

Incidence and variables contributing to onset of cigarette smoking among secondary schoolchildren and medical students in Lagos, Nigeria

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Elegbeleye, O. O. and Femi-Pearse, D. (1976). *British Journal of Preventive and Social Medicine*, **30**, 66-70. **Incidence and variables contributing to onset of cigarette smoking among secondary schoolchildren and medical students in Lagos, Nigeria.** This paper reports the findings of a survey of smoking habits among secondary schoolchildren and medical students in Lagos, Nigeria. Altogether 40% of boys and 8.4% of girls at secondary school, and 72.4% of men and 22.2% of women at medical school were found to smoke. While the smoking habit of the secondary schoolboys was influenced by the smoking habits of their parents and friends, the smoking habit of the secondary schoolgirls and female medical students was mainly influenced by that of their friends. This study provides a baseline against which future studies on smoking habits in developing African countries may be measured, and the results show that health education on cigarette smoking must start in primary and secondary schools.

Cigarette smoking is common in developed countries (Tobacco Research Council, 1967), and diseases associated with cigarette smoking—such as lung cancer, myocardial infarction, and chronic bronchitis—constitute challenging problems in economically developed countries (Doll and Hill, 1952; Oswald and Medvei, 1955; United States Public Health Service, 1972). There have been few reports in the literature about the association between these diseases and cigarette smoking from developing African countries, and these indicate that lung cancer, myocardial infarction, and chronic bronchitis are rare in the African (Femi-Pearse, Adeniyi-Jones, and Oke, 1973; Elegbeleye 1975).

Little is known about the smoking habits of schoolchildren in developing African countries, although Arya and Bennett (1969) studied the smoking habits of university students in Uganda. More studies are necessary for epidemiological and comparative purposes, and this has prompted us to study the smoking habits and the variables contributing to the onset of cigarette smoking among secondary schoolchildren and medical students in Nigeria.

MATERIAL AND METHODS

A total of 2030 secondary schoolchildren and 250 medical students were surveyed. Teams of trained examiners, including the authors of this paper, went to each school. Students were asked to complete detailed questionnaires in the classroom, while the trained examiners offered guidance and read instructions and questions to the pupils. To encourage truthful replies the confidential nature of the inquiry was stressed, and pupils were told not to write their names on the forms. The completed forms were then collected and placed in a sealed envelope by a member of the study group, and students were promised that neither their parents nor their teachers would see them. No attempt was made to obtain information from those who were absent on the day of the survey. Questionnaires were rejected in cases in which the answers were either incomplete or confused.

QUESTIONNAIRE

The questionnaire was divided into four parts and the subjects selected those parts that related

to their smoking status. All subjects completed the first part which consisted of general demographic items and concluded with the definitions of the three categories of smoking behaviour (Palmer, 1970). Each student completed the questions relating to the category which best described him:

1. I never tried to smoke even one cigarette (non-smoker).
2. I have tried to smoke but I do not smoke now (experimental smoker).
3. I smoke all or most of the time (regular smoker).

RESULTS

The analyses were based on a total of 1973 questionnaires or 96% of the total of the secondary schoolchildren; the remainder were either incomplete or incorrect. There were 232 out of 250 completed forms from the medical students, these representing the total number in the halls of residence during the long vacation when the study began.

SECONDARY SCHOOLCHILDREN

SMOKING PREVALENCE

There were 1026 boys and 947 girls. Of the boys 40% were smokers, 22.2% experimental and 17.5% regular. Among the girls, 8.4% were smokers, 5.7% experimental and 2.7% regular (Table I). Taking both boy and girl smokers together 10.4% were regular, 14.2% experimental, and 75.4% non-smokers. A breakdown of regular smokers showed that virtually all were light smokers (less than 15 g daily).

Table II shows the smoking habits by age at the time of the survey. For the boys the proportion of regular smokers tended to increase with age, reaching 40% in the oldest group. For the girls a similar trend appeared in the three younger groups, but there were no regular smokers in those over 18 years of age.

TABLE I
SMOKING STATUS (SECONDARY SCHOOLS) FOR BOYS AND GIRLS

Smoking Status	Boys		Girls	
	No.	%	No.	%
Non-smoker ..	619	60.3	867	91.6
Experimental ..	227	22.2	54	5.7
Regular ..	180	17.5	26	2.7
Total	1026	100	947	100

AGE OF FIRST SMOKE AND REGULAR SMOKING

Table III shows the age of first smoke and regular smoking among secondary schoolchildren. Most of the boys and girls who smoked had their first attempt when between 10 and 17 years and then became regular smokers between 14 and 17 years.

ANALYSIS OF HARMFUL EFFECTS: REASONS FOR SMOKING AND PARENTAL OBJECTION TO SMOKING

A large variety of harmful effects were mentioned. Altogether 65% mentioned cancer of the lung; while 85% of boys and 75% of girls mentioned

TABLE III
AGE AT WHICH SECONDARY SCHOOLCHILDREN STARTED TO SMOKE

Age (years)	Boys		Girls	
	No. having first smoke	No. starting regular smoking	No. having first smoke	No. starting regular smoking
6-9 ..	11	—	—	—
10-13 ..	159	26	23	5
14-17 ..	202	137	53	19
18+ ..	13	17	4	2

TABLE II
SECONDARY SCHOOLCHILDREN: AGE AND TYPE OF SMOKER

Smoking Status ..	10-12 years		13-15 years		16-18 years		19+ years	
	Boys %	Girls %	Boys %	Girls %	Boys %	Girls %	Boys %	Girls %
Non-smoker	68.1	95.8	52.9	88.9	65.1	85.5	53.5	94.1
Experimental	25.5	3.4	26.3	8.2	21.3	4.3	7.0	5.9
Regular	6.4	0.8	20.7	2.8	13.6	10.3	39.5	—
Total number	235	356	338	389	324	117	129	85

coughs and bronchitis. Other harmful effects included bad breath and black lung. About 5% stated that they did not know of any harmful effects. The majority of the parents of both smokers and non-smokers objected strongly to smoking. Over 50% of both boys and girls mentioned pleasure, fun, and relaxation as being their reason for smoking, while 65% of boys and 58% of the girls smoked because their friends smoked; another 30% of the boys and 15% of the girls smoked for concentration and nervousness (Table IV).

TABLE IV
HARMFUL EFFECTS, REASONS FOR SMOKING, AND
OBJECTION BY PARENTS TO SMOKING

	Secondary School			
	Boys		Girls	
	No.	%	No.	%
Harmful effects of smoking				
Lung cancer ..	615	60	616	65
Cough/bronchitis/heart attacks ..	972	95	710	75
Miscellaneous ..	615	60	170	18
No harm ..	51	5	19	2
Parental objection				
Fathers ..	769	75	805	85
Mothers ..	974	95	919	97
Reasons for smoking				
Pleasure, fun, relaxation ..	224	55	52	65
Because friends smoke ..	265	65	46	58
For concentration, nervousness, etc. ..	122	30	12	15

INFLUENCE OF SMOKING BY PARENTS AND FRIENDS

More fathers smoked than mothers, regardless of the students' smoking status, but parental smoking habits had a significant influence on the smoking habits of young secondary school boys ($P < 0.005$ for both fathers and mothers).

SMOKING AMONG FRIENDS

Similarly, the smoking habits of friends had a significant influence on the smoking habits of secondary schoolchildren, both boys and girls ($P < 0.005$).

MEDICAL STUDENTS

SMOKING PREVALENCE

There were 232 students, 196 men and 36 women. While 72.4% of the men smoked only 22.2% of the women smoked, although the number of the women was too small for any definitive conclusion (Table V).

TABLE V
SMOKING STATUS: FOR MALE AND FEMALE
MEDICAL STUDENTS

Smoking Status	Men		Women	
	No.	%	No.	%
Non-smoker ..	54	27.6	28	77.8
Experimental ..	100	51.0	7	19.4
Regular ..	42	21.4	1	2.8
Total ..	196	100	36	100

The proportion of regular smokers was greater in the older men, over 24 years of age, but there were too few women for any age trend to be discernible.

Most of the men had had their first smoke when between 14 and 18 years of age; while most of the women had had their first smoke when between 10 and 17 years of age. The majority of the smokers became regular smokers after 18 years of age. By contrast with the secondary schoolchildren the smoking habits of the parents had no influence on the smoking habits of the medical students.

While the smoking habits of the male medical students were not influenced by those of their friends, the smoking habits of the female medical students were.

HARMFUL EFFECTS AND REASONS FOR SMOKING

Table VI shows that most of the parents of the medical students objected to smoking. As regards harmful effects more medical students than secondary schoolchildren mentioned lung cancer, bronchitis, and coughs. While most of the male medical students smoked for pleasure, relaxation, and concentration, 75% of the female medical students smoked because their friends smoked.

DISCUSSION

There have been several studies to ascertain the smoking habits of schoolchildren in developed countries (Chave and Schilling, 1959; Nilsen, 1959; Palmer, 1970; Bewley, Bland, and Harris, 1974).

This study showed that the incidence of cigarette smoking was 25% among secondary schoolchildren and 65% among medical students. There were no similar studies in secondary schools to the best of our knowledge in African countries. Most of the studies on cigarette smoking among schoolchildren from developed countries reported a higher

TABLE VI
HARMFUL EFFECTS, REASONS FOR SMOKING, AND
OBJECTION BY PARENTS TO SMOKING

	Medical Students			
	Men		Women	
	No.	%	No.	%
Harmful effects of smoking				
Lung cancer	167	85	34	95
Cough/bronchitis/heart attacks	157	80	35	97
Miscellaneous	294	15	7	19
No harm	—	—	—	—
Parental objection				
Fathers	118	60	29	81
Mothers	147	75	28	78
Reasons for smoking				
Pleasure, fun, relaxation	85	60	3	38
Because friends smoke	64	45	6	75
For concentration, nervousness, etc.	78	55	2	25

incidence of 35% and above among boys or both sexes (Nilsen, 1959; Chave and Schilling, 1959; Salber and MacMahon, 1961; Palmer, 1970). However, there have been a few reports on the smoking habits of adults in developing African countries. Femi-Pearse *et al.* (1973) reported their findings in a random survey of the population of Lagos that among men (20 years and older) 41% were cigarette smokers, the figures for other studies were 51.5% among 35 and 54-year-old Africans in a Guyana village (Miller and Ashcrott, 1971), and 31.5% among African university students in Uganda (Arya and Bennett, 1969). In this study when the smokers were divided into regular and experimental smokers, it was found that 10.4% of the secondary schoolchildren were regular smokers while 14.2% were experimental smokers. Among the medical students 19% were regular smokers while 46% were experimental.

Our study also showed that the smoking habits of the secondary schoolchildren were related to the smoking habits of their parents. Studies of adolescent smoking have demonstrated that in cases in which both parents smoked the children were more likely to smoke (Cartwright and Thomson, 1960; Salber and MacMahon, 1961). Bynner (1969) and Holland *et al.* (1969) showed that boys smoked more and started smoking earlier than girls and also that the extent to which they smoked increased with age. It is interesting that most of the secondary schoolchildren who smoked had friends who were smokers. Thus an important factor contributing to the onset of cigarette

smoking among Nigerian students is the fact that they had friends who smoked. This was also true of the medical students.

The reasons given by smokers for their smoking were similar to those given by subjects studied by Arya and Bennett (1969), the most common being pleasure, concentration, relaxation, and social (Table IV).

In their analyses of harmful effects of smoking, the majority of students mentioned cancer of the lung and cough; this was probably a reflection of their education. Furthermore, most medical students mentioned bronchitis and heart attacks as harmful effects.

This study showed that the incidence of cigarette smoking among secondary schoolchildren in Nigeria was significant, although not as high as those reported from developed countries. With improved cash economy consequent upon industrialization of several African towns, the smoking habit will increase. In order to prevent the diseases associated with cigarette smoking, this study showed that efforts should be made to start health education in Africa at primary and secondary school levels. Finally this study provided a baseline against which future studies on smoking habits in developing African countries might be measured.

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