significant relationship between knowledge and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area.

There is a significant relationship between perception and exposure risk to passive smoking among in-school adolescents in Ibadan Southeast Local Government Area.

## CONCLUSION

It is recognized that the majority of the respondents had poor knowledge about passive smoking among in-school adolescents. It was also revealed that they have poor perception about passive smoking. In addition, respondents had high risk of exposure to passive smoking. There was also a relationship between knowledge and exposure risk to passive smoking. Finally, poor perception relates to exposure risk among in-school adolescents.



## RECOMMENDATION

Based on the findings of this study the following are therefore recommended;

1. In designing effective interventions aimed at reducing exposure to passive smoking among adolescents, the Federal and State Governments must target both socio-demographic and socioeconomic risk factors.
2. Health care providers at State and Local Government levels must plan and implement educational training programs taking into consideration these risk factors for the adolescents.
3. Training programs provided by the Government at all levels should increase the adolescents' awareness and knowledge, change their perception, increase their ability to protect themselves and help them to have a smoke-free environment.
4. Recognition of the harmful effects of passive smoking should be made known to the adolescents and substantially improved the health of non-smoking adolescents who lived with smoking adults by Local Government and School Health Workers
5. The Government at all levels should legislate against public smoking with severe sanction for the deterrents. This will go a long way in ensuring a smoke free society and reduce diseases associated with passive smoking.

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