



Prevalence and Determinants of Smoking Behaviour in Raymond Mhlaba Local Municipality

Akinwumi Sunday Odeyemi¹, Mkrakra Esethu² and Akeem Adewale Oyelana³

^{1&2}*Faculty of Science and Agriculture, Department of Statistics, University of Fort Hare,
Private Bag X1314, Alice 5700, South Africa*

²*Faculty of Commerce and Management, Department of Public Administration,
University of Fort Hare, Private Bag X1314, Alice 5700, South Africa*

E-mail: ¹<aodeyemi@ufh.ac.za>, ²<201007900@ufh.ac.za>, ³<201100592@ufh.ac.za>

KEYWORDS Adolescence. High School. Learners. Cigarette Smoking

ABSTRACT Smoking behaviour is one of the negative social problems in South Africa and this is extensively rampant as it affects the education or learning process of learners in high schools. Previous studies indicate that smoking behaviour is highly dangerous to both parents and children. The objectives of this study was to investigate the prevalence and determinants of smoking behaviour among high school learners in Raymond Mhlaba Local Municipality; to examine the attitudes of high school learners in Raymond Mhlaba Local Municipality towards stopping smoking tobacco. A sample of 180 learners was taken from three selected schools in Raymond Mhlaba Local Municipality. The learners were recruited and served as study participants. Data was collected using a self-administered questionnaire which was designed to measure the prevalence and attitudes of high school learners toward smoking tobaccos. Descriptive and Inferential statistics were used to analyse the data. The results showed that male students are 3.65(OR=3.652, 95%CI (1.527, 8.733)) more likely to smoke than female students. This implies being a male student increases the risk of smoking. In addition, the study also showed that students having the knowledge of harmful effects of smoking are 2.34(OR=2.342, 95%CI (0.946, 5.797)) more likely to smoke than those who do not know the harmful effects of smoking. The study suggests that the knowledge of smoking is not proactive to smoking.

INTRODUCTION

The accumulation of scientific evidence implicating smoking as a health hazard, and particularly as the major cause of lung cancer, has led to an increased sense of responsibility among individuals and agencies concerned with public health to see that young people are made aware of these hazards before they have established smoking as their regular habit. Smoking is a habit that is difficult to break once started and only few number of people succeed to quit this habit, thus it is not a good idea to start smoking. It has become a complex global public health problem and a major health-risk factor linked with development of cancer, heart diseases and diabetes (Winter and Winter 2018).

Several researchers have also reported that cigarette may be the first drug to be used by adolescents in a sequel that may include alcohol, marijuana and hard drugs. Individuals who are not smoking cigarette by the age of 20 are unlikely to become smokers (Mayhew et al. 2000; Faeh et al. 2006). Most adult smokers began to smoke or were already addicted to smoking before the age of 18 (Choi and Stommel 2017). The

younger the age at which young people start to smoke, the more likely they are to become regular smokers in adulthood (Filippidis et al. 2015; Shortt et al. 2016; Rhodes et al. 2016; Nuyts et al. 2018). The learners are also not aware that even if they do not smoke but spend most of the time with smokers that too can affect their health.

The World Health Organization (WHO) has declared smoking as a risk factor for the first eight leading causes of death and has reported cigarette smoking as the underlying cause of one in ten causes of death. This is even urgent because smoking prevention is also an important measure in controlling drug abuses in the population. For other ways of preventing smoking prevalence among secondary school learners, it is critical to understand how they develop attitudes toward cigarette smoking and what affects their smoking behaviour.

It has been suggested that the most effective strategy in tobacco control is preventing youth from taking up smoking (Harvey et al. 2016). Similarly, with high prevalence of smoking among the adults, preventing youth from taking up the habit early is the most effective strategy for reducing smoking prevalence and

therefore reduces smoking related diseases in the population in the future. Currently, smoking habit is one the greatest threats for public health particularly in developing countries.

As smoking is usually initiated during adolescence (Treur et al. 2015; O'Loughlin et al. 2017), it should be a public health and teachers' priority to educate the learners regarding the hazards of smoking, so that their behaviour can be modified. Before initiating such awareness programs, it is important to understand the factors contributing to adolescent smoking and design effective interventions to prevent it. All tobacco products and particularly cigarette smoking lead to serious diseases and deaths worldwide (Sinha et al. 2018).

A series of studies noted that cigarette smoking among youth is a complex behaviour with several identifiable determinants: interpersonal factors (such as family and peer influence), intrapersonal factors (such as self-esteem, individual motivational and attitudinal determinants, as well as cultural setting (Orsini et al. 2016). Peer exerts a negative attitude among adolescents and individuals by challenging them to prove their manhood through performing a risky stunt such as smoking. As such as both girls and boys are made to indulge in risky behaviour they ordinarily they would not have taken, but taking such risky behaviour is the only way of assuring their acceptance among others. By doing so, they become addictive to such behaviour with inherent consequences on their personal well-being and health.

Peer group exerts much influence on adolescents, and no matter how inappropriate their mode of operation may look to adults, being a part of the group gives something momentous to the young person. The acceptance and practice of risky behaviour like smoking among smokers can be traced back to their teens and the kind of moral principles accepted by the peer group. It may be seen like the current smokers are individuals encouraged to make use of different tobacco products by friends they make in school and accepting to smoke to tighten up the bond in their friendship whereas parents, may be the huge effect that leads them to smoke.

Problem Statement

As it is often says that tobacco smoking is dangerous to health and that it causes a lot of

damage as well as reduces the life-span of people, yet people do not desist from consuming tobacco in South Africa. Smoking habits of people in South Africa have increased tremendously despite the huge awareness of dangers and high death rate occurrence in the country. Some of high schools learners in South Africa are also smoking tobacco due to the fact that some of their parents are also smoking. Some of the learners use smoking as a coping tool while others use it as personal growth accompanied by normal development stressors. This study therefore, reveals that the effect of smoking among high school learners in South Africa have affected their academic performance and also brought about negative behaviours especially towards their teachers, such as disrespect, disobedient, rudeness, nonchalant attitude, etc. It is on this note that that this study attempted to investigate the prevalence and determinants of smoking behaviour among high school learners in Raymond Mhlaba Local Municipality.

Objectives of the Study

- ♦ To investigate the prevalence and determinants of smoking behaviour among high school learners in Raymond Mhlaba Local Municipality.
- ♦ To examine the attitudes of high school learners in Raymond Mhlaba Local Municipality towards stopping smoking tobacco.

Research Questions

- ♦ What are the prevalence and determinants of smoking behaviour among high school learners in Raymond Mhlaba Local Municipality?
- ♦ What are attitudes of high school learners in Raymond Mhlaba Local Municipality towards stopping smoking tobacco?

Literature Review

Prevalence and Determinants of Tobacco Usage and Behavior among Secondary School Learners

Every eight seconds someone, somewhere in the world, dies as a result of using tobacco (Singh et al. 2010). The earlier a smoker quits

smoking the less the hazard, as evidence suggests that much of the projected mortality from smoking can be prevented by stopping. As it may seem too easy to start smoking than it is to stop by not starting at all will help the learners live longer than the ones who start using tobacco at an early age. Other researchers have reported that smoking prevalence in learners is complicated by the fact that these young adults believe that they can easily quit smoking, ignoring its addictive properties, and ultimately believe they can be spared from the long-term effects of smoking.

World Health Organization estimates that nearly 5.4 million deaths can be attributed to tobacco usage every year (Khazaei et al. 2016). As Tankard and Paluck (2016) suggested, measurement of several types of social norms will strengthen and show the real effect of social norms toward the measured behaviour (smoking) might be one of the contributing factors to the contradicted finding to those study.

It was reported that about 25 percent of all adolescents who experiment with cigarette smoking become regular smokers, and among the smokers, about one-third will die from a smoking-related diseases. Some of the learners use smoking as a coping tool while others use it as personal growth accompanied by normal development stressors. Worldwide, smoking among adolescents is a growing public health concern. It has been reported by researchers that the current smoking prevalence and behaviours have reported disturbing trends for the future. The secondary school learners are in a process between the adolescence and early adulthood, a time during which any unhealthy behaviour developed may be easily adopted into a lifetime patterns. "On the other hand, Sargent and Hannewinkel (2008 cited in Morrison 2011:16) suggested that the media was the dominant influence and that seeing smoking in movies had the effect of undermining parental anti-smoking practices." As has been shown by different researchers, when a parent or school teacher uses tobacco, the adolescents in their vicinity tend to use tobacco as well (Rudatsikira et al. 2007; Osungbade and Oshimane 2008).

Attitudes of High School Learners towards Stopping Smoking Tobacco

It was found that having good knowledge about harmful effects of smoking and access to anti-smoking media served as protective factors against susceptibility to smoke. The learners who were not taught about the danger of smoking in the class are more likely to use tobacco than those who were taught. Evidences in studies show that adolescents offer cigarettes to, and initiate smoking with their peers (Kirke 2004; Lucas and Lloyd 1999; Robinson et al. 2006). There is therefore need to appraise young people with knowledge about the short and long term harmful effects of smoking. By increasing the cost of tobacco products in local markets and limit the availability of tobacco among learners, may induce current smokers to quit, reduce the consumption of continuing smokers and reduce the initiation of tobacco products by potential smokers. Before initiating awareness programs against tobacco use, one needs to focus on important factors that might contribute to adolescents smoking and design effective intervention to prevent it.

The International Agency for Research on Cancer (IARC) found that there is sufficient evidence to conclude that increase in tobacco taxes increases prices, reduces the initiation and uptake of tobacco use among young people (Chaloupka et al. 2011). Anti-smoking messages written on the cover of the tobacco are seen to be protective of tobacco use among learners. The level of understanding, knowledge and awareness of the danger of cigarette smoking might be related to discipline.

Programs must be implemented to educate parents on how their smoking behaviour is being transmitted to their children, with a special focus on maternal influences. Thus, the parental counselling about the influence of family tobacco use on their children may bring about encouraging results on initiation of tobacco among children. Tobacco use prevention campaigns aimed at the youth should be implemented (Ross et al. 2015), and laws restricting tobacco marketing must be enforced. The idea of having friends who smoke or family members also increases the prevalence of smoking among

learners, thus such factors need to be considered, educate learners not to start taking tobacco as it is hard to quit. Thus, it is hoped that this study may contribute to serve as foundation for relevant programs to control tobacco and its products.

It is very important to mention that various studies conducted have revealed that since tobacco use is a habit that has been shown to start at young age (Watt et al. 2003; Silva et al. 2006, Kwamanga et al. 2003), it is therefore important to ascertain the magnitude of tobacco use and its associated factors and institute appropriate intervention at this young age. Thus, it will be wise to introduce awareness, restriction of tobacco use and focus primarily on intervention strategies among secondary school learners. As smoking is usually initiated during young age (Treur et al. 2015; Shortt et al. 2016), it should be a public health priority to educate children in their residences regarding the hazards of smoking so that their behaviour can be modified. It has been suggested that the most effective strategy in tobacco control is preventing youths from taking up smoking (Harvey et al. 2016).

RESEARCH METHODOLOGY

The cross-sectional study with 2-stage sampling was designed to determine the prevalence and determinants of smoking among secondary school learners, selected schools in Raymond Mhlaba Local Municipality in the Eastern Cape. The respondents were interviewed about their experience with tobacco smoking and community, friends and family exposure to tobacco, whether they were taught to stop smoking in school, about harmful effects of tobacco use and attempts to quit smoking. The method of questionnaire administration which was self-administered and conducted in three randomly selected schools was used to collect the data. Before the questionnaire was distributed to learners it was explained and the confidentiality of personal data was assured. The respondents were ordered to tick on a single answer to each question or fill in where appropriate, the importance of giving truthful and sincere results were emphasized to respondents. The assistance dur-

ing the procedure of filling in the questionnaire for those who may need clarification on any of the questions was provided. Then the filled questionnaires were collected and entered into the computer (Microsoft Office, Excel).

Three randomly selected schools were chosen and the questionnaire was distributed among these selected schools. One of the schools that was supposed to take part in the study refused and gave their reasons for not taking part in the study. Since the survey was carried out during the high school examinations it was not easy to get all the grades intended, especially grade 12. Others lower grades were also busy writing their examinations although the researchers managed to get number of students who had finished writing. As a result, participations from grade 11 and 12 students were generally low from all the sampled schools. The initial total population sample size intended for the study was 256 students; however the researchers finally had 181 eligible students who returned completed questionnaires. The study population included the students in grade 9 – 12. All the students within the selected classes who were eligible were invited to participate regardless of their ages. A class from each school was selected randomly and self-administered questionnaire was explained to learners and distributed.

Data Collection Procedure

Questionnaires were administered to all learners from grade 9-12. All the students expressed their willingness to participate. To ensure the privacy of students, the teachers were not present during the administration of the questionnaire. Questionnaires were collected same day they were distributed and it only took the respondents 5-10 minutes to complete. The questionnaire aimed to collect the information on prevalence of cigarette smoking, knowledge and attitudes of learners towards smoking. A structured questionnaire having two sections A and B with 23 questions in all was used to collect the data. Section A which dealt with general information of participants and while section B contained questions on knowledge and attitudes towards smoking habits.

Sample Size

The sample size of the study was 198 and questionnaires were distributed as follows: school one 63, school two 35 and school three 100. The total number that was returned was 180 out of 198 which indicates of 91 percent response rate.

Data Analysis

All the questionnaires were reviewed and data collected from all three schools were arranged together, entered into computer (that is, Microsoft Excel 2010) and analyzed using Statistical Package for the Social Science (SPSS) data analysis software. Descriptive variables are expressed as frequency, mean and overall range (minimum and maximum). An independent sample t-test was used to compare the mean scores of knowledge, attitude, religion, and perceived vulnerability of those who were current smokers, and those who were non-smokers. Simple frequency tables were generated as well as cross-tabulation done to check for levels of statistical significance at $p < 0.05$. Using the statistical significance multiple logistic regression analyses were carried out to determine the factors associated with tobacco smoking. Variables were first examined descriptively both to characterize the sample and to determine whether they appeared related to smoking status. Variables that appeared related to smoking status (current smoking) were then analyzed using univariate logistic regression analysis.

FINDINGS AND DISCUSSION

Demographic Characteristics of Respondents

Out of 198 students who completed the survey, only 180 were returned by the respondents, that is, 90.91 percent response rate. Of them, 86(47.8%) were male and 94(52.2%) were female. Since the researchers could not managed to get all grade level, they only found the 51(28.3%) of grade 9, 53(29.4%) of grade 10, 53 (29.4%) of grade 11 and 23 (12.8%) of grade 12 due to process of final examination which grade 12 already started as at the time of the administration of the questionnaire. The researchers only got 12.8

percent of respondents which were grade 12 learners that were available during survey. Thus grades 9 and 10 were the most represented by both 29.4 percent of response. One-third of the respondents, 16.7 percent, had ever smoked while the prevalence of current smoking was 12.2 percent with 11.1 percent being regular smokers and 8.9 percent being occasional smokers. Learners that repeated class reported as 23.3 percent. The most influential reasons to smoke were having the friends who smoke 53.9 percent. Judging at their academic performance there are few that obtain excellent 23.9 percent, good 51.7 percent, moderate 24.4 percent which you can tell that some of these learners their behaviour of smoking affects them academically. The other baseline characteristics of respondents are showed in Table 1.

The findings of the study as reflected in Table 2 show the knowledge and attitudes of respondents toward smoking. The main reasons of starting smoking were imitation of friends with 67.2 percent, curiosity 13.3 percent, it is thought to be relaxing 15 percent and others being 4.4 percent. Similarly, the results from the findings of the study conducted by Baheiraei et al. (2016) revealed that the main reasons of starting smoking were a result of the following “personal factors which include subcategories of imitation, show-off and independence, inexperience and curiosity, personal interest and desire, improved mood, and social defiance.” In addition, Tam and Foo (2013) cited in El-Kazdough et al. (2018) revealed that “for adolescents, substance use tends to be acquired through experimentation and curiosity, particularly through peers”. However, Haddad (2015) “reported that environmental variables such as curiosity and experimentation may be important factors for substance use among male adolescents while in females, such determinations are more likely to be emotional and psychodynamic in nature.” Realistically, the finding of this study has shown that most of these learners 77.8 percent have been taught about health problems when taking tobacco. Despite the awareness or knowledge about the harmful effect, the consumption of tobacco smoking still persists. This is similar to the study conducted by Haddad (2015) who also revealed that, in Nigeria, despite a lot of awareness created by teachers to many Senior Secondary School

Table 1: General characteristics of respondents (n=180)

Variables	n (%)	
<i>Age</i>		
14-17	136	(76.0)
18+	43	(24.0)
Mean (Std.dev)	16.38	(1.648)
<i>Gender</i>		
Male	86	(47.8)
Female	94	(52.2)
<i>Class Level</i>		
Grade 9	51	(28.3)
Grade 10	53	(29.4)
Grade 11	53	(29.4)
Grade 12	23	(12.8)
<i>Religion</i>		
Christianity	109	(60.6)
Traditional	69	(38.3)
Muslim	2	(1.1)
<i>Have You Repeated a Class?</i>		
Yes	42	(23.3)
No	138	(76.7)
<i>Are You Smoking?</i>		
Yes	30	(16.7)
No	149	(82.8)
<i>Knowledge of Harmful Effects of Smoking</i>		
Yes	110	(61.5)
No	69	(38.5)
<i>Type of School</i>		
Public school	146	(81.1)
Private school	34	(18.9)
<i>Most Influential Reason(s) to Smoke</i>		
Drinking (parties, dance/disco etc.)	38	(21.1)
Friends who smoke	97	(53.9)
Academic stress	30	(16.7)
Other	15	(8.3)
<i>Within The Last 30 Days, How Many Times Did You Smoke?</i>		
Never	143	(79.4)
1-10 times	22	(12.2)
11-20 times	6	(3.3)
More than 20 times	9	(5.0)
<i>Your Smoking Status</i>		
Non-smoker	144	(80.0)
Regular smoker	20	(11.1)
Occasional smoker	16	(8.9)
<i>Your Academic Performance</i>		
Good	93	(51.7)
Moderate	44	(24.4)
Excellent	43	(23.9)

students in the study area with regards to the negative effects of taking, the consumption of tobacco still remains rampant. Haddad further revealed that, these students were warned severely about smoking hazards or health problems of taking tobacco and advised to quit smoking.

Table 2: Knowledge and attitudes toward smoking (n=180)

Characteristics	n (%)	
<i>Have you ever been taught in school about health problems due to smoking?</i>		
Yes	140	(77.8)
No	40	(22.2)
<i>Do you think smoke from other people's cigarette is harmful to you?</i>		
Yes	126	(70.0)
No	54	(30.0)
<i>Do you think smokers have more friends than non-smokers?</i>		
Yes	131	(72.8)
No	49	(27.2)
<i>Preferable place for smoking</i>		
Don't smoke at all	129	(71.7)
Home	13	(7.2)
School	9	(5.0)
Outside home (other than school)	29	(16.1)
<i>Reason(s) for smoking?</i>		
Imitation of friends	121	(67.2)
Curiosity	24	(13.3)
It's relaxing	27	(15.0)
Other	8	(4.4)
<i>Did you make attempt(s) to quit smoking?</i>		
Yes	97	(53.9)
No	83	(46.1)
<i>Why do you want to quit smoking?</i>		
Save money	42	(23.3)
Keep good health	89	(49.4)
Self-discipline	45	(25.0)
Other	4	(2.2)
<i>I have friends that smoke</i>		
Yes	97	(53.9)
No	83	(46.1)
<i>Which of the following member of your family is a smoker?</i>		
Father	48	(26.7)
Mother	6	(3.3)
Brother(s)	46	(25.6)
Sister(s)	1	(0.6)
Relative	71	(39.4)
Other	8	(4.4)
<i>Father's education</i>		
High school or less	80	(44.4)
College	30	(16.7)
University	65	(36.1)
Other	5	(2.8)
<i>Mother's education</i>		
High school or less	76	(42.2)
College	47	(26.1)
University	54	(30.0)
Other	3	(1.7)
<i>Have you ever been offered free cigarette or tobacco?</i>		
Yes	27	(15.0)
No	121	(67.2)
Many times	32	(17.8)

ing. Most of them have tried to quit smoking (53.9%), the reasons of quitting smoking were to save money (23.3%), keep good health (49.4%), self-discipline (25.0%) and others (2.2%). 72.8 percent of the respondents claimed that smokers have more friends than non-smokers. Attitude of family members play a major role in influencing decision to smoke among adolescents. Since the backgrounds of learners affect their behaviours, the people who surround them can affect adolescents towards smoking. Adolescents are still at the stage of behavioural formation, they tend to emulate things they see around them. This study found that 39.4 percent relatives, 26.7 percent father, 25.6 percent brother(s), other 4.4 percent, 3.3 percent mother and 0.6 percent sister(s) are smokers. The study

conducted by Taheri et al. (2015) similarly revealed “that the students had smokers in their family, father, mother, brother or sister”. The backgrounds depicted in the results may be one of the major risk factors of smoking among the adolescents sampled in the study.

The findings of the study as reflected in Table 3 focuses on the variables such as the age, gender and other general information with regards to the knowledge and attitudes of respondents toward smoking. In addition, it is very important to mention that, Table 3 also shows the test statistics and present value. Students in the age group 14-17 years are almost half (OR=0.472, 95% CI(0.204,1.093)) less likely to smoke than students who are 18 years and above. These imply that being less than 18 years is protective

Table 3: The variables such as the Age, gender and other general information with regards to the knowledge and attitudes of respondents toward smoking as well as their test statistics and present value

Variables	Respondent smokes cigarette		Test statistics and p-value
	Yes	No	
<i>Age</i>			
14-17	19(63.3%)	117(78.5%)	OR = 0.472 ,95%CI(0.204,1.093) $\chi^2=9.23$, P= 0.076. df = 1
18+	11(36.7%)	32(21.5%)	
<i>Gender</i>			
Male	22(73.3%)	64(43%)	OR = 3.652 ,95%CI(1.527,8.733) $\chi^2=9.23$, P= 0.002**. df = 1
Female	8(26.7%)	85(57%)	
<i>Do you have the knowledge of harmful effects of smoking?</i>			
Yes	23(76.7%)	87(58.4)	OR = 2.342, 95%CI(0.946,5.797) $\chi^2=3.522$,P=0.061, df=1
No	7(23.3%)	62(41.6%)	
<i>I have friends that smoke</i>			
Yes	29(96.7%)	68(45.6%)	OR = 34.544, 95%CI (4.585, 260.240) $\chi^2=26.195$,P=0.000***, df=1
No	1(3.3%)	81(54.4%)	
<i>Have you ever been offered free cigarette or tobacco?</i>			
Yes	11(36.7%)	16(10.7%)	$\chi^2=53.965$,P=0.000***,df=2
No	3(10.0%)	117(78.5%)	
Many times	16(53.3%)	16(10.7%)	
<i>Have you repeated a class?</i>			
Yes	13(43.3%)	28(18.8%)	OR=3.305, 95%CI(1.440,7.585) $\chi^2=8.517$,P=0.004**, df=1
No	17(56.7%)	121(81.2%)	
<i>Do you think smokers have more friends than non-smokers?</i>			
Yes	26(86.7%)	104(69.8%)	OR=2.813, 95%CI(0.928,8.528) $\chi^2=3.574$, P=0.059, df=1
No	4(13.3%)	45(30.2%)	
<i>Have you ever been taught in school about health problems due to smoking?</i>			
Yes	27(90.0%)	113(75.8%)	OR=2.867,95%CI(0.821,10.012) $\chi^2=2.939$,P=0.086,df=1
No	3(10.0%)	36(24.4%)	
<i>Type of school</i>			
Public	22(73.3%)	123(82.6%)	OR=0.581,95%CI(0.233, 1.449) $\chi^2=1.379$,P=0.24, df=1
Private	8(26.7%)	26(17.4%)	

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

of smoking. The association between age and smoking is not however significant, $\chi^2=9.23$, $P=0.076$, $df=1$. Male students are 3.65 (OR=3.652, 95% CI(1.527,8.733)) more likely to smoke than female students. This implies being a male student increases the risk of smoking. The association between gender and smoking is also significant, $\chi^2=9.23$, $P=0.002$, $df=1$.

The study also showed that students having the knowledge of harmful effects of smoking are 2.34 (OR=2.342, 95% CI (0.946,5.797)) more likely to smoke than those who do not know the harmful effects of smoking. In the same vein, the survey study conducted by Kennedy et al. (2011) revealed that, "despite more than 50 years of literature about the adverse effects of smoking, awareness of the range of health risks associated with smoking is neither high nor uniform among either smokers or non-smokers. Studies have found that there are significant gaps in smokers' knowledge and understanding of the health risks of smoking, in particular knowledge about health conditions that affect quality of life, including impotence (Hammond et al. 2006 cited in Kennedy et al. 2011), osteoporosis, and early menopause (Roth and Taylor 2001, cited in Kennedy et al. 2011). It is not well understood to what extent smokers or non-smokers are aware of the link between tobacco smoking and "blindness"; however, there are indications that knowledge of a causal association is very low" (Bintz 2006). This suggests that the knowledge of smoking is not proactive of smoking. The association between Do you have the knowledge of harmful effects of smoking?; and smoking is not significant, $\chi^2=3.522$, $P=0.061$, $df=1$.

According to the study, students having friends who smoke are 34.54 (OR = 34.544, 95% CI (4.585, 260.240)) more likely to smoke than students whose friends are not smoking. This is an indication that having friends that smokes increases the risk of smoking. The association between I have friends that smoke and smoking is highly significant, $\chi^2=26.195$, $P=0.000$, $df=1$. The association between smoking and have you ever been offered free cigarette or tobacco? Were found to be significant, $\chi^2=53.965$, $P=0.000$, $df=2$. The study also found that students who are repeating a grade level are 3.31 (OR=3.305, 95% CI(1.440,7.585)) more likely to smoke than students who are not repeating a grade level. In the

same view, the findings of the study conducted by Byrd (2005) cited in Kamal and Bener (2009) indicated that "children who fail in school are more likely to engage in subsequent health-impairing behaviours as adolescents like smoking, drinking and drug abuse". In addition, Kamal and Bener (2009) in a study conducted "on a total 699 children who were classified as school failures revealed that, social reasons which include living with one parent 26.9 percent, parental divorce (27%) parents showing no interest in their child's education and school system (41.6%), low income (19.3%), and smoking (19.6%)" were identified as some of the reasons found among students who are repeating a grade level. This is an indication that being a repeater increases the risk of smoking. The association between have you repeated a class? and smoking is significant, $\chi^2=8.517$, $P=0.004$, $df=1$. Students who thought smokers have more friends than non-smokers are 2.81 (OR=2.813, 95% CI (0.928,8.528)) more likely to smoke than students who do not think smokers have more friends than non-smokers. Having the belief that smokers have more friends increases the risk of smoking. The association between do you think smokers have more friends than non-smokers? and smoking is not significant, $\chi^2=3.574$, $P=0.059$, $df=1$.

Having being taught in class about the health problems of smoking seems to have no effect on students' attitude towards smoking. The study showed that students that have been taught in class about health problem of smoking are 2.867 (OR=2.867, 95% CI(0.821,10.012)) more likely to smoke than students who have not been in class about the health problems of smoking. This implies that being taught the health problems of smoking is not protective of smoking. The association between have you ever been taught in school about health problems due to smoking? and smoking is not significant, $\chi^2=2.939$, $P=0.086$, $df=1$.

Students in the public school are 0.581 (OR=0.581, 95% CI(0.233, 1.449)) more likely to smoke than students studying in the private school. From this, the study showed that being in the public school is protective of smoking. The association between school type and smoking is however not significant, $\chi^2=1.379$, $P=0.24$, $df=1$.

CONCLUSION

The study found that the prevalence of cigarette smoking among students in the samples school to be 16.8 percent. This figure contrasts some of the previous studies conducted in other places such as Nigeria which range from 3.4 – 5.3 percent and in South Africa which reported cigarette smoking prevalence of 27 percent.

RECOMMENDATIONS

Learners in high schools across the globe should be discouraged from smoking and they should be well informed of the both the danger and effects of smoking to health. Under-estimating the effect of smoking on health is apparent from the behaviours of high school learners as smokers are actually aware of these health hazards. Friends have major impact on learners' decision regarding smoking. Smoking in school either during or after school hours should be banned. The school curriculum in both public and private schools should be evaluated for improvement and strategies adopted in educating learners on health related issues on smoking should be reviewed.

REFERENCES

- Baheiraei A, Mirghafourvand M, Mohammadi E, Majdzadeh R 2016. Experiences of Cigarette Smoking Among Iranian Educated Women: A Qualitative Study. From <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4977981>> (Retrieved on 31 July 2019).
- Bintz D 2006. Eye See Tobacco Free Program targets new contact lens wearers on dangers of tobacco use. *Rural Roads*, 4: 10-17.
- Byrd RS 2005. School failure: Assessment, intervention, and prevention in primary paediatric care. *m Paediatrics in Review*, 26(7): 227-237.
- Chaloupka FJ, Straif K, Leon ME 2011. Effectiveness of tax and price policies in tobacco control. *Tobacco Control*, 20(3): 235-238.
- Choi SH, Stommel M 2017. Impact of age at smoking initiation on smoking-related morbidity and all-cause mortality. *American Journal of Preventive Medicine*, 53(1): 33-41.
- El-Kazdoui H, El-Ammari A, Bouftini S, El Fakir S, El Achhab Y 2018. Adolescents, Parents and Teachers' Perceptions of Risk and Protective Factors of Substance Use in Moroccan Adolescents: A Qualitative Study. From <<https://substanceabusepolicy.biomedcentral.com/articles/10.1186/s13011-018-0169-y>> (Retrieved on 4 August 2019).
- Faeh D, Viswanathan B, Chiolerio A, Warren W, Bovet P 2006. Clustering of Smoking, Alcohol Drinking and Cannabis Use in Adolescents in a Rapidly Developing Country. From <<https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-6-169>> (Retrieved on 29 July 2019).
- Filippidis FT, Agaku IT, Vardavas CI 2015. The association between peer, parental influence and tobacco product features and earlier age of onset of regular smoking among adults in 27 European countries. *The European Journal of Public Health*, 25(5): 814-818.
- Haddad MM 2015. *Prevalence and Patterns of Psycho Active Substance Use Among Senior Secondary School Students in Dala Local Government Area of Kano State, Nigeria*. Master's Dissertation, Unpublished. Enugu: University of Nigeria, Enugu Campus.
- Hammond D, Fong GT, McNeill A, Borland R, Cummings KM 2006. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: Findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control*, 15(Suppl 3): iii19- iii25.
- Harvey J, Chadi N, Canadian Paediatric Society and Adolescent Health Committee 2016. Strategies to promote smoking cessation among adolescents. *Paediatrics & Child Health*, 21(4): 201-204.
- Kamal M, Bener A 2009. Factors contributing to school failure among school children in very fast developing Arabian Society. *Oman Medical Journal*, 24(3): 212-217.
- Kennedy RD, Spafford MM, Parkinson CM, Fong GT 2011. Knowledge about the relationship between smoking and blindness in Canada, the United States, the United Kingdom, and Australia: results from the International Tobacco Control Four-Country Project. *Optometry-Journal of the American Optometric Association*, 82(5): 310-317.
- Khazaei S, Mohammadian-hafshejani A, Pishkuhi MA, Hamid Salehiniya H 2016. Proportion of mortality attributable to tobacco worldwide. *Iran J Public Health*, 45(3): 399-400.
- Kirke DM 2004. Chain reactions in adolescents' cigarette, alcohol and drug use: Similarity through peer influence or the patterning of ties in peer networks? *Social Networks*, 26(1): 3-28.
- Kwamanga D, Odhiambo J, Amukoye E 2003. Prevalence and risk factors of smoking among secondary school students in Nairobi. *East African Medical Journal*, 80(4): 207-212.
- Lucas K, Lloyd B 1999. Starting smoking: girls' explanations of the influence of peers. *Journal of Adolescence*, 22: 647-655.
- Mayhew KP, Flay BR, Mott JA 2000. Stages in the development of adolescent smoking. *Drug and Alcohol Dependence*, 59: 61-81.
- Morrison RA 2011. Parental, Peer, and Tobacco Marketing Influences on Adolescent Smoking in South Africa. From <https://scholarworks.gsu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1212&context=iph_theses> (Retrieved on 4 August 2019).
- Nuyts PA, Kuipers MA, Willemsen MC, Kunst AE 2018. Trends in age of smoking initiation in the Nether-

- lands: a shift towards older ages? *Addiction*, 113(3): 524-532.
- O'Loughlin J, O'Loughlin EK, Wellman RJ, Sylvestre MP, Dugas EN, Chagnon M, Dutczak H, Laguë J, McGrath JJ 2017. Predictors of cigarette smoking initiation in early, middle, and late adolescence. *Journal of Adolescent Health*, 61(3): 363-370.
- Orsini C, Binnie VI, Wilson SL 2016. Determinants and Outcomes of Motivation in Health Professions Education: A Systematic Review Based on Self-determination Theory. From <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4863137/>> (Received on 5 August 2019).
- Osungbade KO, Oshimane FO 2008. Determinants of cigarette smoking among senior secondary school students in a rural community of southwest Nigeria. *Niger JMed*, 17: 40-44.
- Rhodes JD, Pelham WE, Gnagy EM, Shiffman S, Derfinko KJ, Molina BS 2016. Cigarette smoking and ADHD: An examination of prognostically relevant smoking behaviours among adolescents and young adults. *Psychology of Addictive Behaviours*, 30(5): 588-600.
- Robinson LA, Murray DM, Alfano CM, Zbikowski SM, Blitstein JL, Klesges RC 2006. Ethnic differences in predictors of adolescent smoking onset and escalation: A longitudinal study from 7th to 12th grade. *Nicotine & Tobacco Research*, 8(2): 297-307.
- Ross HM, Dearing JA, Rollins AL 2015. Oklahoma's youth-driven tobacco policy campaigns: Assessment of impacts and lessons learned. *American Journal of Preventive Medicine*, 48(1): S36-S43.
- Roth LK, Taylor HS 2001. Risks of smoking to reproductive health: Assessment of women's knowledge. *American Journal of Obstetrics and Gynecology*, 184(5): 934-939.
- Rudatsikira E, Abdo A, Muula AS 2007. Prevalence and Determinants of Adolescent Tobacco Smoking in Addis Ababa, Ethiopia. From <<https://bmcpublishing.biomedcentral.com/articles/10.1186/1471-2458-7-176>> (Retrieved on 29 May 2019).
- Sargent JD, Hanewinkel R 2008. Viewing movie smoking undermines antismoking parental practices. *Przegl Lek*, 65: 415-419.
- Shortt NK, Tisch C, Pearce J, Richardson, EA, Mitchell R 2016. The density of tobacco retailers in home and school environments and relationship with adolescent smoking behaviours in Scotland. *Tobacco Control*, 25(1): 75-82.
- Silva MAMD, Rivera IR, Carvalho ACC, Guerra Júnior ADH, Moreira TCDA 2006. The prevalence of and variables associated with smoking in children and adolescents. *Journal de Pediatria*, 82(5): 365-370.
- Singh I, Anup N, Manjunath BC 2010. Prevalence of tobacco habits among health care students in Jaipur. *JK Science*, 12(3): 116-119.
- Sinha DN, Suliankatchi RA, Gupta PC, Thamarangsi T, Agarwal N, Parascandola M, Mehrotra R 2018. Global burden of all-cause and cause-specific mortality due to smokeless tobacco use: Systematic review and meta-analysis. *Tobacco Control*, 27(1): 35-42.
- Taheri E, Ghorbani A, Salehi M, Sadeghnia HR 2015. Cigarette smoking behavior and the related factors among the students of Mashhad University of Medical Sciences in Iran. *Iranian Red Crescent Medical Journal*, 17(1): e16769.
- Tam CL, Foo YC 2013. A qualitative study on drug abuse relapses in Malaysia: Contributory factors and treatment effectiveness. *Int J Collab Res Intern Med Public Health*, 5: 217-232.
- Tankard ME, Paluck EL 2016. Norm perception as a vehicle for social change. *Social Issues and Policy Review*, 10(1): 181-211.
- Treur JL, Willemsen G, Bartels M, Geels LM, van Beek JH, Huppertz C, van Beijsterveldt CE, Boomsma DI, Vink JM 2015. Smoking during adolescence as a risk factor for attention problems. *Biological Psychiatry*, 78(9): 656-663.
- Watt RG, Daly B, Kay SEEJ 2003. Prevention Part 1: Smoking cessation advice within the general dental practice. *British Dental Journal*, 194(12): 665-668.
- Winter SF, Winter SF 2018. Human dignity as leading principle in public health ethics: A multi-case analysis of 21st century German health policy decisions. *International Journal of Health Policy and Management*, 7(3): 210-224.

Paper received for publication in February, 2019
Paper accepted for publication in August, 2019