



# BMJ Open Prevalence of tobacco use, exposure to secondhand smoke and knowledge on smoking cessation among students of health professions in Central Greece: a cross-sectional study

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## ABSTRACT

**Objectives** The aim of this study was to assess the prevalence of tobacco use and exposure to secondhand smoke among students of health professions (SHPs) and determine possible risk factors for current smoking. In addition, we sought to investigate the level of students' knowledge regarding smoking cessation.

**Design** Cross-sectional.

**Setting** Central Greece.

**Participants** A convenient sample of 822 SHP volunteers were used, composed of 365 medical students, 123 students from a biochemistry department, 71 students from a nursing department, 176 from medical laboratory department and 84 students from a veterinary medicine department.

**Primary and secondary outcome measures** We investigated the prevalence of current smoking and secondhand smoke, their determinants and SHP's knowledge and attitudes regarding smoking cessation. Univariate and logistic regression statistical analysis were used in order to identify risk factors associated with current smoking.

**Results** The prevalence of current smoking was estimated at 23.5% (95% CI 20.7% to 26.5%), while 49% of current smokers reported they wanted to quit smoking. The prevalence of current e-cigarette use was 1.2%. In addition, 96.5% (95% CI 94.9% to 97.5%) of SHP have been exposed to secondhand smoke at least 1 day per week. Logistic regression analysis showed that increasing age ( $p<0.001$ ), alcohol consumption ( $p<0.001$ ) and exposure to secondhand smoke in the home ( $p<0.001$ ) were independent risk factors for current smoking. Notably, only 11.6% of the participants had learnt about methods to be used for smoking cessation.

**Conclusions** Our results underline the need for integrated tobacco control initiatives that should discourage tobacco use among SHP, promote smoke free schools of health science, and implement programs that train SHP in effective cessation-counseling techniques.

## INTRODUCTION

Tobacco use is one of the major preventable causes of mortality and morbidity worldwide. WHO warns that tobacco use is one of

## Strengths and limitations of this study

- Our study provides for the first time, data on the determinants of smoking among students of veterinary medicine, biochemistry and medical laboratories departments.
- This was a questionnaire-based convenient sample study, and information bias may have occurred.
- Data were only collected from Central Greece; thus, the generalisability of our results is limited.

the primary risk factors for several chronic illnesses, including cancer, lung diseases and cardiovascular diseases.<sup>1</sup> The tobacco epidemic is one of the greatest public health threats the world has ever faced, killing more than 7 million people each year. More than 6 million of those deaths are the result of direct tobacco use, while approximately 890 000 deaths are the result of non-smokers being exposed to secondhand smoke.<sup>1</sup> Greece has one of the highest smoking rates of countries in the European Union. Each year, over 19 000 Greeks die from tobacco-attributable illnesses such as cancers, cardiovascular and respiratory system diseases.<sup>2</sup> Smoking-related conditions account for approximately 14.4% of the total healthcare costs in Greece, resulting in approximately €3.4 billion.<sup>2</sup> The 2013 Global Adult Tobacco Survey study measured the prevalence of current smoking in Greece at 38.2% (95% CI 35.7% to 40.8%).<sup>3</sup> These findings are of concern and indicate the critical role of healthcare professionals, both as students in universities and during their later careers, to reduce the tobacco epidemic by counselling their patients on smoking cessation.

Providing effective interventions against tobacco use, and counselling patients about smoking cessation is a core clinical skill that must be acquired during undergraduate health science studies. Counselling from students of health professions (SHPs) has shown increased smoking cessation rates. Data pooled from 17 trials of brief advice versus no advice detected a significant increase in the rates of cessation; however, there was only a small advantage provided by intensive advice versus minimal advice.<sup>4</sup> Each contact with the patient, regardless of the reason for admission, could be an effective opportunity to support patients to quit smoking.<sup>5</sup> According to Tobacco Use and Dependence Clinical Practice Guidelines developed by the US Public Health Service, all healthcare providers (HCPs) should promote tobacco cessation to all patients.<sup>6</sup> Unfortunately, only half of all smokers receive advice on smoking cessation from any HCP, and even fewer receive pharmacotherapy.<sup>7–9</sup>

The tobacco epidemic seems to affect SHPs as well. The Global Health Professions Student Survey (GHPSS), which was conducted among third year medical students in 47 countries worldwide from 2005 to 2008, shows that over 20% of medical students are current smokers in 26 of 48 sites, and more than 40% in three countries (Bosnia and Herzegovina, Bolivia and Albania).<sup>10</sup>

Only a few studies have collected data on SHP's training on tobacco cessation methods, and even fewer studies exist regarding knowledge about this topic during the 6 years of medical school. The GHPSS mentioned above that was conducted among the third year medical students revealed that less than 40% of medical students reported receiving formal training on counselling patients to quit using tobacco.<sup>10</sup> In 2011 in Greece, the rate of undergraduate SHPs who had received formal training on smoking cessation counselling was extremely low (ranging from 10.7% to 22.4%).<sup>11</sup> In addition, the prevalence of current smoking among SHP is important according to the literature, since there is evidence that physicians who smoke are less likely to ask about patients' smoking history and provide advice for smoking cessation.<sup>12</sup>

Furthermore, to date, the GHPSS has only surveyed students belonging to departments of medicine, dentistry, nursing and pharmacy. However, other SHPs such as veterinarians, paramedics, biochemists and others may also play a role in tobacco use cessation.<sup>13</sup>

The main objectives of this study were to assess the prevalence of current smoking and secondhand smoke among various groups of SHPs in Central Greece; to identify independent risk factors of current smoking; and to compare knowledge on tobacco cessation methods among different schools of health professions.

## METHODS

### Survey design-settings

A cross-sectional questionnaire-based study was conducted. Participants received a structured, self-administered modified version of the questionnaire used

in the GHPSS Greece in 2011.<sup>11</sup> The questionnaire was distributed during obligatory courses held in regular classroom settings. The study was conducted between March 2016 and June 2016.

### Data collection

A convenient sample of SHPs at the University of Thessaly enrolled in the study. Medical students from all years of study, second and third year students from departments of biochemistry/medical laboratories/nursing, and third and fourth year students from the faculty of veterinary medicine participated in the survey. To make comparisons between preclinical and clinical study years, medical students from all years of study were selected to participate. Students from other schools of health professions who were in their middle years of study were selected to provide a more representative sample. The questionnaire consisted of 43 questions related to social characteristics, frequency of tobacco use, exposure to secondhand smoke, education and knowledge about risks of tobacco use and attitudes and methods for supporting patients to quit smoking.

As a first step, the GHPSS questionnaire was modified to include alcohol consumption information. The questionnaire was then translated from English to Greek, followed by back-translation into English to check for accuracy and compatibility with the core questionnaire. To address potential bias, the questionnaire was pilot tested in a sample of 20 SHP, who were asked to provide feedback on the face validity of the questionnaire. The questionnaire was then revised taking into consideration the pilot study results.

### Patient and public involvement

Neither patients nor the public were directly involved with or participated in the research.

All participants were informed about the purpose of the study. On ensuring that participation was voluntary and that responses would remain anonymous and confidential, return of a completed questionnaire indicated informed consent.

### Primary outcome measures

As current smoking was defined the use of tobacco products at least once on the past 30 days and as secondhand smoking was defined the exposure at home or public places at least once in the past 7 days.

### Statistical analysis

Quantitative variables are presented as means with SD and qualitative variables are presented as absolute (N) and relative (%) frequencies.

In univariable analysis,  $\chi^2$  test tests or Fisher's exact tests were used to identify associations between categorical factors and smoking status.  $\chi^2$  test for trend was used to explore any associations between ordinal factors and smoking status.

Logistic regression analysis was performed using the backward conditional method to identify independent

factors for smoking status, adjusting for age and gender by calculating the ORs with the corresponding 95% CIs. Variables which were found to be statistically significant in univariable analysis were included in the logistic regression analysis. A result with a  $p < 0.05$  was considered to be statistically significant. Data were analysed using Epi Info (V.3.5.3, CDC, Atlanta) and SPSS V.21.0 (IBM SPSS).

## RESULTS

The response rates were 81% (365/450) among medical students, 61.5% (123/200) among students in the Biochemistry department, 56% (84/150) among students in the Veterinary Medicine department and 70.5% (247/350) among nursing/medical laboratories students.

The total sample consisted of 822 students, with a mean age of 21 years. Females represented 66.5% of the participants and males represented 33.5%; 47.1% of participants were <20 years of age, 47.6% were 20–24 years of age and 5.3% were older than 24 years of age. In total, 23.5% (95% CI 20.7% to 26.5%) of SHP were current smokers (females: 24.5%, males: 21.5%) with a mean number of 9.2 cigarettes smoked daily. Of the participants, 57.5% of SHP have used an e-cigarette before, but only 1.2% are consistent users. Almost half of current SHP smokers (49%) wanted to quit smoking in the past year, but only 20.7% of them received support from a health professional. In addition, 96.5% (95% CI 94.9% to 97.5%) of SHP have been exposed to secondhand smoke at least 1 day per week, and 41.4% of them in their own home. Furthermore, the vast majority of participants reported exposure to secondhand smoke in the school's restaurant—cafeteria (84.1%) and in school buildings (77.4%) (table 1).

In the univariate analysis of current smoking, association between increasing age and current smoking was identified. In fact, the prevalence of current smokers tended to increase with age ( $p = 0.002$ ). Medical students have the lowest rates of current smoking (17%) while medical laboratories students have the highest rates (32.4%); the smoking rate among students in the veterinary medicine department was 23.8% and 26.8% in the biochemistry department. The association between gender and current smoking was not statistically significant ( $p = 0.332$ ). In addition, the existence of an anti-smoking law banning smoking in school buildings and/or clinics does not appear to affect the prevalence of smoking ( $p = 0.985$ ). Furthermore, knowledge regarding smoking related hazards does not reduce the prevalence of smoking ( $p = 0.299$ ). Tobacco use was significantly associated with alcohol consumption ( $p < 0.001$ ) and exposure to secondhand smoke at home ( $p < 0.001$ ) (table 2).

Logistic regression analysis showed that increasing age, alcohol consumption of >70 units per year, and exposure to secondhand smoke in the home were all independent risk factors for current smoking, while the school of study was not identified as an independent risk factor (table 3).

**Table 1** Demographic and smoking-related characteristics

	N	%
<b>Gender</b>		
Female	547	66.5
Male	275	33.5
Total	822	100.0
<b>Age group</b>		
≤20, 0 years old	372	47.1
20, 1–24, 0 years old	376	47.6
>24, 0 years old	42	5.3
Total	790	100.0
<b>Year of study</b>		
First-second year	409	49.9
Third-fourth year	327	39.9
Fifth-sixth year	84	10.2
Total	820	100.0
<b>School of health sciences training</b>		
Biochemistry	123	15.0
Medicine	365	44.6
Veterinary medicine	84	10.3
Nursing	71	8.7
Medical laboratories	176	21.5
Total	819	100.0
<b>Have you ever smoked e-cigarette?</b>		
Yes	509	61.9
No	313	38.1
Total	822	100.0
<b>Current smoking</b>		
Yes	193	23.5
No	629	76.5
Total	822	100.0
<b>Secondhand smoking</b>		
Yes	792	96.5 (94.9–97.5)
Total	821	100.0

The vast majority of undergraduate SHP (91.9%) believe that healthcare professionals should have adequate knowledge about smoking cessation, and 91.1% believe that healthcare professionals should advise their patients to stop smoking. It is also worthy to mention that 81.3% of SHP recognise the special role that healthcare professionals play in advising their patients to quit smoking; 63.1% of SHP believe that if a healthcare professional advises a patient to stop smoking, the patient's odds of quitting increase. Only about one-fifth of participants (21.5%) reported that healthcare professionals advise their patients to quit smoking. Additionally, more medical students believe that healthcare professionals are 'role models' for their patients and more broadly, society, in comparison to the rest of SHP ( $p < 0.001$ ) (table 4).

**Table 2** Univariate analysis of current smoking

		N	%	P value*
Age group	≤20, 0 years old	72/372	19.4	<b>0.002†</b>
	20, 1–24, 0 years old	98/376	26.1	
	24, 1 years old	16/42	38.1	
Gender	Female	134/547	24.5	0.332
	Male	59/275	21.5	
Year of health science training	First-second year	98/409	24.0	0.720†
	Third-fourth year	75/327	22.9	
	Fifth-sixth year	19/84	22.6	
School of health sciences training	Biochemistry	33/123	26.8	<b>0.001‡</b>
	Medicine	62/365	17.0	
	Veterinary medicine	20/84	23.8	
	Nursing	20/71	28.2	
	Medical laboratories	57/176	32.4	
Does your school have an official policy banning smoking?	Yes, (school building or/and clinics)	98/418	23.4	0.985
	No/I don't know	94/400	23.5	
Is your school's official smoking ban for school buildings/clinics enforced?	Yes	52/216	24.1	0.346
	No	57/278	20.5	
	There is no antismoking law/I don't know	82/322	25.5	
During your health science school training, were you taught in any of your classes about the dangers of smoking?	Yes	134/535	25.0	0.299
	No/I don't know	58/267	21.7	
Alcohol consumption (units/year)	≥532.00	74/206	35.9	<b>&lt;0.001†</b>
	225.25–531.99	50/205	24.4	
	70.00–225.24	50/206	24.3	
	<70.00	19/205	9.3	
During the past 7 days, on how many of those days has anyone (family member or friend) smoked inside your home, in your presence?	≥1 day	133/340	39.1	<b>&lt;0.001‡</b>
	0 days	60/481	12.5	

\*<sup>2</sup> test.†<sup>2</sup> test for trend.

‡Statistically significant

In total, 66.7% of undergraduate SHP reported that during their studies they learnt about smoking hazards, but only 36.8% have learnt about the reasons why people smoke. Furthermore, 56.1% of the respondents reported that they have learnt the importance of smoking history as a part of the patient's medical history. It is also worth noting that only 11.6% of respondents have learnt about using methods for smoking cessation, and only 27.1% have ever learnt the importance of providing informational materials against tobacco use to patients who want to quit smoking (table 5).

Medical students have a greater knowledge of the hazards associated with tobacco use ( $p<0.001$ ) as well as the reasons why people smoke ( $p=0.003$ ), compared with undergraduate students of other health professions. Medical students have also shown a greater knowledge in recording a patient's smoking history as a part of the patient's medical history ( $p<0.001$ ) and they better

understand the importance of providing informational materials to patients who want to quit smoking ( $p<0.001$ ).

## DISCUSSION

In our study, the prevalence of current smoking among SHP was 23.5%, while among medical students the prevalence was 17%. As it concerns the prevalence of current smoking in European countries, the GHPSS reported this figure as 36.6% in Croatia, 21.7% in the Czech Republic, 34.7% in Serbia and 30.6% in Slovakia.<sup>10</sup> Countrywide aggregate data from the GHPSS published in 2018 found the highest prevalence of current smoking in European countries (20% medical and 40% dental students) and use of other tobacco products higher in eastern Mediterranean (10%–23%) and European countries (7%–13%).<sup>13</sup> In 2011, the Greek GHPSS study found the prevalence of current smoking among SHP to be 28.8% among pharmacy students, 46.4% among health visitor students and

**Table 3** Logistic regression analysis of current smoking

		OR	95% CI	P value
Age group	≤20, 0 years old	0.17	0.08 to 0.37	<0.001
	20.1–24.0 years old	0.33	0.15 to 0.70	0.004
	>24.1 years old	Ref.		
Gender	Female	1.20	0.80 to 1.79	0.372
	Male	Ref.		
School of health sciences training	Biochemistry	0.99	0.47 to 2.11	0.986
	Medicine	0.53	0.26 to 1.05	0.070
	Veterinary medicine	0.84	0.36 to 1.96	0.695
	Nursing	Ref.		
	Medical laboratories	1.07	0.53 to 2.16	0.857
Alcohol consumption (units/year)	≥532.00	6.14	3.33 to 11.32	<0.001
	225.25–531.99	3.93	2.11 to 7.31	<0.001
	70.00–225.24	3.82	2.07 to 7.05	<0.001
	<70.00	Ref.		
During the past 7 days, on how many of those days has anyone (family member or friend) smoked inside your home, in your presence?	≥1 day	3.97	2.72 to 5.81	<0.001
	0 days	Ref.		

29.5% among medical students.<sup>11</sup> These figures reflect a possible reduction of current smoking prevalence among Greek SHP, in line with the decrease of smoking in the general population of Greece (measured at 38.2% in 2013; 42.6% in 2008).<sup>3</sup>

The extremely high rate of exposure to secondhand smoke at least 1 day per week (96.5% in public places and 41.4% at home) corroborate previous studies from Greece,<sup>11,14</sup> and indicate the urgent need for enforcement of tobacco banning policies in enclosed public places throughout the country. The existence of laws banning smoking in school buildings does not appear to affect the rates of smoking in these buildings, which is reflected through the high rates of exposure to secondhand smoke on the school campus (84.1% in the school cafeteria and 77.4% in school buildings).

An interesting finding of our study was the extremely low rates, ranging between 4.7% for medical laboratory students and 14.4% for medical students, who have received training on smoking cessation counselling. In Greece in 2011, formal training on smoking cessation counselling among undergraduate SHP ranged from 10.7% to 22.4% (for health visitors and nursing students, respectively).<sup>11</sup> In other countries belonging to the European Union (Germany, Italy, Poland and Spain), only 16.5% of students (lowest proportion in Italy at only 3.5%) had reported training on smoking cessation during their studies in medical school.<sup>15</sup> In the eastern Mediterranean region, a region close to Greece with social bonds and traditions similar to the Greek lifestyle, less than 30% of medical students had ever received formal training in smoking cessation methods.<sup>10</sup> Regarding tobacco cessation methods, the vast majority of students had heard about

**Table 4** Beliefs of students of health professions on their role in smoking cessation

	Yes		Total
	N	%	N
Should healthcare professionals have special knowledge about smoking cessation?	752	91.9	818
Do you believe that healthcare professionals are a 'role model' for their patients and society?	488	59.9	815
Healthcare professionals should advise their patients to stop smoking?	746	91.1	819
Healthcare professionals should advise patients who use tobacco products to quit?	685	83.7	818
Do you believe that healthcare professionals have the advance and the special role to provide their patients with advice and information on smoking cessation?	666	81.3	819
If a healthcare professional advises a patient to stop smoking then the odds are increasing?	517	63.1	819
Do you believe that healthcare professionals advise their patients satisfactorily to stop smoking?	175	21.5	815

**Table 5** Curriculum and training about smoking and smoking cessation among students of health professions

		Biochemistry		Medicine		Veterinary medicine		Medical laboratories		Nursing		P value*
		N	%	N	%	N	%	N	%	N	%	
During your studies, have you ever learnt about smoking risks?	Yes	74	63	291	82	30	37	87	50	<b>52</b>	<b>73</b>	<b>&lt;0.001</b>
	Total	118	100	354	100	81	100	175	100	71	100	
During your studies, have you ever discussed the reasons why people start smoking?	Yes	45	38	139	39	27	32	48	27	<b>35</b>	<b>49</b>	<b>0.003</b>
	Total	119	100	353	100	84	100	175	100	71	100	
During your studies, have you ever learnt the importance of recording the smoking history as a part of the medical history of the patient?	Yes	37	31	280	79	27	32	60	34	<b>46</b>	<b>65</b>	<b>&lt;0.001</b>
	Total	118	100	353	100	84	100	175	100	71	100	
During your studies, have you ever learnt about using methods to stop smoking?	Yes	12	10	51	14	10	12	8	4.7	10	14	0.019
	Total	118	100	353	100	84	100	172	100	70	100	
During your studies, have you ever learnt the importance of giving information material against smoking to patients who want to stop smoking?	Yes	28	24	116	33	15	18	27	16	<b>30</b>	<b>42</b>	<b>&lt;0.001</b>
	Total	118	100	351	100	84	100	175	100	71	100	
Have you ever heard about methods for replacement of nicotine in smoking cessation programmes (nicotine patch or nicotine gum)?	Yes	102	86	305	86	71	85	145	83	56	79	0.527
	Total	118	100	353	100	84	100	174	100	71	100	
Have you ever heard about using antidepressant drugs in smoking cessation programmes (like Bupropion, Zyban)?	Yes	31	26	91	26	23	27	30	17	22	31	0.107
	Total	118	100	353	100	84	100	175	100	71	100	

\*X<sup>2</sup> test.

nicotine patches and gum, but only a quarter of them were aware of antidepressant medication use for this purpose.<sup>11 15</sup>

The majority of SHP (59.9%) believe that their profession serves as a role model and they recognise the importance of learning smoking cessation techniques (91.9%). These findings are in line with the GHPSS study conducted in Greece and internationally.<sup>10 11</sup> Medical students from Italy, Germany, the UK and the USA believe that health professionals should receive formal training in order to advise patients to quit smoking; however, these medical students have not received formal training during their studies, and as a result do not feel competent in providing counselling.<sup>16-19</sup>

WHO Framework Convention on Tobacco Control underlines the important role played by doctors, dentists, nurses, pharmacists and other health professionals in cessation and prevention of tobacco use through provision of brief counselling or even simple advice.<sup>20</sup> However, health professionals who use tobacco themselves may be deterred from providing cessation advice and counselling to their patients.<sup>21</sup> In this context, supporting SHP's efforts to stop smoking is essential. In Italy, smoking behaviour among SHP significantly changed after attending a university course for smoking cessation.<sup>22</sup>

In many medical schools worldwide, there is a limited or oftentimes even non-existent systemic approach to smoking cessation topics, although almost all medical schools include topics on tobacco related diseases.<sup>23 24</sup> Evidence exists that medical students do not receive adequate medical

education on tobacco use due to a variety of factors, such as impediments posed by staff, systemic and organisational challenges.<sup>25-27</sup> Although considerable progress addressing tobacco teaching in medical schools has been made globally, more intensive efforts are needed in order to establish education on tobacco use as an ongoing part of medical curricula.<sup>28</sup>

As it was expected, there was a significant difference between medical students and non-medical students of other healthcare professions regarding their knowledge of smoking related diseases; however, medical students were not shown to have a statistically significant greater knowledge about smoking cessation techniques. Similar results have been reported in Italian medical students, who have marginally higher knowledge about smoking-related diseases and cessation methods than non-medical students.<sup>29</sup>

Alcohol consumption of more than 70 units per year and exposure to secondhand smoke in the home were independent risk factors for current smoking. The relationship between smoking and alcohol consumption underlines the need for common targeting campaigns. Being exposed to smoking contributes to the development of a positive attitude towards tobacco use as a social norm, and increases the tendency to smoke.<sup>30</sup> Alcohol consumption is negatively associated with successful smoking cessation in both community and clinical research.<sup>31 32</sup>

Considering the fact that nurses comprise the majority of health professionals, efforts must be made to improve

the quality of undergraduate education in Nursing school, with respect to tobacco control and smoking cessation methods. Other HCPs, like veterinarians, biochemists and medical laboratory's workers serve as role models in society. Several studies have reported the potential harms of tobacco exposure in dogs, cats and other pets' health.<sup>33,34</sup> In this prospect, veterinarians could advice pet owners quit smoking in every visit in order to improve both pet's and owner's health. In everyday clinical practice, very brief advice is an evidence-based, effective and time-efficient way of improving quality of life for patients, saving money and increasing paramedic job satisfaction.<sup>35</sup> More study is needed on paramedics potential role providing advice on smoking cessation.

Our survey presents both advantages and limitations. The main advantage of this study is the fact that it provides for the first time, data on the determinants of smoking among SHPs. In addition, for the first time data is presented on smoking-related variables from students of paramedical, biochemistry and veterinary health professions. The main limitation of our study is the self-reported nature of data selected, where students might under-report or over-report their behaviours or attitudes. The extent of misclassification bias cannot be determined from this data, since there is no biochemical verification of smoking status. In a cross-sectional study in Kyrgyzstan, when self-reported non-smokers having CO  $\geq$ 7 ppm were included, the smoking prevalence increased from 35.0% to 44.8%.<sup>36</sup> Our sample was convenient and selection bias may have occurred; we were also not able to obtain data from the non-responders, and thus, there is a potential for selection bias. Lastly, our study was cross-sectional, and consequently, we cannot test cause and effect.

The findings of this study underline the need for the development of effective tobacco-related curricula, especially for medical and nursing students. This curricula will enable SHPs to assist smokers to quit, and to counsel non-smokers (adolescents and adults) to prevent smoking initiation among them. This systemic approach can lead to a new generation of healthcare professionals who can contribute substantially to the control of the smoking epidemic in Greece. Integrated tobacco control initiatives should discourage tobacco use among SHPs, promote smoke-free schools of health professionals, and implement programmes that will train SHP in effective smoking cessation-counselling techniques.

## CONCLUSIONS

The present study found a high prevalence of current smoking and secondhand smoke among SHPs in Central Greece. Considerable knowledge gaps among SHPs related to smoking cessation were identified. Campaigns targeting SHP, as well as curriculum alterations should be implemented. The association between alcohol consumption and current smoking deserves further investigation for the development of common prevention programmes.

**Correction notice** Collaborators section is corrected.

**Collaborators** LEMONIA Anagnostopoulos.

**Contributors** AAS participated in study design, collecting questionnaires, drafting and revising the manuscript. GR participated in study design, drafting and revising the manuscript. SP, KP, KT and EC participated in study design and collecting the questionnaires. AK participated in statistical analysis. CSH supervised study design and the implementation of the study, participated in statistical analysis, interpretation of results and revision of the manuscript. All authors have read and approved the final version of the manuscript.

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