

Smoking habits of pharmacy students attending the University of Medicine and Pharmacy in Târgu Mureș

Obiceiurile de fumat ale studenților farmaciști din cadrul Universității de Medicină și Farmacie din Târgu Mureș

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Abstract

Smoking is common among health professional students. The aim of this study was to assess the smoking habits of the pharmacy students attending the University of Medicine and Pharmacy in Târgu Mureș (UMPh TM), Romania.

Material and methods: Smoking habits and attitudes toward smoking among 414 pharmacy students attending UMPh TM (86% female) were evaluated using a self-completed questionnaire.

Results: The rate of smoking increases during the time students attend the university (24.1% to 33.3% from 1st to 5th year) and males are significantly more likely to smoke than females (41.4% vs. 27.3%, $p=0.042$). 36.9% of the smoking pharmacy students are tobacco-dependent, and 40.4% of smokers started daily smoking at the age of 16-19. We found significant differences between smoker and non-smoker pharmacy students regarding their attitudes toward smoking and tobacco control policies, with non-smokers being more supportive of smoke-free policies.

Conclusions: Prevention programs and education have a very important role in decreasing the percentage of smokers and support for smokefree policies, but it is critical to begin such programs early in their university training.

Keywords: smoking, pharmacy students, cessation, tobacco consumption, smoke free university

Rezumat

Fumatul este un obicei des întâlnit în rândul studenților din domeniul sanitar. Scopul acestui studiu a fost evaluarea obiceiurilor de fumat ale studenților farmaciști din cadrul Universității de Medicină și Farmacie din Târgu Mureș (UMF TM), România.

Material și metode: s-a evaluat tabagismul și atitudinea față de fumat la 414 studenți farmaciști de la UMF TM (86% femei) utilizând un chestionar auto-completat.

Rezultate: Procentajul studenților fumători crește pe parcursul anilor petrecuți la facultate (de la 24,1% la 33,3%, din primul an până la al 5-lea), iar băieții sunt semnificativ mai susceptibili de a fuma decât fetele (41,4% respectiv 27,3%, $p = 0.042$). 36,9% dintre studenții farmaciști fumători sunt dependenți de tutun, iar 40,4% dintre ei au început să fumeze zilnic la vârsta de 16-19 ani. Am găsit diferențe semnificative între studenții farmaciști fumători și nefumători cu privire la atitudinea lor față de consumul de tutun și politicile de antifumat, nefumătorii fiind mai mult suportivi în privința politicilor antifumat.

Concluzii: Programele de prevenire și educație au un rol foarte important în reducerea procentajului de studenți fumători și pentru sprijinirea politicilor antifumat, dar este de importanță majoră să se înceapă astfel de programe timpuriu pe parcursul formării lor universitare.

Cuvinte-cheie: fumat, studenți la Farmacie, renunțare, consum de tutun, universitate fără fumători

Introduction:

The most common form of risk behavior among young adults is smoking². Teenagers and young students are especially vulnerable and represent a good target population for smoking prevention⁽³⁾.

Pharmacists are well-positioned to provide tobacco prevention and cessation services and their involvement is encouraged by several organizations, including several Pharmacists Associations and the WHO⁽¹⁾.

A previous study performed of UMPh TM dental students (2005) indicates that university years are a crucial period in the initiation or abandonment of smoking behavior⁽²⁾.

WHO classified the smoking status /smoking frequency into three categories: **(1)** daily smoker (means the person

currently smokes at least one tobacco product every day, over a period of 1 month or more), **(2)** occasional smoker (means the person currently smokes less than daily, either formerly daily or never daily), and **(3)** non-smoker (means the person currently does not smoke at all). The latter category also includes "former daily smoker" (currently a non-smoker but had previously smoked daily) and "never daily smoker" (currently a non-smoker and has never smoked daily, but instead occasionally or never smoker)⁽⁴⁾.

Based on the success of the implementation of smoke free regulations in colleges and universities in several countries, especially in the United States of America, the University of Medicine and Pharmacy in Târgu Mureș decided to become the first smoke free medical university in Romania.

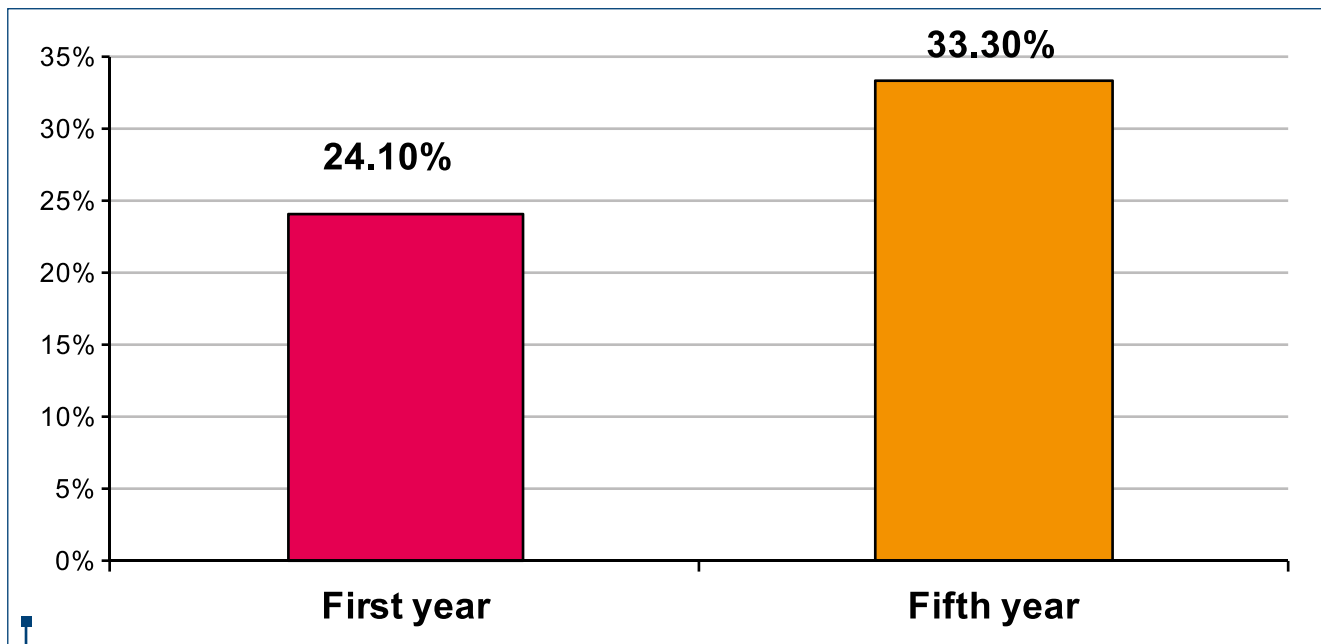


Fig. 1. Smoking prevalence among Pharmacy students

A baseline evaluation of smoking habits, attitudes toward smoking, and the level of knowledge related to smoking cessation counselling was the first step in implementation of a university-wide smoke-free policy. The long term goals of this formative evaluation are: **(1)** to reduce second hand smoke exposure in the buildings of the university, and **(2)** to increase pharmacy students' ability to deliver smoking cessation support services following graduation.

Aim

The purpose of this study was to assess smoking habits and attitudes of the pharmacy students attending the University of Medicine and Pharmacy in Târgu Mureș, Romania, to evaluate their opinions regarding smoke-free legislation and to assess their perceived role as health professionals to promote smoking cessation. This manuscript describes the baseline data from the formative evaluations.

Material and methods

A cross sectional census evaluation was made in March 2014 with a response rate of 68.8%. Questionnaires were completed anonymously using paper-pencil methodology, and was adapted from the Global Health Professions Student Survey (GHPSS) study⁽⁵⁾, which is an international study of health professionals regarding smoking habits and attitudes. Romania did not participate in this GHPSS study, but by modelling the project after this validated survey, the results may be compared to other countries. During the research the principles of anonymity and confidentiality were respected, and the study obtained approval prior to initiation from the university's ethical review board.

The questions were related to the smoking behaviour of pharmacy students and their attitudes towards smoking. Some questions were related to tobacco use prevalence

among health professional students (smoking experience, age of first cigarette smoked, age of starting systematic smoking, recent smoking of cigarettes and use of other tobacco products during the previous month, consumption of cigarettes and other tobacco products in the university campus during the previous year, etc), other questions were about parental smoking and their tobacco-related diseases.

A group of questions evaluated the smoking behaviour of the students (addiction depending the moment of smoking the first cigarette after waking up) and their attitude toward cessation (quitting attempts and desire to stop smoking in the future, history of support for smoking cessation). Another set of questions evaluated the exposure to environmental tobacco smoke inside and outside the university campus, and the students' attitude towards smoke-free legislation and the role of health professionals in giving advice to their patients. We also evaluated the level of training regarding tobaccology knowledge, and their opinion regarding the smoke-free university project. Students were considered as dependent if they smoked their first cigarette after waking up in the first 60 minutes.

Statistical analysis was performed using IBM SPSS (Statistical Package for Social Sciences) Statistics Base Authorized User V 22. Nominal variables are presented as frequencies and bivariate comparisons between smoker and non-smoker students, between students attending different years of study or having different gender were calculated using chi-square test. The level of statistical significance was set at $p < 0.05$.

Results

Participants

The survey included 414 pharmacy students attending years 1 to 5, representing 68.8% of all pharmacy students. They included respondents in all years of pharmacy school (1 to 5), were predominantly female (86%)

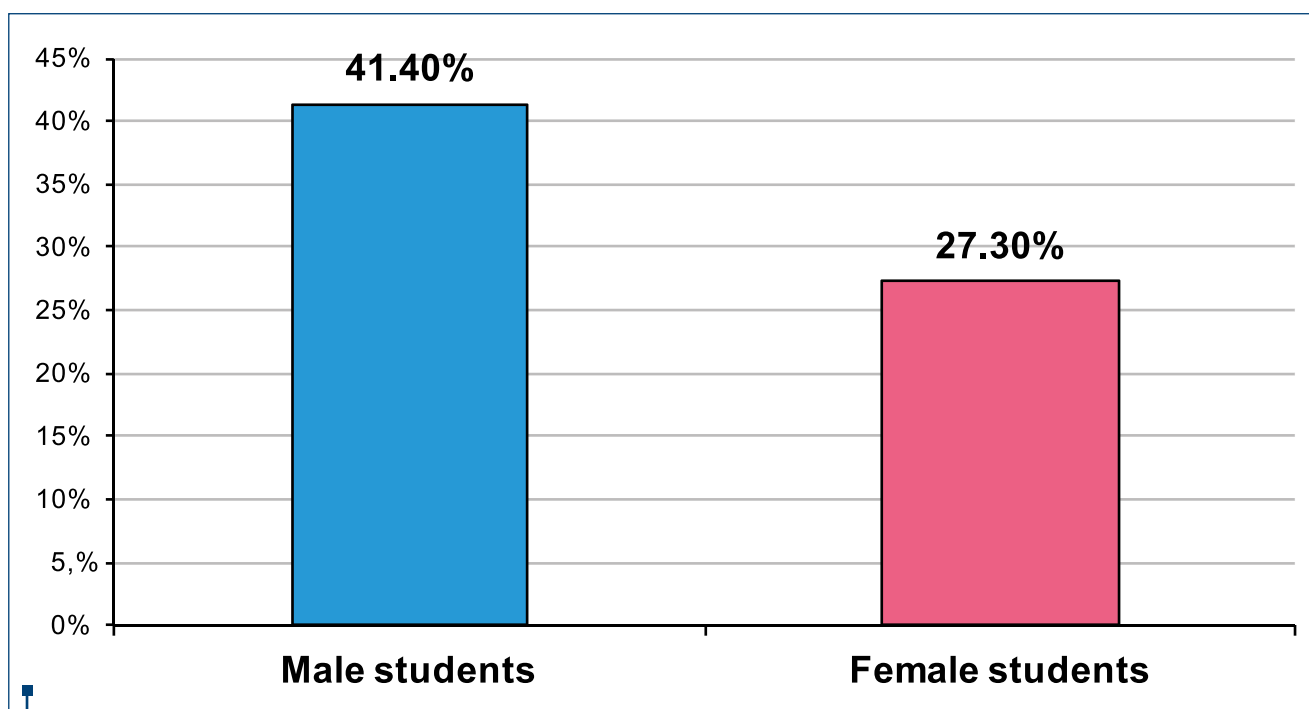


Fig. 2. Smoking prevalence by gender

and the vast majority were under the age of 25 (96%, range: 19-30). They represented 12.9% of all health professional students evaluated in 2014 (n=3210).

Smoking behaviour of pharmacy students

Most of the students (72.2%) had tried cigarette smoking, even one or two puffs. Smoking prevalence included: 27.8% of never smokers and 42.7% of former daily smokers (aka quitters), 29.5% are smokers, including 6.5% who are daily smokers and 23% who are occasional smokers. 21.5% of the students smoked cigarettes on university premises during the past year and 10.1% of the students smoked cigarettes in university buildings during the past year. An estimated 40.4% of smokers initiated their daily smoking habit at the age of 16-19, followed by ages 10-15 (25.4%) and 5.3% at over 20 years.

The frequency of smoker students increases during the years spent at the university, from year 1 to year 5, referring to students who self-identify as current smokers (fig. 1). The percentage of smokers is considerably higher in male students compared to female students (p=0.042), percentages are presented in figure 2.

In addition to smoking manufactured cigarettes, 45.7% have tried other tobacco products (e.g. chewing tobacco, snuff, bidis, cigars, hookah). During the past 30 days more than 1 in 10 reported using a non-cigarette tobacco product. 3.1% of the students used other tobacco products or pipes on university premises during the past year and 1.4% of the students smoked cigarettes in university buildings during the past year.

Dependence and cessation

36.9% of the smoking pharmacy students can be considered nicotine-dependent (45 subjects), as they smoke their first cigarette in less than 60 minutes after waking up.

43.4% of the smoking pharmacy students (53 subjects) would like to quit smoking now, and 7.7% of all pharmacy students consider that they will be smokers after 5 years.

Attitude towards smoke free legislation, opinion regarding the role of health professionals in cessation

We found significant differences between smoker and non-smoker pharmacy students regarding their attitudes towards smoking and tobacco control policies. The results of the comparison can be seen in table 1, the significant differences (p<0.05) are marked with *.

Second hand smoking exposure and level of tolerance, family background and friends' influence

72.4% of the pharmacy students report that they are exposed to second hand smoke.

There is a high tolerance for smoking at the university, which has an indoor smoke free policy: 82.6% of all pharmacy students would not stop someone smoking in the building, and 17.4% would ask the smoking person to stop and throw away the cigarette or to move to a designated smoking area. Smoking friends have an influence on the students' smoking status. Only non-smoker pharmacy students have only non-smoker friends, while smokers reported that at least one of their friends is a smoker.

Knowledge and training of students in the field of tobacco research

93.5% of the students agree that health professional students should get specific training on cessation techniques, and almost the same percentage of them (92.3%) consider that health professionals should routinely advise their patients to quit smoking cigarettes and other tobacco products. The majority of the pharmacy students reported that they were taught about the dangers of smoking (63.5%)

Table 1

Attitudes towards tobacco control and cessation support among smoker and non-smoker pharmacy students

Questionnaire statement	Overall N/%	Smokers N/%	Non-smokers N/%	p-values
Should tobacco sales to adolescents be forbidden? Yes/NO	405/9 97.8/2.2	118/4 96.7/3.3	287/5 98.3/1.7	p=0.459
Should advertising of tobacco products be forbidden? Yes/NO	351/63 84.8/15.2	97/25 79.5/20.5	254/38 87/13	p=0.071
Do you agree with prohibiting smoking in restaurants?*	364/50 87.9/12.1	90/32 73.8/26.2	274/18 93.8/6.2	p<0.0001
Do you agree with prohibiting smoking in discos/bars/pubs?*	262/152 63.3/36.7	57/65 46.7/53.3	205/87 70.2/29	p<0.0001
Do you agree with smoking ban in public places?*	324/90 78.3/21.7	76/46 62.3/37.7	248/44 84.9/15.1	p<0.0001
Should health professionals get specific training on cessation techniques?*	386/27 93.5/6.5	108/14 88.5/11.5	278/13 95.5/4.5	p=0.015
Are health professionals role models? Yes/NO	324/90 78.3/21.7	94/28 77/23	230/62 78.8/21.5	p=0.697
Should health professionals routinely advise their patients to quit smoking? Yes/NO	382/32 92.3/7.7	109/13 89.3/10.7	273/19 93.5/6.5	p=0.160
Should health professionals routinely advise their patients to quit other tobacco products? Yes/NO	375/39 90.6/9.4	107/15 87.7/12.3	268/24 91.8/8.2	p=0.200
Do health professionals have a role in giving advice regarding tobacco cessation and providing information?*	387/26 93.7/6.3	109/13 89.3/10.7	278/13 95.5/4.5	p=0.025
Do chances of quitting improve if health professionals give advice? Yes/NO	335/77 81.3/18.7	102/20 83.6/16.4	233/57 80.3/19.7	p=0.49

and about the importance of recording tobacco use history as part of a patient's general medical history (64.3%). 25.6% of the pharmacy students considered that the university courses and practical activities provided them with information about the reasons why people smoke and only 13.3% indicated that they were taught practical smoking cessation approaches to use with patients.

The vast majority (94.2%) had heard about nicotine replacement therapies, while only 31.5% heard about pharmacotherapy as an important part of tobacco cessation programs. 19% were aware of the importance to provide educational materials to support patients who want to quit smoking, and the same percentage sustained their confidence to be able to deliver a smoking cessation advice to a smoker person, based on their current knowledge. 71% of the pharmacy students expressed their interest in participating in a special tobaccology course and the same percentage of respondents believes that the smoke free university project can reduce the occurrence of smoking amongst health professional students and reduce second hand smoke exposure.

Discussion

The age of daily smoking initiation based on our data corresponds with the nationally representative household survey of tobacco GATS (Global Adult Tobacco Survey) data. For example in 2011 the GATS in Romania showed that 43.1% of smokers initiated their daily smoking habit at age 17-19, followed by ages 15-16 (21.7%) and 18.1% at over 20⁽⁴⁾.

Almost three quarters of the students are non-smokers (70.5%), this percentage is considerably higher compared to the result of a survey done 10 years ago, when 53.9% were smokers⁽⁶⁾. Students consider that advertising plays a smaller role in their attitude towards smoking. Prohibiting tobacco sales to adolescents is considered important by the majority of both smoker and non-smoker pharmacy students. A significantly higher percentage of non-smoking students agrees with smoke-free policies in public places.

The time of smoking the first cigarette in the morning (after waking up in the first hour) is a standard method for evaluation of smoking dependence. Recent

studies indicate that this is the only reliable predictor of smoking abstinence outcome during treatment⁽⁷⁾.

Special training programs are recommended for health professional students, doctors and pharmacists to improve skills in assisting quitting plans and arranging follow up⁽⁸⁾.

Pharmacists can play a key role in providing information and advice to smokers. A meta-analysis showed that pharmacist-led interventions can significantly impact abstinence rates in smokers. The authors conclude that health policymakers should direct incentives for community pharmacists to provide such services⁽⁹⁾.

A study performed on one hundred smoker patients in a Swiss regional hospital showed that a smoking cessation intervention in patients admitted to the hospital was associated with a higher quit rate than in control groups from other studies, and their readiness to quit improved at least 1 month after being discharged from the hospital. Clinical pharmacists should be trained for smoking cessation counselling, so they can play a key role in such interventions, including the assessment of pharmacotherapy interactions with smoking⁽¹⁰⁾.

Another study performed in Qatar revealed that only 21% of the respondent community pharmacists reported that they always or most of the time asked their patients if they smoke. The authors concluded that the pharmacists filling in the questionnaire exhibited positive attitudes toward smoking cessation counselling, and these attitudes need to be translated into action in the future. Interventions should be implemented to improve smoking cessation activities among pharmacists and to overcome perceived barriers⁽¹¹⁾.

According to the data of the GHPSS survey conducted in 2005 among 3rd year pharmacy students in 44 countries and the Ghaza Strip/West Bank (named together as 45 sites), current cigarette smoking rates were equal or above 30% in eight of them (Albania, Chile, Guatemala, Papua New Guinea, Peru, Republic of Moldova, Russian Federation and Slovakia), while another eight sites reported rates under 5% (Ghana, Guyana, Jamaica, Lao's PDR, Myanmar, Senegal, Thailand, Zambia). There were obvious gender differences (40 sites reported separately male and 44 female data): rates of males were over 20% in 28 sites, and only 4 reported values <5%, female rates were over 20% in 13 sites and 21 reported <5%. The majority of students (>80% in 39 of 46 sites) believed that pharmacists as role models may influence the patients,

and should provide advices about smoking cessation. In 25 sites this belief was ≥90%, including four sites in Africa and five sites in the Western Pacific. In 34 of the 45 sites the vast majority (≥90%) thought that health professionals should receive specific training on cessation techniques. The rate was the lowest (<90%) in Europe (in 7 of the 11 sites). In all 45 sites less than 40% reported having ever had any kind of formal training on tobacco cessation techniques. Results of this study suggest that universities with pharmacy faculties should consider including tobacco smoking related knowledge in the curricula, to provide information about the harmful effects of tobacco use, and motivate students for smoke free behavior⁽⁵⁾.

Changing policies in Romania, prohibiting smoking in public places (bars, restaurants) is expected to have a serious impact on smoking-habits of students, decreasing the exposure to second-hand smoke, which is 72.4% now amongst pharmacy students.

Conclusions

Smoking is common amongst pharmacy students, especially among those attending the last year of the university. It is important to focus on students in their early years at the university to prevent smoking uptake and promote cessation.

Prevention programs and education have a very important role in decreasing the percentage of smokers. The implementation of the smoke free university project and the related activities organized by our research group have a special role in changing the social norms related to tobacco use and SHS exposure among health professional students. Shifting social norms is critical to ensuring the smoke free university project. Moreover, integrating tobacco training into the health professions curriculum can play a critical role for promoting cessation among the general population. ■

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