TOBACCO USE IN STUDENTS OF THE THIRD FACULTY OF MEDICINE OF CHARLES UNIVERSITY IN THE CZECH REPUBLIC

Tereza Kopřivová Herotová[1], Viktor Hynčica[2], Dagmar Schneidrová[1]
[1]Department of Hygiene, Third Faculty of Medicine, Charles University, Prague, Czech Republic
[2]Department of Medical Biophysics and Informatics, Third Faculty of Medicine, Charles University, Prague, Czech Republic

SUMMARY

Objectives: This study assessed trends in tobacco use in students of the Third Faculty of Medicine of Charles University in the Czech Republic between academic years 2012/13 and 2019/2020.

Methods: Two cross-sectional surveys designed to obtain information on smoking history, smoking status, tobacco products use, and cessation were conducted among 382 students of the 6-year Master's Study Programme (General Medicine) and the 3-year Bachelor's Study Programme (Public Health) in 2012/2013; and among 580 students of General Medicine and of the Bachelor's Study Programmes (Public Health, Dental Hygiene and Nursing) in 2019/2020.

Results: Regular/daily smoking was reported by 4.4 ± 2.4% (with 95% CI) of General Medicine students and 4.8 ± 4.1% of Public Health students in 2012/2013, and 1.3 ± 1.1% of General Medicine students and 14.4 ± 4.8% of students of bachelor studies in 2019/2020. The share of regular and occasional smokers was higher among junior students in both academic years (23.9 ± 5.1% and 20.1 ± 4.7%, respectively) compared to senior students (23.6 ± 9.8% and 9.6 ± 5.7%). Cigarettes were the most common products used in both academic years (67.0 ± 4.7% and 45.5 ± 4.0%). There was a significant increase in proportion of students using more tobacco products in the course of the time (from 12.1 ± 3.1% to 53.7 ± 4.1%). The proportion of students who quitted smoking has risen from 11.4 ± 3.2% to 16.1 ± 3.0%. On the contrary, the proportion of students who started smoking has dropped from 15.9 ± 3.7% to 2.9 ± 1.4%. The proportion of non-smokers has risen from 57.6 ± 5.0% to 65.3 ± 3.9%.

Conclusions: The study revealed some positive trends concerning tobacco use in students (decline in regular smokers among students of General Medicine, senior students, cigarette smokers, water pipe smokers; rise in non-smokers), but also negative ones (rise in regular smokers among students of Public Health, students who used more tobacco products).

Key words: tobacco use, trend, health professions students

Address for correspondence: T. Kopřivová Herotová, Department of Hygiene, Third Faculty of Medicine, Charles University, Ruská 87, 100 00 Prague 10, Czech Republic. E-mail: tereza.koprivova@lf3.cuni.cz

https://doi.org/10.21101/cejph.a7595

INTRODUCTION

Tobacco use is considered one of the most serious but preventable causes of death due to chronic diseases, esp. cardiovascular, tumour and respiratory ones. Their treatment causes suffering to patients and a significant financial burden on the healthcare system (1).

In this context, tobacco use in health professionals undermines their crucial role in health promotion and prevention of chronic diseases in their patients. Therefore, education at the medical faculty should focus on motivating future health professionals towards no tobacco use and provide relevant knowledge and skills for their practice (2).

In order to prevent and reduce smoking and tobacco use in faculty staff and students, the Third Faculty of Medicine of Charles University (3FM CU) has implemented the following strategies: education, counselling and restriction on smoking at the faculty and teaching hospital. Besides evidence-based knowledge on health consequences of using tobacco products and public health preventive strategies, brief tobacco interventions in primary care and guidance for tobacco dependence treatment have been included in the curriculum for medical and bachelor students. The faculty also provides behavioural counselling and pharmacological treatment of tobacco dependence to tobacco users among students and the faculty and teaching hospital staff (3).

The two surveys have been undertaken among students of the 3FM CU during academic years 2012/13 and 2019/2020. The purpose of this study is to assess trends in tobacco use in students and impact of the implemented strategies. We expected a positive trend in terms of decline of regular smokers in senior students who already passed the lessons on health risks of tobacco use and guidance on early identification and intervention in tobacco users.

MATERIALS AND METHODS

Two cross-sectional surveys designed to obtain information on smoking history, smoking status, tobacco products use, and cessation were conducted among 382 students from the first and sixth years of the 6-year Master's Study Programme (General Medicine) and the first and third years of the 3-year Bachelor's

Study Programme (Public Health) in 2012/2013; and among 580 students from the first to fifth years of General Medicine and from the first to third years of the 3-year Bachelor's Study Programmes (Public Health, Dental Hygiene and Nursing) in 2019/2020. Students of the 6th year of General Medicine were not addressed in 2019/2020 because they were engaged in the testing and practice in healthcare facilities during the first and second wave of the SARS-CoV-2 pandemic. Table 1 displays the distribution of the sample according to gender, study programme and year of study in both waves of the research.

An anonymous questionnaire was administered during the classes in 2012/2013. The questionnaire included general questions on gender, age, study programme, and year of study; and specific questions related to tobacco use/smoking history, status and cessation. The questionnaire is described in greater detail in the previous publication (3).

The questionnaire was distributed and collected during classes by collaborating teachers engaged in the project. Each questionnaire included information outlining the aim of the research. Data were confidential and students were informed that by completing the questionnaire, they provide consent to being part of the study. Based on the number of questionnaires returned by students the response rate was 96%. In the second survey in 2019/2020, the same anonymous questionnaires were collected in two ways due to the SARS-CoV-2 pandemic. In the winter semester 2019/2020 the questionnaires were administered the same way as in the previous research during classes by collaborating teachers engaged in the project. Four hundred questionnaires were distributed and 390 of them have been collected, i.e., the response rate was 97.5%. At the beginning of the summer semester, distance teaching was introduced. Therefore, we were forced to change the data collection. An online version of the questionnaire was prepared; subsequently, students were informed about the research and asked to fill in the questionnaire available at a website included in the presentation during online lectures and seminars. Eventually, 190 questionnaires have been collected. However, we could not evaluate the response rate of this sample.

The EpiData version 3.1 program was used for data collection and the EpiData Analysis version 2.2.1 program was employed for the statistical analysis. For descriptive analyses, categorical data were expressed with contingency tables, frequencies and percentages, and quantitative data were presented as means and standard deviations. Chi-square tests for tobacco use/smoking variables related to gender, study programme and year of study were calculated. The difference was considered significant when p-value was < 0.05.

Table 1. *Characteristics of the sample*

	Females n (%)	Males n (%)	Total n
2012/2013	276 (72.3)	106 (27.7)	382
Master	175 (63.4)	101 (36.6)	276
1	127	75	202
6	47	25	72
Bachelor	101 (95.3)	5 (4.7)	106
1	59	4	63
3	42	1	43
2019/2020	420 (72.4)	160 (27.6)	580
Master	245 (66.0)	126 (34.0)	371
1	156	65	221
2	15	7	22
3	13	11	24
4	28	21	49
5	33	22	55
Bachelor	175 (83.7)	34 (16.3)	209
1	47	16	63
2	64	11	75
3	64	7	71

RESULTS

Tobacco Use History

Fig. 1 presents the age of the first use of tobacco products in the students in both surveys. We found out a significant 10% increase in the proportion of students who started using tobacco products before their 10th year (from 6% to 16%). The highest proportion of students started using tobacco products between 11 and 14 years (34.1% and 24.4%), and between 15 and 18 years (30.7% and 22.5%). Only 6.9% of the students in 2012/2013 and 4.3% of the students in 2019/2020 started using tobacco after their 18th year. Besides the rise of early initiation of using tobacco products, we observed a positive trend in terms of a significant drop in students who tried a first tobacco product after their 10th

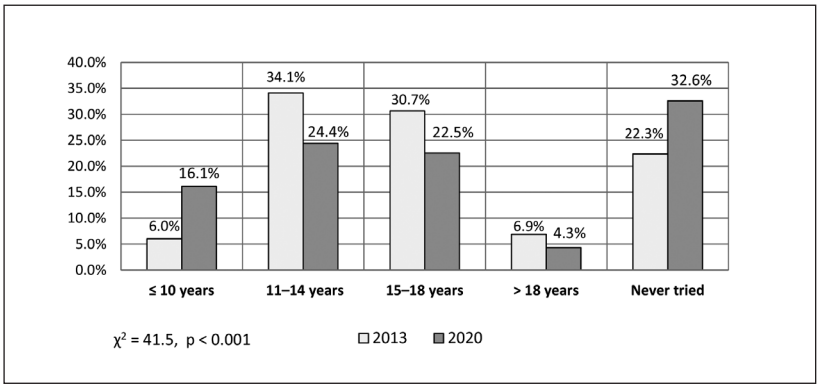

Fig. 1. *Age of the first use of tobacco products.*

year and a 10% increase in students who never tried any tobacco products (from 22.3% to 32.6%) ($\chi^2=41.5$, $p<0.001$).

Table 2 summarizes data on smoking in the family. Most students reported living in a non-smoking family and the proportion of these students significantly increased between the two surveys – from 60% to 72.2% ($\chi^2=17.5$, $p<0.001$). The proportion of students living in a non-smoking family was significantly higher in master students compared to bachelor students in both surveys. At the same time, there was a significant drop in students living with parents who both used tobacco products – from 11.5% (19.6% in bachelors and 8.2% in masters) to 5.9% (9.1% in bachelors and 4.1% in masters). Similarly, the proportion of students living in families with one parent using tobacco products dropped from 23.8% to 17.6%. However, a significant drop (from 24.3% to 10.5%) was found only in master students compared to bachelor students (from 22.7% to 30.1%) ($\chi^2=11.7$, $p=0.01$; $\chi^2=47.2$, $p<0.001$).

Smoking Status

The proportion of regular/daily smokers slightly increased between the surveys from 4.5% to 6.0% (Fig. 2). On the contrary, the proportion of occasional and former smokers dropped from 19.4% to 14.8% and 18.4% to 13.8%, respectively. Accordingly, we observed a significant increase in non-smokers – from 57.7% to 65.3% ($\chi^2=9.19$, $p=0.03$).

Table 3 displays differences in smoking status between students of the 6-year Master's Study Programme and the 3-year Bachelor's Study Programmes in both surveys. Unexpectedly, we observed a significant increase in regular smokers in bachelor students from 4.8% to 14.4%. On the contrary, as expected, the proportion of regular smokers in master students dropped from 4.4% to 1.3%, as well as the proportion of occasional smokers (from 20.4% to 14.3%). The proportion of non-smokers increased in students of both study programmes (from 46.7% to 53.1% in bachelor students and from 61.8% to 72.2% in master students) ($\chi^2=47.2$, $p<0.001$).

Tobacco Products Use

Fig. 3 compares the use of different types of tobacco products between the surveys. Smoking cigarettes was predominant in both surveys despite its significant drop (from 67% to 45.5%) in the course of time ($p<0.001$). A water pipe was the second most frequently used product in 2012/2013 (37.4%), but in 2019/2020 only 7.4% of the students reported its use ($p<0.001$). Using cigars dropped from 7.7% to 1.7% ($p=0.03$). On the contrary, the use

Table 2. *Smokers in the family*

	One parent n (%)	Both parents n (%)	Sibling n (%)	Nobody n (%)	Total n
2012/2013	81 (23.8)	39 (11.5)	16 (4.7)	204 (60.0)	340
2019/2020	102 (17.6)	34 (5.9)	25 (4.3)	419 (72.2)	580
Total	183 (19.9)	73 (7.9)	41 (4.5)	623 (67.7)	920
$\chi^2=17.5$, $p<0.001$					
2012/2013					
Bachelor	22 (22.7)	19 (19.6)	7 (7.2)	49 (50.5)	97
Master	59 (24.3)	20 (8.2)	9 (3.7)	155 (63.8)	243
Total	81 (23.8)	39 (11.5)	16 (4.7)	204 (60.0)	340
$\chi^2=11.7$, $p=0.01$					
2019/2020					
Bachelor	63 (30.1)	19 (9.1)	10 (4.8)	117 (56.0)	209
Master	39 (10.5)	15 (4.0)	15 (4.0)	302 (81.4)	371
Total	102 (17.6)	34 (5.9)	25 (4.3)	419 (72.2)	580
$\chi^2=47.2$, $p<0.001$					

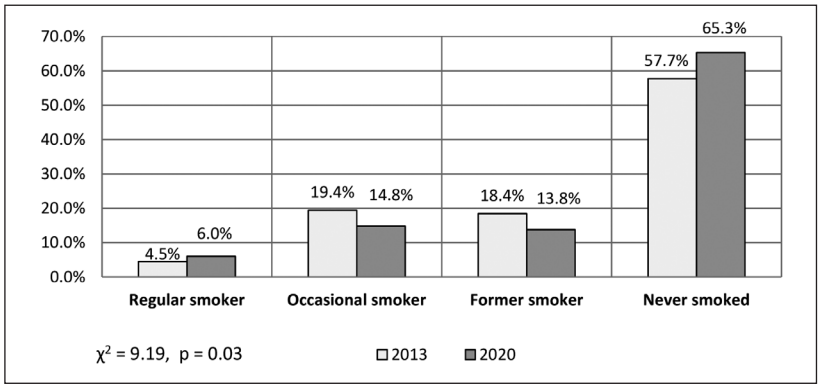

Fig. 2. *Smoking status.*

Table 3. *Smoking status in study programmes*

	Regular n (%)	Occasional n (%)	Former n (%)	Non-smoker n (%)	Total n
2012/2013					
Bachelor	5 (4.8)	18 (17.1)	33 (31.4)	49 (46.7)	105
Master	12 (4.4)	56 (20.4)	37 (13.5)	170 (61.8)	275
Total	17 (4.5)	74 (19.5)	70 (18.4)	219 (57.6)	380
$\chi^2 = 16.8$, $p < 0.001$					
2019/2020					
Bachelor	30 (14.4)	33 (18.8)	35 (16.7)	111 (53.1)	209
Master	5 (1.3)	53 (14.3)	45 (12.1)	268 (72.2)	371
Total	35 (6.0)	86 (14.8)	80 (13.8)	379 (65.3)	580
$\chi^2 = 47.2$, $p < 0.001$					

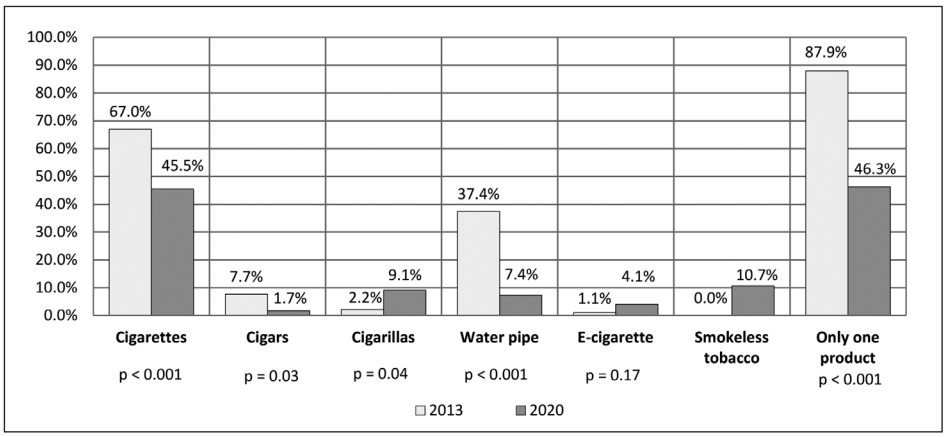

Fig. 3. *Tobacco products used.*

of cigarillas raised from 2.2% to 9.1% (p = 0.04), as well as the use of e-cigarettes from 1.1% to 4.1% (p = 0.17). The smokeless/heated tobacco (10.7%) was a new product reported in 2019/2020 compared to the previous survey in 2012/2013. We observed a drop in students who reported the use of only one tobacco product (from 87.9% to 46.3%). Therefore, 53.7% of the students reported parallel use of different tobacco products in 2019/2020 compared to only 12.1% students in 2012/2013 (p < 0.001).

Fig. 4 presents the number of cigarettes regular smokers smoked daily. There was a slight increase in students who smoked 1–5 cigarettes (from 9.1% to 9.9%), 6–10 cigarettes (from 3% to 3.5%), and 11–20 cigarettes (from 8.1% to 9.5%) in the course of time. Fortunately, only 0.6% of the students reported smoking more than 20 cigarettes per day in 2019/2020 (p = 0.90).

Smoking Status Change During the Study

Table 4 compares the smoking status in the first-year and senior students between both surveys. We observed a significant drop in regular smokers (from 9.7% to 1.9%) and occasional smokers (from 13.9% to 7.7%) in the senior students. At the same time, the proportion of non-smokers increased by more than 10% in

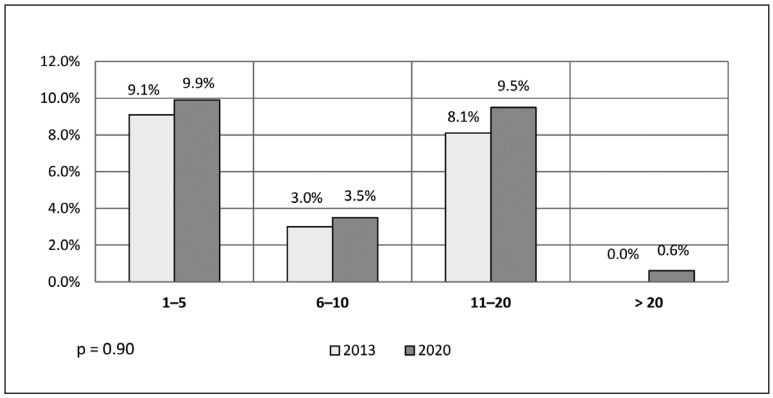

Fig. 4. *Number of cigarettes used per day.*

Table 4. *Smoking status in the first-year and senior students*

	Regular n (%)	Occasional n (%)	Former n (%)	Non-smoker n (%)	Total n
2012/2013					
First-year student	7 (2.7)	56 (21.2)	45 (17.1)	156 (59.1)	264
Senior student	7 (9.7)	10 (13.9)	13 (18.1)	42 (58.3)	72
$\chi^2 = 8.37$, $p = 0.04$					
2019/2020					
First-year student	7 (2.5)	50 (17.6)	29 (10.2)	198 (69.7)	284
Senior student	2 (1.9)	8 (7.7)	19 (18.3)	75 (72.1)	104
$\chi^2 = 9.16$, $p = 0.03$					

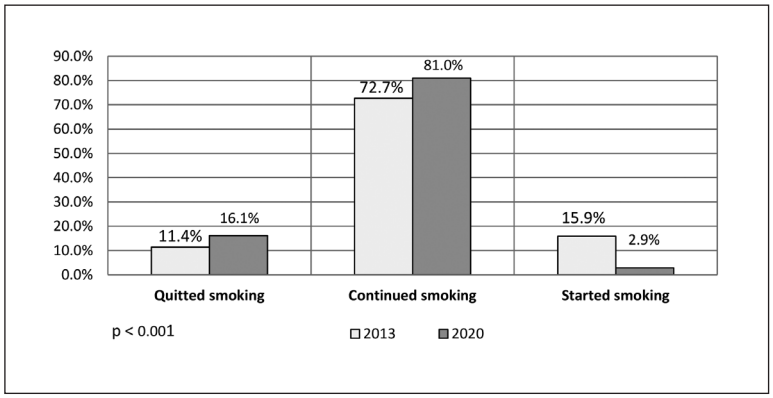

Fig. 5. *Smoking status change during the study.*

both the first-year students (from 59.1% to 69.7%) and senior students (from 58.3% to 72.1%) ($p < 0.05$).

Fig. 5 illustrates the change of smoking status in the students in the course of their study in both surveys. The proportion of students who quitted smoking has increased from 11.4% to 16.1%. On the contrary, the proportion of students who started smoking during their study dropped from 15.9% to 2.9% ($p < 0.001$).

DISCUSSION

The purpose of this study was to assess trends related to tobacco use in students of the Third Faculty of Medicine of Charles University between two surveys undertaken in academic years 2012/13 and 2019/2020, and evaluate the impact of preventive strategies implemented at the faculty (education, anti-smoking campaigns, counselling, and restriction on smoking) (3).

There were some limitations to be considered. The surveys were designed as cross-sectional only, and the sample was limited to a specific group of students of the Czech curricula. The self-administered questionnaire was anonymous, however, it was distributed and collected by teachers during the classes in the first wave of research in 2012/13. Therefore, a potential bias of self-reported behaviour might be related to the context of health risks and prevention-oriented topics presented in lessons. In the second survey in 2019/2020, the same anonymous questionnaires were collected in two different ways due to the SARS-CoV-2 pandemic – 390 questionnaires were collected the same way as in 2012/13, and 190 questionnaires were collected online. Although the response rate in data collection by teachers was high (97.5%), the response rate of on-line sample could not be evaluated. The long-term process of data collection, processing and evaluation was affected by institutional and personal changes leading to a staff shortage. Finally, coronavirus pandemic lockdowns limited direct communication of the research team.

Since we were concerned with primary prevention, we asked students about the age of initiation of tobacco use. Surprisingly, we found out a 10% increase in students who started using tobacco products before their 10th year. This finding might reflect lack of control from parents, ineffective heath education in the primary schools and breaking the restrictions on tobacco products sales to children. On the other hand, we found out a positive trend in terms of a significant drop in students who tried a first tobacco product after the 10th year and 10% increase in students who never tried any tobacco products. These findings might correspond to an increase in students who reported living in a non-smoking family and drop in students who lived with parents who either both or one of them used tobacco products.

Early initiation of tobacco use might also be encouraged by a high tolerance of the Czech society towards using legal drugs like alcohol or tobacco. Therefore, the consumption of alcohol and tobacco in students at secondary schools and colleges (4–6) in the Czech Republic remains quite high.

However, the long-term annual monitoring of tobacco use in the Czech population revealed a significant decline in current smokers (daily and occasional) in the population group aged 15–24 years from 39.2% in 2013 to 24.2% in 2020 (7, 8). We also observed a decline in smokers (regular and occasional) but

with the lower prevalence in our sample (23.9% in 2012/2013 and 20.8% in 2019/2020). The difference may be explained by higher health literacy and awareness of health risks of using tobacco in students of the medical faculty compared to general population. Unexpectedly, we found out a significant increase in regular smokers in bachelor students. On the contrary, the proportion of regular and occasional smokers in master students dropped as expected. Students of General Medicine are more exposed to health consequences of smoking and suffering of patients in their clinical practice, therefore, they might be discouraged from tobacco use compared to students of Public Health.

We presumed a decline of regular/daily and occasional smokers in the senior students who already passed the lessons on health risks of tobacco use and guidance on early identification and intervention in tobacco users in the 5th year. This presumption was confirmed by our findings. We compared the findings of the 6th year students in the first wave of the research and the 5th year students in the second wave of research since the education related to tobacco is included in the 5th year, and we expected similar outcomes in both years. We were also interested in the change of the students' smoking status during their study at our faculty which adopted a comprehensive policy to restrict smoking and tobacco use. As expected, the proportion of students who started smoking during their study dropped, whereas the proportion of students who quitted smoking has risen. The latter finding might be explained by the support on quitting smoking that our students can get at the Students Counselling Centre at the Department of Hygiene and the Centre for Tobacco Dependence at the Department of Occupational and Travel Medicine of Charles University and University Hospital Královské Vinohrady.

In general, university and college students are considered responsible adults with an already established value system, social skills and knowledge related to unhealthy lifestyle and substance use (4). However, Czech and foreign studies which have been focusing on the population of university and college students since 1990s revealed significant contradictions between their knowledge and behaviour. Therefore, the authors of those studies consider this population group a high-risk group prone to risk behaviour including substance use, esp. alcohol and tobacco (5, 6, 9–11). University studies usually cover the life period between 18 and 25 years defined as "emerging adulthood" – a specific developmental period of transition between adolescence and early adulthood (12, 13). In this life period, most students get out of the family and the direct control of their parents; they get more freedom and space for own decision making; start building new social relationships. They adapt to a new system of study – irregular schedule of classes, lectures without controlled presence, optional courses – which challenges their capacity for self-management and self-control. Remote exam terms and lack of external control may result in avoiding classes and procrastination – postponing regular and systematic self-study. A long-term procrastination and accumulation of study duties may result in stress with negative emotions like anxiety, irritation, despair, and depression (14). Some students may treat those negative emotional states with psychoactive substances, esp. alcohol and tobacco (5). Stress, isolation and loneliness related to the first COVID-19 lockdown in spring 2020 might also have contributed to an increase in smokers in bachelor students in our sample. This presumption is supported by the finding of a large Italian population survey undertaken during the lockdown, showing that 9% of the respondents started or got back to smoking due to mental distress (15). The findings of the National Survey on Substance Use undertaken in the Czech Republic in spring 2020 revealed that substance users who used psychoactive substances intensively (daily or mostly daily) increased their use during the lockdown period compared to users with less intensive use who decreased it. However, smokers were the only substance use group in which the average use dropped compared to other substance users. The message of the WHO World No Tobacco Day 2021 was that the healthcare system should use the situation of the COVID-19 pandemic for a public campaign and actively promote effective forms of treatment of tobacco dependence (16).

CONCLUSIONS

From the perspective of primary prevention, educational institutions (primary and secondary schools) should systematically implement health education curricula and work on health literacy and motivation of children and adolescents towards no tobacco use. Students of the Third Faculty of Medicine of Charles University may contribute to this process since they proved their competence in implementing voluntary health education projects in the past. Education at our medical faculty should motivate future health professionals towards non-smoking and no tobacco use. The curriculum of our faculty should be revised in the upcoming accreditation process. Besides the update on evidence-based knowledge on health risks of tobacco use, a great challenge is to implement active teaching methods in order to strengthen students' awareness of their role as models for their patients and the public, to enhance their responsibility to advise patients to quit smoking and train them in effective smoking cessation-counselling techniques. Moreover, early identification of students who use tobacco and providing counselling and referral to specialized centres for the treatment of tobacco dependence may be coordinated with the study division during the admission process of new students. However, the outlined strategies require more communication and coordinated action between the parties.

Acknowledgements

The research was approved by the Scientific Board of Charles University and initiated with the support of the Institutional Development Project of the Ministry of Education, Youth and Physical Activity in 2012. This study was also supported by the PROGRES Programme of the Charles University in 2014 and 2021.

Conflict of Interests

None declared

REFERENCES

1. Csémy L, Dvořáková Z, Fialová A, Kodl M, Malý M, Skývová M. [The national survey on tobacco and alcohol use in the Czech Republic 2021 (NAUTA)] [Internet]. Prague: National Institute of Public Health; 2022 [cited 2022 Jul 26]. Available from: https://archiv.szu.cz/uploads/documents/szu/aktual/NAUTA_2021.pdf. Czech.
2. World Health Organization. Strengthening health systems for treating tobacco dependence in primary care. Building capacity for tobacco control: training package [Internet]. Geneva: WHO; 2013 [cited 2022 Jul 26].

Available from: https://www.who.int/publications/i/item/strengthening-health-systems-for-treating-tobacco-dependence-in-primary-care.
3. Schneidrová D, Kopřivová Herotová T, Šustková M, Hynčica V. Smoking habits and attitudes in students of the Third Faculty of Medicine of Charles University in Prague. Cent Eur J Public Health. 2016 Jun;24(2):144-51.
4. Csémy L, Hrachovinová T, Krch DF. [Alcohol and other drugs in university population: extent, context, risks]. Adiktologie. 2004;4(2):124-35. Czech.
5. Syrovcová L, Venderová K, Višňovský P. Attitudes of undergraduate pharmacy students towards alcohol and smoking. Folia Pharmacol Univ Carol. 2001;26:75-82.
6. Kachlík P. Analysis of behavior with features of addiction and primary prevention for full-time students at Masaryk University. Lifelong Learn. 2015;5(3):45-74.
7. Csémy L, Dvořáková Z, Fialová A, Kodl M, Malý M, Skývová M. [The national survey on tobacco and alcohol use in the Czech Republic 2020 (NAUTA)] [Internet]. Prague: National Institute of Public Health; 2021 [cited 2022 Jul 26]. Available from: https://archiv.szu.cz/uploads/documents/szu/aktual/nauta_2020.pdf. Czech.
8. Csémy L, Sovinová H, Sadílek P. [Tobacco use in the Czech Republic 2013] [Internet]. Prague: National Institute of Public Health; 2014 [cited 2022 Jul 26]. Available from: https://archiv.szu.cz/uploads/documents/czzp/CPVZ_aktualne/Tabak_Sovinova/UzivaniTabaku2013.pdf. Czech.
9. Balogh E, Faubl N, Riemenschneider H, Balázs P, Bergmann A, Cseh K, et al. Cigarette, waterpipe and e-cigarette use among an international sample of medical students. Cross-sectional multicenter study in Germany and Hungary. BMC Public Health. 2018 May 3;18(1):591. doi: 10.1186/s12889-018-5494-6.
10. Brożek GM, Jankowski M, Lawson JA, Shpakou A, Poznański M, Zielonka TM, et al. The Prevalence of cigarette and e-cigarette smoking among students in Central and Eastern Europe-results of the YUPESS Study. Int J Environ Res Public Health. 2019 Jun 28;16(13):2297. doi:10.3390/ijerph16132297.
11. El Ansari W, Salam A. Multi-substance use behaviors: prevalence and correlates of alcohol, tobacco and other drug (ATOD) use among university students in Finland. Int J Environ Res Public Health. 2021 Jun 14;18(12):6426. doi:10.3390/ijerph18126426.
12. Arnett JJ. Emerging adulthood. A theory of development from the late teens through the twenties. Am Psychol. 2000 May;55(5):469-80.
13. Arnett JJ. The Developmental context of substance use in emerging adulthood. J Drug Issues. 2005;35(2):235-54.
14. Burka JB, Yuen LM. Procrastination: why you do it, what to do about it now. Cambridge: Da Capo Life Long; 2008.
15. Carreras G, Lugo A, Stival C, Amerio A, Odone A, Pacifici R, et al. Impact of COVID-19 lockdown on smoking consumption in a large representative sample of Italian adults. Tob Control. 2022 Sep;31(5):615-22.
16. Králíková E, Pánková A. [How has the COVID-19 pandemic affected smokers?]. Hygiena. 2021;66(2):60-2. Czech.

Received September 20, 2022
Accepted in revised form February 24, 2023