

## Original Article

# Cigarette smoking among medical students in The National Ribat University, Sudan

Osman E O Elamin (1), Sara E O Elamin (1), Badr Altamam A Dafalla (1)

Mohamed E. El-Amin (2), Adil A Elsidig (3)

(1) Medical Student, Faculty of Medicine, The National Ribat University, Sudan

(2) Department of Medicine, Faculty of Medicine, University of Khartoum, Sudan

(3) Department of community medicine, Faculty of Medicine, The National Ribat University, Sudan

## ABSTRACT

The problem of smoking among medical students is common worldwide, but the pattern and extent of the problem varies from place to place. Data from Sudanese medical students is limited. The aims of study was to know the extent of the problem of smoking among medical students, its routes and how it can be reduced. All students in the first and fifth year in the Faculty of Medicine, The National Ribat University were asked to fill a questionnaire regarding their knowledge and practice of smoking and when they started smoking. The questionnaire inquired about the role of their peers and the staff to help them stop smoking. Two hundred and forty (96%) of the first year students and 174 (94 %) of the fifth year students responded by filling the questionnaires. Around 10 % of all students

smoke. Although non-smokers knew much about the problems of smoking, many of the smokers did not. The main influence on students to start smoking was from parents, siblings and friends. Eighty per cent of the smokers are willing to give up smoking and they tried many times. The study showed that little effort was made by the University Staff to help students stop smoking. Most students started smoking in the high secondary schools. There is a need for family community and institutional campaign to contain the problem of smoking.

## Keywords

Cigarette smoking; Medical students; The National Ribat University; Sudan.

## Correspondence:

Osman Eisa Osman Elamin,  
Faculty of Medicine,  
The National Ribat University ,  
PO Box 55, Burri,  
Khartoum, Sudan,  
E-mail: o.elamin@hotmail.com

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## INTRODUCTION

Smoking is the leading cause of preventable morbidity and mortality in the world [1]. Tobacco use claims worldwide 5.4 million lives each year and globally during the past 2 decades cigarette production has increased at an average of 2.2% per year [2]. Although overall cigarette consumption has declined for decades in high-income countries, smoking rates are on the rise in low- and middle-income countries like Sudan [3,4]. In 2000 an estimated 4.83 million premature deaths were attributable to smoking, of which almost 50% were in developing countries [5]. The negative health consequences of smoking are considerable and include cancers of the lung and other organs, chronic lung disease, stroke and other cardiovascular disease [4-6]. Smoking during pregnancy can lead to spontaneous abortions, low birth weight, and sudden infant death syndrome [7]. Involuntary exposure to tobacco smoke also leads to serious health effects [8,9].

The benefits of smoking cessation have been well demonstrated. It reduces health risks and improves quality of life. The cumulative risk of dying from cardiovascular and lung diseases can be significantly reduced (by up to 90%) if smokers quit smoking, even late in life [10,11]. Therefore, every smoker should be actively encouraged to give up smoking. Due to tobacco's highly addictive properties, cessation attempts need to be supported by health care professionals to achieve long-term abstinence.

Physicians are in an ideal position to advise and educate patients about the dangers of smoking. Moreover, they act as visible role models and may unintentionally affect the smoking behavior of others [12]. Their own smoking habits may cloud their judgment and influence their ability to adequately counsel smokers. They are also more likely to maintain attitudes that prevent them from providing patients with anti-smoking advice [13,14]. As one can assume, many of their personal smoking behaviors and beliefs are formed during their medical

education. Any successful tobacco control measures within the medical profession will need to begin prior to graduation from medical school. Undergraduate curricula must include teaching modules focusing on the responsibility that doctors have in disease prevention and training in specific smoking cessation techniques.

Despite the responsibility that physicians have towards their smoking patients, research suggests medical students still do not receive adequate training. A worldwide survey of tobacco curricula revealed that only 11% of medical schools had devoted specific teaching time to tobacco and smoking cessation [15]. Furthermore, a series of significant international studies reported serious deficiencies in medical education on smoking-related issues. Relatively few students (15-38%) found it necessary to advise smokers to quit before they had developed a smoking-related disease [16-19].

In a recent study, Raupach and colleagues [20] assessed the knowledge of medical students from two European cities: London (UK) and Göttingen (Germany). Medical students in both studies lacked relevant information about smoking and its consequences for patients' health. Students underestimated smoking-related mortality and overestimated the chances of reaching old age as a smoker. Furthermore subjects' knowledge of the effectiveness of smoking cessation methods was deficient. Less than a third of medical students felt able to counsel smoking patients. The authors concluded that current curricula about tobacco dependence and control in medical schools need to be improved.

Cigarette smoking is prevalent among students of health care professions. One study showed that 29% were current smokers among students of the College of Applied Medical Sciences in Riyadh, KSA.4 Another study showed that regular smoking has a prevalence rate of 13.6% among medical students at the University College of Medicine in Abha, KSA. [21]

In Kuwait, current smokers were 18.4% and ex-smokers were 15.8%. In Bahrain however, current smokers were 14.6% and ex-smokers were 14.3%.<sup>8</sup> In Sudan there is some work about snuffed tobacco [22] but there is no published data about smoking among students.

The aim of this study is to know the prevalence of cigarette smoking among first and final year medical students and to identify how much students know about the dangers of smoking when entering the medical school and at leaving it. It also aims to study the factors influencing the start and the cessation of smoking among students.

## MATERIAL AND METHODS

A questionnaire was prepared in Arabic and distributed to all students in the first and fifth class of the Faculty of Medicine, The National Ribat University. It included basic bio data, information about students' home situation and questions about who might have influenced students to smoke. It also included questions probing students' knowledge about the dangers of smoking and the driving influence for students to continue smoking. Few questions addressed the relation between smokers and non-smokers; and other questions about the role of the University Staff pertaining to smoking. The questionnaire was designed using the EPI info program which was also used for analysis of the results.

## RESULTS

Four hundred and fourteen questionnaires were distributed to students in the two batches ( first year and fifth year ).Two hundred forty students out of 250 of the first year students responded by filling the questionnaire (96 %). The response for fifth year was 174 out of 185 students (94%).

Females contributed to 63% of the respondents in the

two batches compared to 37% of males. Most of the students in class one were 18-year-old while most of the senior students were 23 – year-old. All students but eleven were single. Most of the students are living with their families and about 13% of them live in the boarding houses while less than 3 % of them live by their own.

The study revealed that 16 out of 240 (6.6%) in the first year were smokers while 25 out of 185 students in the fifth year (14.4%) were smokers. Twenty five of all smokers had at least one family member who smoked while 116 out of the 375 provided history of family smoking (P= 0.00014). Figure 1 shows the influence of family members on the smoking status of the medical students in the two batches. Most of the smokers started smoking very early in the high secondary school (Table 1).

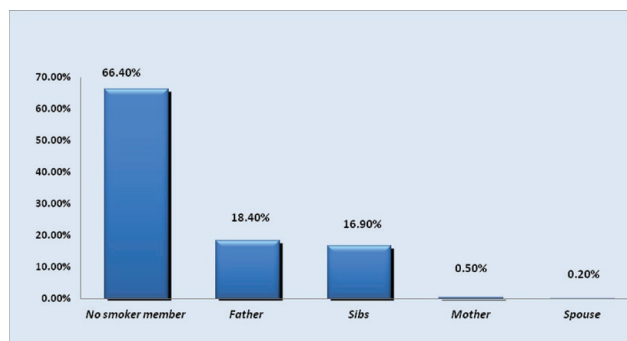


Figure 1. Influence of family members on smoking behavior among medical student.

Table 1 - The start of smoking among students

First smoking experience	Class level	
	First	Fifth
1 year ago	5	2
2 years ago	2	3
3 years ago	3	5
>3 years ago	6	15
Total	16	25

The students mentioned that they continued to smoke because of life and academic pressures. Most students started smoking with 2 cigarettes per day and they remained at a rate of less than 7 cigarettes per day. When smokers abstained from smoking, 18 (44%) of them felt bored, 24% experienced headache and 15% were unable to concentrate. Eighty one percent of the smokers tried to give up smoking and they tried more than three times. Reasons given by students to stop smoking were mainly related to the effect of smoking on health (45%). Other reasons were fear of addiction (47%), pressure from others (17%) and that smoking was not convincing from the start (29%). Most students depended on their self-determination to give up smoking and few tried chewing nicotine gum.

Most of the students in the fifth year could relate smoking to diseases like chronic obstructive pulmonary disease (COPD), peptic ulcer, lung cancer, heart diseases and asthma. Few of the students knew about the relation to diseases like bladder cancer and the effect of smoking on the fetus (Table 2). In fact, first year students knowledge about smoking related diseases was very deficient. This is why when fifth year students wanted to quit smoking they were influenced by this knowledge. When asked about the university environment in relation to smoking, most of them thought that it encourages smoking. In fact only 5 students (12.2%) of the smokers reported that the staff of the university tried to advise them against smoking.

**Table 2 - Knowledge of students about smoking related diseases.**

Smoking related diseases	Class level		Total
	First (240)	Fifth (174)	
Chronic obstructive pulmonary disease	39	10	49
Duodinal ulcer	159	43	202
Lung cancer	0	7	7
Heart diseases	41	18	59
Asthma	57	50	107
Bladder cancer	18	90	108
Stroke	139	60	199
Abortion	130	83	213
Intrauterine growth retardation	87	53	140
Sudden infant death syndrome	141	94	235

On the other hand most of the non-smokers knew much about the relation of smoking to disease and this knowledge reflected on their decision of not to smoke. Bad smell and religious grounds were also operative factors (Figure 2). When the non-smokers were asked about how do they relate to the smokers, most of them (52%) gave a neutral response although quite a number of them (20%) avoided mixing with smokers. A number of students (27%) sympathized with their smokers colleagues and advised them not to smoke.

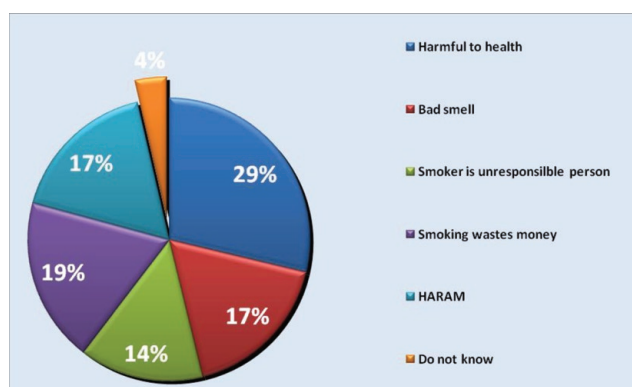


Figure 2. Reasons given by non-smoking medical students against smoking.

## DISCUSSION

The response rate was excellent in this study. The female preponderance in higher education in Sudan is observed across the country. Most of the students were single and this is also an observed fact. The dorm in this university is mainly available for females who mostly belong to expatriate families. The smoking rates of 6.6% and 14.8% among students in the first and the fifth year, respectively is less than what is observed in the region [18, 21] and worldwide [17, 23]. This study revealed that most of the smokers started smoking before coming to university (Table 1) but also this habit increased after they joined the university as shown comparing the prevalence of first year students to fifth year students. The influence of family members in enhancing smoking is well demonstrated in this study. This is similar to the findings in Pune

[23] and Derbyshire [24]. The influence of peers is always great among adolescents [25, 26]; therefore it is not surprising that it is demonstrated by our study. Some developed these ideas further and added the use of peer leaders as educators to increase social commitment not to smoke [25]. A number of studies in the West have reported significant results using these approaches [26, 27]. These preventive activities are best tried early enough in high schools as our study shows that students started smoking early (Table 1).

Unlike the findings of the Pune study [23], we think that the knowledge, attitude and practice concept works in our study as evident by the difference between smokers and non-smokers in their knowledge about the smoking-related diseases.

The limited role of the University Administration and the Staff cannot be overemphasized in this study, as only 12% of the Staff took an active role against smoking. So, there is a room for the Staff to do more to decrease smoking in this group.

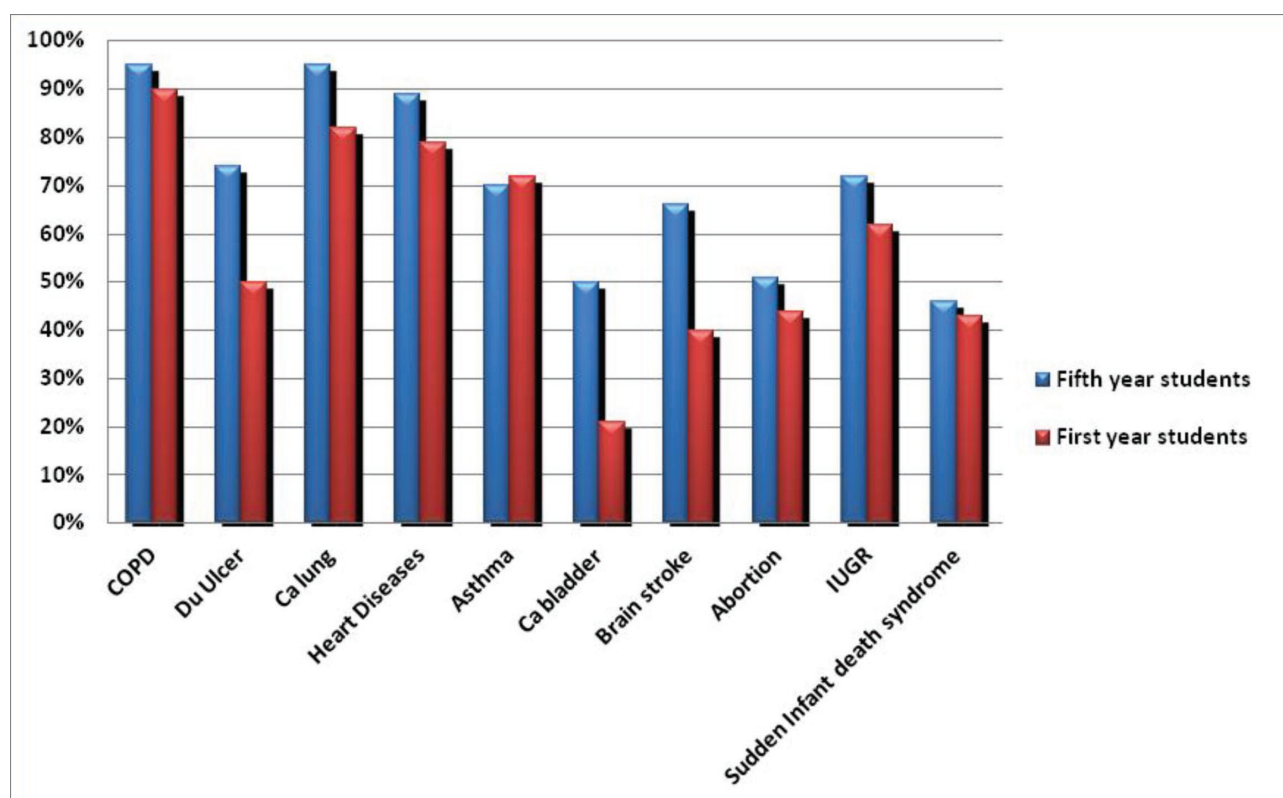
## CONCLUSION

Smoking among medical students in The National Ribat University is practiced by about 10% but the trend is on the increase. Knowledge about the harmful effect of smoking proved to help in avoidance of smoking among the students. Students were very much influenced by their smoking parents, when they started smoking. The teaching staff did not play a positive role against smoking among students. So, starting anti-smoking campaign and educating students about smoking and smoking related diseases is needed. Involvement of non-smoker students as well as university staff would make such a campaign successful.

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Figure 3. Knowledge of non-smoking students about smoking related diseases.



Ca – cancer, COPD - chronic obstructive pulmonary disease, Du – duodenal, IUGR – intrauterine growth retardation.

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