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# Smoking prevalence, knowledge and attitudes among medical students in Karachi, Pakistan

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انتشار التدخين، والمعارف والمواقف المتعلقة به، بين طلاب الطب في كراتشي، باكستان  
فصيل محمود خان، شهيد جافيد حسين، إميرين ليح، عويس أحمد، سيد فياز حسين، جافيد أحمد خان

**الخلاصة:** أُجري مسح بين طلاب الطب حول انتشار التدخين والموقف منه. وقد تم اختيار الطلاب المشاركين عشوائياً من فصول الدراسة بجامعة أغاخان، في كراتشي، باكستان. ومن بين 271 مستجيباً، كان 14.4% منهم مدخنين حاليين (22.0% ذكور و3.8% إناث)، وكان 3.3% مدخنين سابقين. وكان غالبية الطلاب يدركون الأخطار المرتبطة بالتدخين الفاعل وكذلك التدخين القسري، رغم أن 55% فقط من المدخنين الحاليين كانوا يخططون لتترك التدخين في المستقبل القريب. وقد أعرب معظم المدخنين (96%) عن اعتقادهم بأنهم، وكذلك المهنيين الصحيين الآخرين، يحتاجون للتدريب على كيفية التوقف عن التدخين، كما يرى 95% من جميع الطلاب أن الأطباء يجب أن يلعبوا دور القدوة في الإقلاع عن التدخين. وينبغي أن يمثل التدريب النوعي والاستنصاح جزءاً من المنهاج الدراسي المطلوب في كليات الطب.

**ABSTRACT** A survey of smoking prevalence and attitudes was made among medical students randomly selected from classes at the Aga Khan University, Karachi, Pakistan. Of 271 respondents, 14.4% were current smokers (22.0% male and 3.8% females) and 3.3% ex-smokers. A majority of students recognized the dangers associated with active as well as passive smoking although only 55% of current smokers planned to quit in the near future. Most smokers (96%) believed that they as well as other health professionals needed training on smoking cessation and 95% of all students believed that doctors should play a role model in smoking cessation by not smoking themselves. Specific training and counselling should be a part of the required curriculum at medical schools.

## Prévalence du tabagisme, connaissances et attitudes en la matière chez les étudiants en médecine à Karachi (Pakistan)

**RÉSUMÉ** Une enquête sur la prévalence du tabagisme et les attitudes en la matière a été réalisée auprès d'étudiants en médecine de l'Université Aga Khan de Karachi (Pakistan) choisis au hasard. Sur les 271 répondants, 14,4 % étaient fumeurs au moment de l'enquête (22,0 % d'hommes et 3,8 % de femmes) et 3,3 % des ex-fumeurs. Une majorité d'étudiants reconnaissaient les dangers associés au tabagisme actif et passif même si seulement 55 % des fumeurs au moment de l'enquête prévoyaient d'arrêter de fumer dans un avenir proche. La plupart des fumeurs (96 %) pensaient qu'ils avaient besoin, eux-mêmes ainsi que d'autres professionnels de la santé, d'une formation au sevrage tabagique et 95 % de l'ensemble des étudiants pensaient que les médecins devaient montrer l'exemple en matière de sevrage tabagique en ne fumant pas eux-mêmes. Une formation et des conseils spécifiques devraient faire partie du programme d'études des écoles de médecine.

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## Introduction

The harmful consequences of smoking on health have been well documented. Data from recent studies have confirmed the quantitative relationship between smoking and many diseases such as coronary artery disease, lung cancer, bladder cancer, pulmonary emphysema, peripheral vascular disease and neonatal mortality [1-3]. In 2000, an estimated 4.83 million premature deaths were attributable to smoking, of which almost 50% were in developing countries [4]. Most high-income countries are showing a continuous and steady decline in the prevalence of smoking [5]. In contrast, tobacco use in developing countries such as Pakistan continues to rise each year. Globally during the past 2 decades cigarette production has increased at an average of 2.2% each year, outpacing the population growth rate of 1.7% [5]. Out of a total population of 78 million in Pakistan in 1995, 36% males and 9% females aged 15 years or older were found to be smokers [6].

Data on the smoking habits of medical students is of particular interest. As doctors, they will be responsible for providing health care to the population and can influence the future health policies of their country. A study conducted in 1993 among medical students of the Aga Khan University, Karachi, showed that 11% of the medical students were smokers (males 17%, females 4%) [7]. The present study aimed to establish the prevalence of smoking and knowledge and attitude towards smoking among the students of a medical university.

## Methods

A survey was conducted among medical students of the Aga Khan University, Karachi, Pakistan using a modified version of the questionnaire of the International Union

Against Tuberculosis and Lung Disease (IUATLD) [8]. In February 2000, 300 medical students were randomly selected from the total number of just over 400. The aim was to obtain completed questionnaires from at least 70% of the total number of medical students studying in the university at the time of the survey. Questionnaires were distributed to 300 students and replies received from 271 students. Complete confidentiality was assured to all the students participating in the survey.

The modified IUATLD questionnaire sought information about tobacco use, age, sex and place of residence. Information about whether a medical student lived at home or in a hostel aimed to determine if this affected the rate of tobacco use. Students were asked about the age at which they began smoking and whether or not they had smoked at least 100 cigarettes or an equivalent amount of tobacco. They were questioned about the reasons behind the decision to start smoking as well as their perception of the most convincing reason for stopping smoking.

The questionnaire sought respondents' views about a proposed ban on smoking in the medical school campus, in hospitals and other public places; about a ban on cigarette advertising; and about social issues associated with smoking, e.g. the sale of tobacco to children and the low price of tobacco products in Pakistan (since carrying out this study a law was passed in Pakistan to ban the sale of tobacco products to under 18-year-olds). The students were asked whether smokers should have opportunities to attend smoking cessation programmes and whether health professionals should be given skills training in the core curriculum to help them with patients who wish to stop smoking. The medical students' knowledge about the diseases caused by smoking was also tested.

A smoker was defined as someone who continued to smoke any amount of tobacco either regularly or occasionally, a never smoker was one who had never smoked and an ex-smoker was one who had smoked either occasionally or regularly in the past but had now quit completely.

All the data were entered and analysed using the *Epi-Info* program for Windows, version 6.0.

## Results

We received 271 completed questionnaires from 300 students; 59% ( $n = 160$ ) were male and 41% ( $n = 111$ ) female. The mean age of the respondents was 19.9 years (range 17–28 years). Of the respondents, 39 (14.4%) were current smokers, 223 (82.3%) non-smokers and 9 (3.3%) ex-smokers (Table 1). The prevalence of smoking was much higher among males (22%) than females (4%).

Over half (59%) of all respondents lived away from their homes in the university hostel on campus; a higher proportion of current smokers (72%) lived on campus.

**Table 1 Smoking status of medical students in Karachi**

Smoking status	% of respondents ( $n = 271$ )
Current smoker	14.4
Regular (2–10 cigarettes/day)	7.9
Occasional ( $\leq 1$ cigarette/day)	6.5
Never smoker	82.3
Ex-smoker	3.3

$n =$  total number of respondents.

## Profile of current smokers

The mean age of starting smoking among the 39 current smokers was 17.9 (range 13–24) years, with 63% of the smokers admitting to having smoked at least 100 cigarettes or tobacco equivalent. Of current smokers, 55% were regular smokers (2–10 cigarettes/day) while 45% were occasional smokers ( $\leq 1$  cigarettes/day). Nearly half (55%) of the smokers started smoking before joining medical school and 45% during their stay in medical school. Both groups began smoking socially with friends but found it habit-forming over time.

The parental smoking habits of the current smokers were evaluated. It was noted that 38% of the parents were current smokers and 21% were ex-smokers. The majority (73%) of current smokers in our survey believed that parental habits had not influenced their decision to smoke. Over half (55%) of current smokers planned to quit smoking in the future and health reasons were the number one influencing factor (41%). Of the 45% current smokers who wanted to continue smoking, 63% said that they planned to stop within 5–10 years while the rest wanted to continue indefinitely. Of the current smokers, 46% had tried at least once in their life to quit smoking without any success.

When the ex-smokers and non-smokers were asked why they quit or did not ever take up smoking, the main reasons reported were health concerns (45%) followed by parental/family guidance or pressure (16%).

## Beliefs about tobacco control

Regarding methods to control the increasing epidemic of tobacco use in developing countries, 86% of the 271 respondents thought that smoking should be banned in offices and public places and 95% favoured a

**Table 2 Opinions of medical students in Karachi about methods of controlling tobacco use**

Item	% agreeing (n = 271)
Smoking should be banned in offices and public places	86
Smoking should be banned on this university campus	95
Designated smoking areas should be available on campus	99
Health professionals should have special training on how to support patients quitting smoking	96
All cigarette advertising and sponsorship should be banned	75
Health warnings should be printed on cigarette packets	85
Price of tobacco products should be increased greatly	58

*n* = total number of respondents.

smoking ban on the medical school campus and in the hospital (Table 2). Having a limited number of designated smoking areas (open 24 hours) for smokers was supported by 88% of the students. Even 54% of current smokers also supported a smoking ban on the campus and in the hospital except for a few designated areas. A complete ban on cigarette advertisements, which included television, magazines, newspapers, billboards, and ban on sports sponsorship was favoured by 75% of all respondents. Nearly all the 39 smokers (96%) thought that health professionals should have specific training on how to support patients who wanted to quit smoking and that sale of tobacco cigarettes to under-age children should be prohibited and punished. Health warnings on cigarette packages were supported by 85% of the responders. Nearly half (58%) of

the respondents wanted the price of tobacco products to be increased sharply in an effort to deter people from smoking cigarettes.

### Knowledge and beliefs about health risks

Almost all the medical students believed that both active as well as passive smoking were injurious to health (Table 3). When questioned on the ensuing hazards related to smoking 100% of respondents recognized lung cancer. Nearly 5% believed that

**Table 3 Knowledge and beliefs of medical students in Karachi about hazards of smoking and role of physicians in helping patients to quit**

Item	% agreeing (n = 271)
Both active and passive smoking are injurious to health	98
Smoking is a risk for:	
Lung cancer	100
Oral and laryngeal cancer	95
Bladder cancer	72
Stroke and coronary artery disease	95
Neonatal death	89
Most smokers can stop if they want to	90
Physicians are responsible for educating patients to stop	90
Most people will not give up smoking even if their doctor advises it	92
Doctors should set a good example by not smoking	95
Doctors are more likely to advise people to quit if they have had adequate training	98
My own current knowledge is sufficient to counsel patients who want to quit	79

*n* = total number of respondents.

there was no association between tobacco use and oral cancer, laryngeal cancer, stroke or coronary artery disease. The association of smoking with neonatal death was not recognized by 11%, and bladder cancer as a consequence of smoking was not known by 22%.

Nearly 90% of all respondents agreed that most smokers could stop if they wanted to and that it is the responsibility of physicians who provide care to educate patients to stop smoking. On the other hand, 92% of respondents believed that most people would not give up smoking even if their physicians counselled them to do so. Nearly 95% of respondents agreed that doctors should set a good example by not smoking themselves and needed to be more active in raising the level of public awareness regarding the risks of cigarette smoking. Almost all of the respondents (98%) believed that doctors would be more likely to advise people to quit if they had received adequate training in smoking cessation therapy and 79% of all respondents believed that their current knowledge was sufficient to counsel patients who wanted to quit smoking.

## Discussion

We took medical students as the focus of our survey as the attitudes and practices towards tobacco use of these young health professionals can influence future policies and practice. If doctors and medical students are smoking then the credibility of anti-smoking messages to the public is lost. Medical students are a group that should be more aware than young people of the same age about the health hazards associated with smoking. The response rate was about 90%. The prevalence of current smokers among medical students in the year 2000 was 14.4%, which is higher than a

similar study conducted in 1993 (11%) [7]. However, this is lower than the prevalence of current smokers in studies of European medical students (21%) [9] and other Asian medical students (18%–24%) [10,11]. The prevalence of smoking in medical students of this university was lower than the general population; a recent survey recorded the overall prevalence of current smoking in adult males in Karachi, Pakistan was 34% [12].

A higher proportion of the current smokers lived in the university hostel. Living away from the influence of their parents could have had a role in tobacco use, as 45% of smokers had started after joining university. Peer pressure also is an important reason for starting to smoke. Most of the smokers in our survey admitted to having started by smoking socially. Most of the smokers (73%) in our study did not think that their habit was influenced by parental smoking habits. Their beliefs contrast with another study showing a statistically significant positive correlation between parental tobacco use and the risk of smoking among students [13].

The majority of current smokers wanted to quit smoking in the future, with health reasons being the major concern. This was also the most common reason for giving up smoking among the ex-smokers and for not starting smoking among non-smokers. This shows that, probably due to the ongoing anti-smoking campaign in Pakistan, medical students are aware of many, if not all, of the health risks associated with smoking. Like smokers among the general public, a high proportion (45%) of medical students had also tried to quit smoking at least once in their lives but without success. Special training is therefore required for all health professionals and medical students to assist them in giving up smoking.

It was encouraging to see that almost all students thought that smoking, including passive smoking, was injurious to health. All of the students were aware of the association of lung cancer with smoking but 5% medical students thought that there was no association between tobacco use and oral cancer, laryngeal cancer, stroke or coronary artery disease. A significant minority did not associate smoking with increased risk of neonatal death (11%) and bladder cancer (22%). Better undergraduate medical training of medical students about all the health risks associated with smoking is required so that as physicians they are better prepared to counsel patients who smoke.

Nearly all the respondents agreed that physicians or medical students should not smoke as they are role models in society and it is part of their individual responsibility to curb the problem of smoking and to take an active part in raising awareness of the health risks in the general population. Medical students at the Aga Khan University Hospital were strongly in favour of having training about smoking cessation techniques and a

curriculum that addresses the medical and social consequences of tobacco abuse. The majority of medical student respondents felt that a change in the curriculum, which addressed the issue of smoking and techniques of smoking cessation would provide health professionals with a more informed perspective about this deadly but preventable problem.

## Conclusion

This study shows that despite the increasing awareness of the health problems due to tobacco use, smoking is still common among medical students. Smoking should be banned in hospitals and other public places and specific training in counselling about smoking should be a part of the required curriculum at medical schools. Future doctors should be better prepared to protect themselves and their patients from tobacco smoking, the single largest preventable cause of death and disease in the world today.

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### **International survey on health professionals and tobacco shows 23% of health professionals smoke**

In May, the World Health Organization Regional Office for the Eastern Mediterranean announced the results of the second stage of an important survey on smoking among health professionals which was developed by WHO in collaboration with the Centers for Disease Control and Prevention (USA), International Agency for Research on Cancer, Emory University (USA) and University of New South Wales (Australia).

In total, 11 000 health professionals in 5 countries of the WHO Eastern Mediterranean Region (Egypt, Jordan, Libyan Arab Jamahiriya, Qatar and Saudi Arabia) completed the second round of the Health Professionals Survey, the first round of which was administered in Bahrain, Islamic Republic of Iran, Kuwait, Oman and Sudan.

The vast majority (97.9%) of survey participants agreed that smoking is harmful to health. However 23% reported they were current smokers, 10% were former smokers and 67% had never smoked. Over 75% of health professionals in the countries surveyed consistently agreed with the need to implement the elements of comprehensive tobacco control. Health professionals are well positioned to advocate for and support the implementation of such tobacco control.

*Source: EMRO Press release No. 6 May 2005*