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Behaviours and Attitudes of Medical Students Towards Smoking

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Abstract: This study was carried out to assess the behaviours and attitudes of medical students towards smoking and perceptions of their future role in this matter as doctors. For this purpose, a questionnaire was given to 215 medical students enrolled in the Faculty of Medicine of Süleyman Demirel University in Isparta, Turkey, during the 2000-2001 session. Of the students, 106 (49.3%) had never smoked and 17 (7.9%) were former smokers. Of the 92 (42.8%) students who had smoked for at least six months in their lifetime, 11 (12.0%) were ex-smokers. Of the current smokers, 61 (75.3%) were daily smokers and 20 (24.7%) were occasional smokers. The daily smoking rate was 20.5% in the first year students and 35.7% in the sixth year students. Of the current smokers, 63 (77.8%) considered stopping smoking and 45 (55.6%) had tried to stop smoking. The mean age for trying the first cigarette was 16.9 years and the major reason was stress. Of the current smokers, 75 (92.6%) considered smoking harmful to health, 66 (81.5%) worried that smoking was harmful to their health, but 10 (12.3%) did not worry about it. Concerning the diseases related to smoking, there was a positive relation between the knowledge level of the students and training year. Of all the students, 64 (29.8%) thought that their current knowledge was sufficient to persuade patients to stop smoking and 81 (37.7%) did not believe that it was necessary to increase the selling price of tobacco products to control the prevalence of smoking. These findings suggest that there is a greater need for education about smoking in the medical curriculum.

Key Words: Medical students, smoking, prevalence, behaviours, attitudes

Introduction

Smoking is a very important public health problem which needs immediate and effective measures to be taken against it (1). Tobacco related deaths have been projected to increase from 3.0 million in 1990 to 8.4 million in 2020 (2). While smoking rates have decreased in developed countries over the last 13 years, there has been a corresponding 50% increase in smoking rates in developing countries (3). Data collected by the World Health Organization (WHO) showed that although tobacco consumption fell by 1.1% a year in developed countries it rose by 2.1% a year in the developing world (4). It is estimated that tobacco consumption rose over 10.0% a year in Turkey during this period. According to the data of the State Institute of Statistics in 1988, there are around 16.0 million smokers in Turkey, which is approximately half of the population aged 15 years and over (5).

Smoking is the most common cause of premature death in developed countries, annually causing more than 1 million deaths in persons aged 35 to 65 years, for whom an average of 22 years of life is lost (6).

Medical professionals are in a position to play an important role in reducing the consumption of tobacco. For this reason, it is vital that medical students, the future doctors, have adequate knowledge about smoking-related diseases and skills in smoking cessation (7).

This study was carried out to examine the prevalence of smoking among medical students and their behaviours and attitudes towards smoking.

Materials and Methods

Two hundred and fifteen out of the 235 students enrolled in the Faculty of Medicine of Süleyman Demirel University during the 2000-2001 session participated in

the study. A questionnaire, based on guidelines and standardized questionnaires prepared by the WHO, was given to the students. The questionnaire contained questions concerning past, present and future smoking habits, knowledge and attitudes about tobacco use, and the responsibilities of health sector workers in this matter.

Students were grouped into the following four categories according to smoking habits: 1). Current smokers (those who reported smoking during the study period and who had smoked in the past 6 months or had smoked 5 packets of cigarettes or more in their lifetime); 2). Former smokers (those who had smoked at least 1 whole cigarette in their lifetime but had not smoked in the past 6 months); 3). Ex-smokers (those who had smoked for at least 6 months in their lifetime but had now stopped); 4). Non-smokers (those who had never tried a cigarette in their lifetime).

A traditional medical curriculum is taught in the Faculty of Medicine of Süleyman Demirel University. Instruction with an integral system in the first, second and third years and training in the fourth and fifth years are provided. Having completed all the lectures and training, students begin their intern term. In the medical curriculum there is no specific teaching programme on tobacco and smoking cessation techniques.

Statistical analyses were conducted by the SPSS statistical package (SPSS 9.1 for Windows, Chicago, IL). The prevalence of smoking and differences between the groups were analysed using the Chi-squared test. One-way analysis of variance (ANOVA) and correlation analysis were used to compare the mean scores among the years. All statistical tests were two-tailed and a p value less than 0.05 was considered significant.

Results

Smoking status for each year of the medical education is shown in Table 1. Eighty-one (37.7%) students were current smokers, 17 (7.9%) were former smokers, 11 (5.1%) were ex-smokers and 106 (49.3%) non-smokers. Of the 81 current smokers, 61 (75.3%) were daily smokers and 20 (24.7%) were occasional smokers. The proportion of daily smokers was 20.5% in the 1st year and 35.7% in the 6th year.

Male and female students showed different smoking behaviour: 56 (50.5%) male students and 25 (24.0%) female students were current smokers. Higher rates of smoking were found for male students in each of the years of the medical education and the difference between male and female students was statistically significant (p = 0.000). The largest difference in smoking

Table 1. Smoking status for each year of the medical education.

	Year 1 n (%)	Year 2 n (%)	Year 3 n (%)	Year 4 n (%)	Year 5 n (%)	Year 6 n (%)	Total n (%)	p value
Non-smoker								
Male	9 (50.0)	8 (36.4)	10 (43.5)	7 (41.2)	5 (33.3)	2 (12.5)	41 (36.9)	0.738
Female	11 (52.4)	17 (65.4)	11 (44.0)	10 (52.6)	9 (81.8)	7 (58.3)	65 (62.5)	
Total	20 (64.1)	25 (52.1)	21 (55.3)	17 (47.2)	14 (53.8)	9 (32.1)	106 (49.3)	
Ex-smoker								
Male	1 (5.6)	0 (0.0)	3 (13.0)	0 (0.0)	1 (6.7)	1 (6.3)	6 (5.4)	0.223
Female	1 (4.8)	1 (3.8)	0 (0.0)	2 (10.5)	1 (9.1)	0 (0.0)	5 (4.8)	
Total	2 (5.1)	1 (2.1)	3 (7.9)	2 (5.6)	2 (7.7)	1 (3.6)	11 (5.1)	
Former smoker								
Male	1 (5.6)	3 (13.6)	0 (0.0)	3 (17.6)	0 (0.0)	1 (6.3)	8 (7.2)	0.566
Female	3 (14.3)	1 (3.8)	1 (4.0)	3 (15.8)	0 (0.0)	1 (8.3)	9 (8.7)	
Total	4 (10.3)	4 (8.3)	1 (2.6)	6 (16.7)	0 (0.0)	2 (7.1)	17 (7.9)	
Current smoker								
Male	7 (38.9)	11 (50.0)	10 (43.5)	7 (41.2)	9 (60.0)	12 (75.0)	56 (50.5)	0.345
Female	6 (28.6)	7 (26.9)	3 (12.0)	4 (21.1)	1 (9.1)	4 (33.3)	25 (24.0)	
Total	13 (33.3)	18 (37.5)	13 (34.2)	11 (30.6)	10 (38.5)	16 (57.1)	81 (37.7)	
Total	39	48	38	36	26	28	215	
Total number in years	43	49	42	40	28	33	235	

rates between male and female students was found in 5th year students.

Former smokers and ex-smokers were more prevalent among female students. The percentage of former smokers was higher among 4th year students and ex-smokers among 5th year students. All former smokers and ex-smokers reported stopping smoking "on their own" without any smoking cessation forms of professional assistance or support group.

Of the 61 daily smokers, 10 (16.4%) reported that they smoked between 1 and 5 cigarettes per day, 6 (9.8%) smoked 5-10 cigarettes per day, 32 (52.5%) smoked 10-20 cigarettes per day and 11 (18.0%) smoked 20-40 cigarettes per day. The average cigarette consumption was 16.0 ± 8.5 cigarettes (range 1-40) per day, 16.5 ± 8.9 cigarettes per day among male students and 14.2 ± 6.7 cigarettes per day among female students. Among female students, only 1 was a heavy smoker (more than 20 cigarettes per day).

The mean age for trying the first cigarette among the current smokers was 16.9 ± 3.0 years, among former smokers was 12.7 ± 4.2 years and among ex-smokers was 15.3 ± 4.1 years. The mean age of smoking initiation was statistically different between male students (16.5 ± 3.1 years) and female students (17.8 ± 2.6 years) (p = 0.030). There was no difference between the age of smoking initiation and tobacco consumption per day (p = 0.259). One-third of the current smokers had started smoking while at medical school.

The major reasons for trying the first cigarette were stress (30.1%), peer influence (29.2%), curiosity (23.0%), affectation (15.5%), and the desire to belong to a group (1.8%).

Even though 33.3% of the current smokers consumed the same amount of tobacco as in the previous year, 63 (77.8%) reported that they had considered stopping smoking. Of the current smokers, 45 (55.6%) indicated that they had made a serious attempt to stop smoking in the past. Their reasons for trying to stop in the past were risk to future health, ill-health or discomfort, measure of claim and self-control.

When asked to predict their smoking behaviour within the next 5 years, 46 (56.8%) of the current smokers reported that they expected to stop smoking and 24 (29.6%) reported that they would probably still be smoking.

Of the current smokers, 75 (92.6%) considered smoking harmful to health, 66 (81.5%) worried that smoking was harmful to their health, but 10 (12.3%) did not worry about it.

The mean scores obtained about common diseases related to smoking for each year of the medical education are given in Table 2. There was a positive relationship

Table 2. The mean scores obtained about common diseases related to smoking for each year of the medical education.

	Year 1 (%)	Year 2 (%)	Year 3 (%)	Year 4 (%)	Year 5 (%)	Year 6 (%)
Bladder cancer	25.6	20.8	78.9	83.3	88.5	92.9
Coronary artery disease	74.4	72.9	94.7	94.4	100.0	100.0
Lung cancer	84.6	95.8	100.0	97.2	100.0	100.0
Chronic bronchitis	74.4	83.3	97.4	91.7	100.0	96.4
Oral cancer	71.8	75.0	84.2	97.2	96.2	92.9
Emphysema	35.9	62.5	81.6	80.6	96.2	82.1
Laryngeal cancer	46.2	93.8	89.5	94.4	100.0	96.4
Peripheral vascular disease	64.1	68.8	81.6	94.4	100.0	96.4
Leukoplakia	53.8	56.3	73.7	75.0	100.0	75.0
Lesion of soft tissue	51.3	54.2	65.8	69.4	92.3	75.0
Neonatal mortality	61.3	58.3	65.8	75.0	88.5	71.4
Serebro-vascular disease	48.7	47.9	78.9	86.1	100.0	96.4
Mean knowledge score	6.9 ± 4.2	7.9 ± 3.4	9.9 ± 2.8	10.4 ± 2.6	11.6 ± 0.9	10.8 ± 1.9

between the knowledge level of students and medical training year (r = 0.449, p = 0.000).

The main reasons for not smoking among medical students are given in Table 3. It is clear that protection of personal health is a major reason for not smoking.

Positive responses of students about their exemplary role in smoking cessation is presented in Table 4. Compared to non-smokers, smokers in particular thought that they did not need to set a good example to their patients by their own behaviour (p = 0.032). In addition, they were less convinced about the possibility of giving up smoking (p = 0.039).

The attitudes of students towards legislation designed to control the prevalence of smoking are given in Table 5. Smokers were considerably less enthusiastic about the legal restriction of smoking in public places and the sharp rise in the selling price of tobacco products than were non-smokers (p = 0.003 and p = 0.004 respectively).

Discussion

The health behaviours of medical students are important because they will not only have a major influence on other people's health behaviours as medical practitioners in the future, but they are also in transition

Table 3. The main reasons for not smoking among medical students.

Reason	Students' smoking status		p value
	Non-smokers (%)	Smokers (%)	
Health protection	93.8	84.0	0.136
Self discipline	64.9	59.3	0.552
Symptoms related to smoking	58.9	49.4	0.797
Discomfort to others	56.0	38.3	0.122
To save money	46.3	51.9	0.133
Example for children	34.3	24.7	0.421
Example for patients	29.9	30.9	0.535
Example socially	26.9	13.6	0.076
Not to harm partner or children	10.4	14.8	0.167
Pressure from colleagues	8.2	16.0	0.028
Example to health workers	11.9	7.4	0.471
Pressure from my partner	3.0	7.4	0.077
Pressure from my children	0.7	2.5	0.232

Table 4. Positive responses of students about their exemplary role in smoking cessation.

Statement	Students' smoking status		p value
	Smokers n (%)	Non-smokers n (%)	
It is the responsibility of doctors to convince people to stop smoking	43 (53.1)	77 (57.5)	0.686
Most smokers can stop smoking if they want to	68 (84.0)	122 (91.0)	0.032
Doctors should set a good example by not smoking	56 (69.1)	112 (83.6)	0.039
Most smokers are not able to stop smoking, despite the physician's advice	70 (86.4)	116 (86.6)	0.172
Doctors should go beyond the activity of diffusing knowledge about the hazards of smoking	51 (63.0)	93 (69.4)	0.345
Your present knowledge is sufficient to persuade patients to quit smoking	23 (28.4)	41 (30.6)	0.938
On every appropriate occasion you should persuade a patient to quit smoking	38 (46.9)	79 (59.0)	0.232

Table 5. Attitudes of students towards legislation designed to control the prevalence of smoking.

Statement	Students' smoking status		p value
	Smokers (%)	Non-smokers (%)	
Cigarette packages should contain health warnings	70.4	77.6	0.446
Smoking in public places should be prohibited	85.2	94.8	0.003
The selling price of tobacco products should increase sharply	40.7	62.7	0.004
Health professionals should get specific training on how to help patients who want to stop smoking	86.4	85.8	0.611
Cigarette sales should be prohibited to those under the age of 18	84.0	90.3	0.215
Smoking in hospitals should be restricted to special smoking areas	86.4	81.3	0.072
Tobacco advertising should be totally banned	79.0	82.8	0.740

between adolescence and early adulthood, a time during which unhealthy behaviours may be consolidated into lifetime patterns (8).

In this study it was found that the prevalence of current smoking among Isparta medical students was 50.5% for male students and 24.0% for female students. In studies from different medical schools in Turkey, the prevalences of current smoking have been reported to be between 18.0% and 51.2% (9-11).

Many studies have been conducted around the world to determine the smoking rates of medical students. These studies have shown that the smoking rates of medical students range widely from 0 to 56.9% for men and 0 to 44.7% for women and smoking was more prevalent among Turkish men than among those in other European schools (3).

The results of this study indicate that the prevalence of current smoking among male students is similar to that of female students in year 1, but is higher than among female students in year 6. This finding is consistent with the findings from studies conducted among university students in Turkey (9). The higher prevalence of smoking among male students may be a reflection of the smoking status of males of the same age in Turkey.

In this study it was found that one-third of the current smokers had started smoking in medical school instead of giving up and had even increased cigarette consumption. In addition, although medical students progressed in increasing their knowledge about common diseases related to smoking through their medical education, their superior knowledge did not lead to a lower rate of smoking. In fact, students in the later years smoked more than those in the earlier years. These findings agree with the worldwide phenomenon that increased knowledge about the hazards of smoking does not greatly affect students' smoking behaviour (3).

In this study the mean age for trying the first cigarette was 16.9 years old. This finding was consistent with the findings of other studies reporting that substantial initiation to tobacco products occurs before people reach aduldhood (12-14). Many adolescents who smoke regularly are already addicted to nicotine and experience addiction similar to that among adults; that is, they experience withdrawal symptoms during cessation of smoking. In this study half of the current smokers had made a serious attempt to stop smoking in the past. The age at which smoking begins has been proved to influence the total number of years of smoking, the number of cigarettes smoked per day in adulthood, and the likelihood of quitting (13).

Only 30.0% of medical students thought their present knowledge to be sufficient to persuade patients to quit smoking. Specific teaching about tobacco is required in undergraduate medical courses in order to provide future doctors with the knowledge and skills they need to effectively help patients stop smoking (15). Doctors can play an important role in assisting patients to stop smoking with their unique positions in the community. In this study 86.1% of students thought that health professionals should get specific training on how to support patients who want to stop smoking.

Smoking students were less convinced of their exemplary role in smoking cessation than were non-smoking students. Teaching medical students about smoking-related diseases and patient-centred smoking cessation intervention does result in an increase in knowledge as well as in students' perceptions about their future behaviour as doctors (3). Doctors who smoke are less likely to warn their patients about the health hazards of smoking (7,16,17).

In conclusion, the prevalence of smoking among Isparta medical students is high. Programmes for reducing smoking prevalence in students should be considered during the early years of education.

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