Original Article

Assessment of Pattern of Cigarette Smoking and Associated Factors among Male Students in Public Secondary Schools in Anambra State, Nigeria

1. **Nwafor CC,** 2. **Ibeh CC,** 3. **Aguwa EN,** 1. **Chukwu JN**

1. **German Leprosy Relief Association (Enugu),** 2. **Nnamdi Azikiwe University Awka;** 3. **University of Nigeria Enugu Campus**

ABSTRACT

BACKGROUND: The WHO has estimated that there are about 1,300 million smokers globally and about 75% of these are in the developing countries. It is also predicted that if the current pattern of smoking continues, by 2020, there will be 10 million tobacco-related deaths annually worldwide and seven million (70%) of these deaths will occur in the developing countries. The objective of the study was to assess the cigarette smoking pattern and associated factors among male students in public secondary schools in Anambra State.

METHODS: The setting was public secondary schools in Anambra State. The study was in April 2008. It was a cross-sectional survey involving six schools, selected by multistage sampling technique. Eight hundred and fifty male students participated in the study. A semi-structured self-administered questionnaire was used. Qualitative data were collected using Focus group discussion (FGD).

RESULTS: The mean age of respondents was 16±2.1 years. The ever-smoked and current smoking prevalence were 13.1% and 8.7% respectively. Mean age of commencement of cigarette smoking was 13.7±2.6 years. Among smokers, 37.8% were daily smokers. Television (40.7%) and radio (33.3%) were the main sources of advertisement. Peer influence (34.2%) was the main reason for uptake of cigarette smoking. Major reason for not smoking among non-smokers was health concerns (57.9%). There were significant associations between smoking status and age of respondents (^{2}=25.08; P= <0.05), father's smoking status (^{2}=158.77, P < 0.05), awareness of health hazards of smoking (^{2}= 5.13, P = 0.023) and advertisement on television (^{2}= 4.05, P = 0.044) and billboards (^{2} = 44.39, P <0.05).

CONCLUSION: Cigarette smoking prevalence among secondary school boys in Anambra State is high. Health education and strict implementation of anti-smoking policies of the Federal Government of Nigeria is recommended.

KEYWORDS: Cigarette smoking, Anambra state, male students, health education, smoking prevalence

Date Accepted for Publication: 3 December, 2011

NigerJMed 2012: 41-47

INTRODUCTION/LITERATURE REVIEW

Over the past fifty years, scientific evidence has shown that prolonged smoking is an important cause of premature mortality and disability worldwide[1]. Presently, cigarette smoking is the single greatest cause of preventable death globally. It is also the fourth most common risk factor of disease worldwide and is currently responsible for the death of one in ten adults worldwide[2]. The WHO has also estimated that there are about 1,300 million smokers globally and about 75% of these are in the developing countries. It is predicted that if the current pattern of smoking continues, by 2020, there will be 10 million tobacco-related deaths annually worldwide which is more than the combined deaths from malaria, maternal and childhood conditions and tuberculosis[2, 3]. Seven million (70%) of these deaths will occur in the developing countries[3].

Cigarette smoking has been documented to be causally linked to cancers of the lungs, larynx, mouth and pancreas. It is also a risk factor in arteriosclerosis, coronary heart disease, chronic obstructive pulmonary disease and other conditions that constitute a wide array of serious health consequencies[1,] In populations where cigarette smoking has been common for several decades, it has been found to account for 90% of lung cancer; 15-20% of other cancers; 75% of chronic bronchitis and emphysema; 25% of deaths from cardiovascular diseases at ages 35 69 years; 16% of the total annual incidence of cancer cases, 30% of cancer deaths in developed countries and 10% in developing countries[1]. The risk of lung cancer is strongly related to the number of cigarettes smoked, the age of starting to smoke and smoking habits such as inhalation and the number of puffs and the nicotine, the tar content and the length of the cigarettes[4].

Despite the increased morbidity and mortality, the global economic costs resulting from tobacco use are devastating[2,3]. In addition to high public health costs of treating tobacco caused diseases, tobacco kills people at the height of their productivity, depriving families of breadwinners and nations of healthy workforce. Tobacco users are also less productive while they are alive due to increased morbidity. Unfortunately, though consumption rate is decreasing in developed countries it is increasing in developing countries by about 3.4% per annum, having risen dramatically in some countries in recent years[1]. Several reasons have been suggested for the rise in cigarette smoking in the developing countries especially among the young age groups. In addition to aggressive marketing strategies in some countries, tobacco industries operate by denying health evidence

Correspondence: Nwafor CC,
German Leprosy Relief Association (Enugu)

and interfering with national public health laws[3]. Rapid globalization of the world, rapid dissemination of information, ease in international travels etc., have also been mentioned as contributing to widespread smoking habit[5]. Also western models are now set as ideal, while cultural traditional ties are weakened. The effect of these is the adoption of lifestyles simulating that of the West[5]. Smoking is one of such lifestyles which youths in the developing countries including Nigeria are easily embracing with its attendant socio-economic and health ills[5].

Most smokers become addicted to tobacco during their early-habit-forming years. Hence antismoking education campaign though involving the entire population should target the group most at risk [3] i.e. school aged children.[4] Antismoking campaign including Information, Education and Communication (I.E.C) will be necessary strategy to change human behaviour or lifestyles associated with smoking. In order to design effective tobacco control policy among adolescents and youths in low income countries like Nigeria, it is essential to understand smoking patterns and to also determine appropriate Information, Education and Communication media for sources of information about smoking related health problems.

MATERIALAND METHOD

Study design: It was a descriptive cross-sectional study carried out in April 2008 among male students in public secondary school in Anambra state. Anambra State is one of the 36 states in Nigeria. It is located in the south-eastern part of the country. A multi-stage sampling technique was used for the selection of the participants. Two senatorial districts Anambra North and Anambra South out of the three districts in the state were randomly selected by ballot method. A list of the local government areas (L.G.As) in each of the selected senatorial district was drawn and one L.G.A was selected from each list by ballot method.

With the lists of public male secondary schools in the selected L.G.As - Onitsha North L.G.A (urban area) from Anambra North senatorial district and Aguata L.G.A (rural area) from Anambra South senatorial district - as sampling frames, three schools were selected from each of the L.G.As by simple random sampling method. The students in each of the six selected schools were stratified into classes (years of study) J.S 1, J. S 2 (junior secondary), S. S 1, and S.S. 2 (senior secondary). The years of study were further stratified into streams. One hundred and fifty students were selected from each of the chosen schools (six) into the study by systematic sampling method using the class registers as the sampling frames giving a sample size of nine hundred (900) students.

The students in J. S 3 and S.S 3 were excluded from the study because they were taking their certificate examinations at the time of the survey and therefore not available for inclusion in the survey. Female students were excluded from this study because similar studies had recently been carried out among female students in public secondary schools in the same study area by other researchers[5,6].

Ethical approval was obtained from the Ethical Committee of Nnamdi Azikiwe University Teaching Hospital, Nnewi. Informed verbal consent was obtained from the participants and their teachers. Eight hundred and fifty (850) students participated in the study.

The survey instrument was a semi-structured, self-administered questionnaire.

Definition of terms used: Current smokers - those who smoke cigarette at the time of this study irrespective of the frequency and amount. Ever-smokers those who answer 'Yes' to the question, 'Have you ever smoked cigarette?' Ex-smokers those who had smoked before but were not smoking at the time of this study. Non-smokers those who had never smoked before (Never-smokers) and Ex-smokers combined.

Measures and study variables: Males were selected for the study because previous studies[6,16] have been conducted in Anambra State on the prevalence of smoking and social factors and family ties influencing cigarette smoking in young Nigerian female secondary school students. There appears to be paucity of literature on cigarette smoking pattern and associated factors in male secondary school students in Anambra State. This present study seeks to fill this gap in knowledge.

Also many cigarette smokers have their debut in their teens; by this age they are in secondary level of education and are often impressionable. Hence the authors wanted to find out those factors that are present in their environment that may contribute to influencing them to initiate smoking.

Focus groups: Focus group discussions (F.G.D) were conducted in one out of the three selected schools in each selected L.G.A to gather qualitative data. This involved 4 groups with 10 students in each group. It was organized and supervised by a sociologist recruited for this purpose. The F.G.D was on detailed information on why youths engage in cigarette smoking, assessment of knowledge of health consequences of cigarette smoking and factors that dissuade non-smokers from smoking cigarette. Others include factors that influence uptake and current cigarette smoking habit among the students, measures to control cigarette smoking among Nigerian youths and common media sources of information on health matters especially cigarette smoking. Each session lasted for about one hour.

Statistical analysis: The data were entered and analyzed by computer software using Statistical Package for Social Sciences (SPSS) version 11.0**.** Frequency distribution of the independent and outcome variables were carried out. Chi-square test was done to test association between variables. P-value was set at 0.05 and confidence interval used was 95%.

RESULTS

Association of smoking status of students and selected respondents variables: A total of 850 students were studied and the age range was 11 to 30 years with mean age 16±2.1 years. Seven hundred and fifty-one (88.4%) were residential students while the remaining 99 (11.6%) were non resident in the school hostels (Table 1). There were significant associations between smoking status and age of respondents (^{2} for linear trend=24.902; P= <0.05) i.e. as the student gets older the more likely he is to smoke (Table 1). Also those who were aware of health consequences of smoking were significantly less likely to smoke (^{2} = 5.13; P= 0.023) (Table 1).

Smoking habits and age of initiating smoking among respondents: The ever-smoked and current smoking prevalence were 13.1% and 8.7% respectively. Twenty eight (37.8%) of the current smokers smoked daily. Mean age of commencement of cigarette smoking for those who ever smoked was 13.7±2.6 years (Table 2).

Mass media sources of cigarette advertisement and current smoking status of respondents: Television (40.7%) and radio (33.3%) were the main sources of advertisement (Table 3). Significantly more non-smokers got information on smoking from television (^{2} = 4.05; P value = 0.044) while smokers got more information on smoking from billboards (^{2} = 44.39; P value = <0.005).

Table 1: Association of smoking status of students and selected respondents variables

Variable	Smoking Status		Total (%) N=850 (100.0)	X^2 test (P - value)
	Ever Smoked Frequency (%) N=111(13.1)	Never Smoked Frequency (%) N=739 (86.9)		
Age group (Years):				
11 – 15	26 (7.3)	331(92.7)	357 (100.0)	linear trend
16 – 20	79 (16.6)	398 (83.4)	477 (100.0)	= 24.902
21 – 25	4 (28.6)	10 (71.4)	14 (100.0)	(0.000)*
26 – 30	2 (100.0)	0 (0)	2 (100.0)	
Mean age = 16±2.1 years				
Residential status:				
Non residential	14 (14.1)	85 (85.9)	99 (100.0)	0.12
resident	97 (12.9)	654 (87.1)	751 (100.0)	(0.734)
Awareness of smoking as harmful to health:				
Aware	84 (11.9)	623 (88.1)	707 (100.0)	5.13
Not aware	27 (18.9)	116 (81.1)	143 (100.0)	(0.023)*

***Significant**

Most important reason for smoking among smokers (N = 111) and not smoking among non smokers (N = 739): Peer influence (34.2%) was the main reason for uptake of cigarette smoking. Major reason for not smoking among non-smokers was health concerns (60.5%) (Table 4).

Association between smoking status of students and educational level/occupation of parents: The respondents whose fathers smoke are more likely to smoke (^{2} = 158.77, P = < 0.05). Residential status (^{2} = 0.12; P value = 0.734)(Table 1), parents' education and occupation (Table 5) were not significantly associated with smoking habit.

During focus group discussions (FGD) participants gave the following views as the reasons why the youth engage in cigarette smoking: Poor parental upbringing, source of energy and maturity. Some youths take up cigarette smoking as a result of peer pressure, to show that you belong to the group. ***"Bad friends corrupt good friends as bad manners corrupt good manners".***

Table 2: Smoking habits and age of initiating smoking among of respondents.

Smoking habit	Frequency	Percent
Ever smoked		
Yes	111	13.1
No	739	86.9
Total	**850**	**100**
Current smoker		
Yes	74	8.7
No	776	91.3
Total	**850**	**100**
Frequency of smoking among current smokers		
Daily	28	37.8
Each week but not daily	34	46.0
Less than once a week	12	16.2
Total	**74**	**100**
Number of sticks smoked daily by current smokers		
1–10	48	64.9
11–20	24	32.3
21–30	1	1.4
31–40	1	1.4
Total	**74**	**100.0**
Age group of initiation of cigarette smoking		
7–10	9	8.2
11–14	57	51.4
15–18	45	40.4
Total	**111**	**100.0**

Mean age of initiating cigarette smoking was 13.7±2.6 years
The mean number of sticks smoked daily by current smokers was 7sticks/day.

One of the students said: parents influence their children by sending them to buy cigarettes for them and some of them even smoke in the presence of their

children. Occasionally, some parents especially fathers give their children cigarette to have a puff. Some initiate cigarette smoking because their brothers or sisters smoke. *Also, s*ome teachers smoke in the school thereby influencing uptake by some students. Since teachers who are perceived as role models smoke the students then believe that there is nothing socially and physically wrong with cigarette smoking. Advertisements of cigarette smoking in mass media especially when celebrities are used also encourage smoking among these children.

The following were given by the participants in the FGDs as factors that dissuade cigarette smoking: good family upbringing, religious beliefs, waste of money and smoking is banned in school. Some of the students said: ***"My father advised all his children not to smoke cigarette because cigarette smoking is dangerous to health and he does not smoke himself"***

The students suggested the following control measures: ban manufacture, advertisement and sale of cigarettes to children and smoking in public places or in front of

Table 3: Mass media sources of cigarette advertisement and current smoking status of respondents.

Source	Current smoker status			
	Smoker. N=74 Frequency (%)	Non-smoker. N=776 Frequency (%)	Total (850) Frequency (%)	χ^2 test (P - value)
Television: Yes	22(30.0)	324(41.8)	346(40.7)	4.05 (0.044)*
Radio: Yes	27(36.5)	256(33.0)	283(33.3)	0.37 (0.542)
Newspaper/Magazines: Yes	12(16.2)	159(20.5)	171(20.1)	0.77 (0.381)
Billboards: Yes	27(36.5)	77(9.9)	104(12.2)	44.39 (< 0.005)*
Posters: Yes	6(8.1)	70(9.0)	76(8.9)	0.07 (0.793)
Pamphlets: Yes	3(4.1)	31(4.0)	34(4.0)	1.000 (Fisher exact 2-tailed)

*Significant

Some respondents gave more than one option

Table 4 Most important reason for smoking among smokers (N = 111) and not smoking among non smokers (n = 739)

Reasons for smoking among those who smoked		
Reasons	Frequency (N = 111)	Percent
- Peer influence	38	34.2
- Refreshing	19	17.2
- Parental influence	16	14.4
- Habit	10	9.0
- Self assurance	9	8.1
- Sense of maturity	8	7.2
- Manly behavior	6	5.4
- Addiction to nicotine	5	4.5
Total	111	100.0
Reason for not smoking among non smokers*		
Reasons	Frequency (N = 739)	Percent
- Health concerns	447	60.5
- Non-smoking Parents	264	35.7
- Religious prohibition	256	34.6
- Parental disapproval	173	23.4
- Financial waste	135	18.3
- Academic distraction	108	14.6

*Some gave more than one reason

Table 5: Association between smoking status of students and Socio-demographic characteristics of parents

Parents educational level	Current smoking status		Total N=850	χ^2 test (P - value)
	Smoker: Frequency (%) N=74	Non-smoker: Frequency (%) N=776		
Father:				
No formal education	8(15.7)	43(84.3)	51(100.0)	0.78
Primary	19(9.7)	177(91.3)	196(100.0)	(0.675)
Secondary	34(8.0)	391(92.0)	425(100.0)	
Tertiary	13(7.9)	165(92.1)	178 (100.0)	
Mother:				
No formal education	8(18.6)	35(81.4)	43 (100.0)	6.78
Primary	13(8.5)	140(91.5)	153 (100.0)	(0.079)
Secondary	37(9.0)	373(91.0)	410 (100.0)	
Tertiary	16(6.6)	228(93.4)	244 (100.0)	
Parents smoking status				
- Father				
- smoker	45(39.8)	68(60.2)	113(100.0)	158.77
- non-smoker	29(3.9)	708(96.1)	737(100.0)	(0.000)*
- Mother				
- smoker	4(14.8)	23(85.2)	27(100.0)	1.31
- non-smoker	70(8.5)	753 (91.5)	823(100.0)	(0.253)
	Pupils who had ever smoked			
Parents occupation	**Ever smoked N= 111**	**Non - smoker N= 739**		
Father:				2.01
Professional	20(14.6)	117(83.4)	137(100.0)	(0.735)
Semi - Professional	6(8.6)	64(91.4)	70(100.0)	
Skilled	23(12.0)	169(88.0)	192(100.0)	
Semi - skilled	19(14.5)	112(85.5)	131(100.0)	
Unskilled/Unemployed	43(13.4)	277(86.6)	320(100.0)	
Mother:				7.76
Professional	24(11.6)	183(88.4)	207(100.0)	(0.101)
Semi - Professional	3(5.7)	50(94.3)	53(100.0)	
Skilled	15(10.9)	122(89.1)	137(100.0)	
Semi - skilled	12(21.8)	43(78.2)	55(100.0)	
Unskilled	57(14.3)	341(85.7)	398(100.0)	

***Significant**

children by adults; health education on dangers of smoking by priests, parents and teachers; increase the price of cigarette to make it unaffordable to children and establish ant-smoking clubs in schools.

DISCUSSION

The prevalence of those who had ever smoked and current smoker of cigarette of 13.1% and 8.7% respectively obtained among young males in Anambra State, Nigeria indicates high prevalence and compares with some reported findings from other countries and regions.[7,8] It is however higher than some other studies e.g. in Addis Ababa, Ethiopia, current smoking prevalence of 4.5% was obtained among school-going adolescents[9]. Even some Nigerian studies showed less prevalence: In southwest Nigeria, a study in Igboora, Oyo State, found an ever-smoker prevalence of 4.4% and current smoking prevalence of 1.5%[10]. Another study in Ibadan, Nigeria, reported an ever-smoker prevalence of 9.1% and current smoking prevalence of 3.4%[11]. Incidentally, much higher results were obtained from a study in Uganda: an ever-smoker prevalence of 38.7% was found among male secondary school students in Arua, district of Uganda [12] and current smoking prevalence of 25%. These results indicate the wide variation in prevalence of smoking among various communities whether developing or developed. Indeed while smoking was regarded as western culture, findings are now indicating an increasing trend in the developing countries. Within Nigeria differences are also observed: the present study appears also to suggest that young Nigerian males in the eastern part of the country smoke more than their counterparts in the western Nigeria.

The age range of initiation of cigarette smoking obtained among the study population in present study is similar to those obtained in United Arab Emirate[13]. Also the mean age of commencement of cigarette smoking in the present study is similar to documented findings in studies in Malaysia, Czech Republic and Saudi Arabia. For while this study showed a mean age of commencement of 13.7±2.6 years, the studies in Saudi Arabia[14], Czech Republic[15], and Malaysia[16] gave mean age of 15 years, 14 years and 15 years respectively. The age of commencement in Bahrain among secondary school males was 16.8±1.1 years[17]. The Bahraini finding was higher than that obtained in this study. It is worrisome to note in this study that at the age of 7, Nigerian male children might have experienced cigarette smoking. In Czech Republic, a male child had had smoking experience at the age of 5[15]. The finding suggests that young Nigerian adolescents are rapidly embracing smoking habits as early as in the developed world and the middle-east. The early uptake of cigarette smoking among male adolescents has the implication of exposing them to long- term hazards of cigarette smoking[18] since it has been documented that the younger the age of commencement of cigarette smoking the more likely to be a smoking adult[18]

The finding of 7 sticks of cigarette as the mean number smoked per day in this study is slightly less than 10 sticks per day obtained in a Spanish study[19]. About 38% of the current smokers in this study smoked daily. This finding is much higher than 6.3% obtained among similar population in Spain[19] in 2002. The major reason found in the present study for taking up cigarette smoking is peer influence. Peer influence has been documented in several studies as a major reason for taking up cigarette smoking in most parts of the world[7,13]. Studies in Turkey[20], Saudi Arabia[14, 21], United Arab Emirates[13] and Yemen[22] reported that best friends' smoking status had a strong influence on uptake of cigarette smoking among the youth. The finding of health concerns as reason for not smoking among non-smokers corroborates finding in a Jordanian study[7]. Religious prohibition as a major reason for not smoking among non-smokers documented in Malaysia[16] and UAE[13] supports the finding in this study as this study documents religious prohibition as one of the major reasons for not smoking cigarette. The implication of this finding is that involvement of religious leaders in anti-smoking campaigns may be useful in achieving behavioural change in adolescents.

Most respondents in this study indicated television and radio as their most common sources of information on cigarette smoking. Such information could be cigarette advertisements, other indirect enticements to the young people to take up cigarette smoking or information on the dangers of cigarette smoking. It is noteworthy however that these media sources constitute veritable portals through which cigarette companies may reach their target of young people. The sources may also serve as important portals through which anti-smoking campaigns may be mounted and through which health education on the health hazards of cigarette smoking may be targeted at young people. Importantly too, is the fact that any effective initiative to control cigarette smoking among the young people may seriously consider banning cigarette smoking on television, radio and newspapers.

The finding from this present study suggests that it is not necessarily every advertisement that can exert influence on attitude towards cigarette smoking (uptake of cigarette smoking and regular/ current cigarette smoking). This is because this study found that cigarette advertisements on radio, newspapers/magazines, posters and pamphlets as sources of advertisement on cigarette smoking did not have a significant influence on current smoking status of the respondents.

However, television and billboards cigarette

advertisements were found to exert demonstrable influence on the current smoking status of respondents. While significantly more non-smokers got information on smoking from television (^{2} = 4.05; P value = 0.044), smokers got more information on smoking from billboards (^{2} = 44.39; P value = <0.005). The content of these messages may differ e.g. while some television adverts may discourage smoking and hence the greater influence on non-smokers, the billboards may encourage smoking by showing big pictures of celebrities smoking with very little inscription of dangers of smoking. This may have contributed to greater influence in the smokers (possibly they pay more attention to these messages in billboards than non-smokers). It is perhaps pertinent then to ask: Why did billboard cigarette advertisements significantly influence cigarette smoking habits of the youth more than other media sources? During the Focused Group Discussion (FGD), the discussants expressed the use of celebrities in advertising cigarettes on billboards as very "enticing". One of them said, *"I feel good when I see those guys hold the stuff"*. Could the reason be that the life-size images of celebrities on the billboards leave long-lasting impressions on the young minds? Television also has similar effects. The pictures and motions seen on television tend to have lasting impressions on children.

During FGD when the respondents where asked to evaluate their school curriculum vis-à-vis cigarette smoking, some of them said *"health education is not given a priority in the school timetable"*. They also believe that *"parents should tell their children about the dangers of cigarette smoking early enough so that they do not take up the habit"*

In this study, age had a strong influence on uptake of cigarette smoking. This implies that the older the adolescent males the more likely they would take up cigarette smoking. The finding corroborates a study in Riyadh, Saudi Arabia[21]. It is surprising that residential status did not have an appreciable influence on smoking in this study. Generally, boarders (residential students) would be expected to smoke less due probably to stricter school regulation on such vices. Residential students would also be expected to employ more of their time in some activities including sports compared with non-residential students[5].

Present study observed that parents' education did not significantly influence smoking habit. A similar finding was documented in a Bahraini study in 2003[22]. However, some other authors have demonstrated that low parental education has been associated with high prevalence of smoking[20,23,24]. A study in United Arab Emirate[13] showed that differences in parental education (especially of the father) were found to have a significant effect on attitude towards smoking. Contrary to expectations, the study showed the highest prevalence of smoking was found among sons of university graduates and lowest among sons of fathers with no formal education[13]. The finding in this present study could be attributed to limited awareness of the health risks associated with smoking. The limited awareness might be a result of limited anti-smoking campaigns in the area covered by the study. Some of the parents irrespective of their educational level may lack the motivation to dissuade their children from smoking[5].

Parental occupation also showed no association with smoking habit. This is corroborated by finding from other studies[17]. However, a Swedish study showed mothers' occupations to be significantly associated with cigarette smoking among school-going male adolescents[8]. Most studies have consistently shown that parental smoking is strongly associated with youth smoking[9,15,16]. This study is in agreement with these studies with regard to fathers' smoking status. Mothers' smoking status was not associated with the students 'current smoking status, but this might be due to the lower prevalence of smoking among females in Anambra State[5]. A Bahraini study[17] also showed similar finding relating to maternal smoking status and students' current smoking status.

Among non smokers, this study identified health concerns as the main reason for not smoking. This finding is similar to findings from Malaysia[16] where perception of health hazards of smoking exerted strong influence on smoking status of respondents, and findings from Minnesota, USA[21] which revealed that perception of health hazards of smoking was a strong determinant of smoking status among adolescents.

However, it seems plausible that mode of delivery of information, the contexts of delivery and the contents of the message are factors that may affect whether any health education/ information will lead to behavioural change. The relationship between peer influence and cigarette smoking implies that initiatives aimed at controlling cigarette smoking among the youth should include approaches that use the youth to influence the youth. Such approaches include role-plays, youth camps, peer educators, etc.

CONCLUSIONS AND RECOMMENDATIONS

The ever-smoked and current smoking prevalence obtained in this study is high and factors that significantly influence smoking in children include awareness of harmful effect of smoking, father's smoking habit, television and billboard adverts and increasing age.

It is recommended that the government should strengthen and strictly enforce the ban on cigarette advertisement. Television and billboard advert be utilized to discourage smoking. Appropriate education on the harmful effects of smoking should be boldly

included in the adverts. The government should enact and strictly enforce a regulation prohibiting sale of cigarettes to minors. Information, education and communication initiatives should also target parents since young people have been found to take after their habits through the process of social learning (learning by imitation). Finally, health education should be introduced into the primary and secondary school curricula with emphasis on social habits like smoking which are harmful to health.

Study strength and limitations: The study fills a knowledge gap on the smoking habits of male students in the geographical area studied. However, its limitation includes the inability to obtain the contents of these messages that may influence children positively or negatively towards smoking.

Conflict of Interest: The authors have no conflict of interest to declare in present study.

REFERENCES

1. Lucas AO, Gilles HM. Short Textbook of Public Health Medicine for the Tropics. 4th Ed. London. Pomer.2003; 237-238.
2. WHO. Tobacco free initiative: Why tobacco is a public healthpriority.http://www.who.int/tobacco/health_priority/en/index.html. Accessed on 22nd May, 2011.
3. Javaid AH, Hussain SF, Amyn M, Shamsi G, Rza J. Knowledge, attitudes and prevalence of smoking among hospital attendants in a developing country. *Tropical Doctor.* 2003; 33:231-234.
4. Park K. Park's Textbook of Preventive and Social Medicine. 18th ed. Jabalpur India: M/S Banarsidas Bhanot Publishers; 2005. 287-309.
5. Ibeh CC; Ele PU. Prevalence of cigarette smoking in young Nigerian females. *Afr. J. Med. Med. Sci*. 2003; 32: 335-338.
6. Ele PU; Ibeh CC. Influence of family and social ties on cigarette smoking in young Nigerian females. *Indian J. Allergy Asthma Immunol* 2001; 15(2): 97-101.
7. Haddad LG, Malak MZ. Smoking habits and attitudes among university students in Jordan. *Int. J. Nurs. Stud*. 2002; 39(8): 793-802.
8. Von-Bothmer MIK, Mattsson B, Fridlund B. Influences on adolescent smoking behaviour. Siblings' smoking and norms in the social environment do matter. Health - Soc - Care - Community. 2003; 10 (4): 213-220.
9. Rudatsikira E, Abdo A and Muula AS. Prevalence and determinants of adolescent tobacco smoking in Addis Ababa, Ethiopia.*BMC Public Health* 2007; 7:176.
10. Lawoyin TO, Ajumobi OO, Abdul MM, Malik JO, Adegoke DA and Adegbeyi OA. Drug use among senior secondary school students in rural Nigeria. *Afr. Med. Med. Sci.* 2005, 34: 355-359.
11. Omokhodion FO and Faseun BO. Perception of cigarette smoking and advertisement among senior secondary school students in Ibadan, southwestern, Nigeria. *West Afr. J Med*. 2007;26(3):206-209.
12. Mpabulungi L and Muula AS. Tobacco use among high school students in a remote district of Arua, Uganda. Rural and Remote Health 6 (online), 2006. www.rrh.org.au. Accessed 20/6/08
13. Bener A and Al-Ketbi LMB. Cigarette smoking habits among high school boys in a developing country. *Perspectives in Public Health* September 1999;119(3): 166-169
14. Al-Damegh SA; Saleh MA; Al-Alfi MA; Al Hoqail IA. Cigarette smoking behaviour among male secondary school students in the central region of Saudi Arabia. *Saudi Arabia J.* 2004; 25 (2):215-219.
15. Golan L, Lubanda JC, Netuka M, Bosanell l, Lubanda H, Linhart A. Tobacco use amongst high school students in the Czech Republic. *Cent. Eur. J. Public Health* 2004; 12(1): 32-35.
16. Naing NN; Ahmad Z; Musa R; Hamid FRA; Ghazah H; Abubakar MH. Factors related to smoking habits of male adolescents. *Tobacco Induced Diseases* 2004; 2(3): 133-140.
17. Al-Haddad N and Hamadeh RR. Smoking among secondary school boys in Bahrain: Prevalence and risk factors. *Eastern Mediterranean Health Journal* 2003 ; 9(12):309-317.
18. Tyas SL and Pederson LL. Psychosocial factors related to adolescent smoking: a critical review of the literature. *Tob Control*. 1998; 7: 409- 420.
19. Pinilla J, Gonzalez B, Barber P, Sentana YJ. Smoking in adolescents: an approach with multilevel discrete models. *Epidemiol-Community-Health* 2002; 56(3): 227-232.
20. Ugrul E, Susan L, Elif D, Osman H, Neil EC. Influence of social environment on smoking among adolescents in Turkey. *The European Journal of Public Health* 2005; 15(4): 404-410.
21. Knutsson A, Luepker RV, Sprafka JM, Virnig B. Prevalence and trends of cigarette smoking in different occupational groups: Results of the Minnesota Heart Survey 1980-1982 and 1985-1987. *Eur J Public Health.* 1996;6:67-69.
22. Baazeer AA, Hattah AS, Moralesm E. First cigarette smoking experience among secondary school students in Aden, Republic of Yemen. *Eastern Mediterranean Health Journal* 1999; 5(3): 440-449.
23. Metritas S; Sariboyci, MA; Nutiogli, S; Metriatas M; Kalyoncu-C; Etiz S et al. Smoking patterns of university students in Eskisechir, Turkey. *Public Health* 1998; 112(4): 262-264.
24. Roden M, Hanning M and Wall S. Changing smoking habit in Sweden. Towards a better health, but not for all. *International Journal of Epidemiology* 1990; 19:326-322.