



Assessment of Tobacco Habits, Attitudes, and Education Among Medical Students in the United States and Italy: A Cross-sectional Survey

Grayson W. Armstrong^{1,2,3}, Giacomo Veronese^{4,5}, Paul F. George², Isacco Montroni⁴, Giampaolo Ugolini⁴

¹Massachusetts Eye and Ear Infirmary/Harvard Medical School, Boston, MA; ²The Warren Alpert Medical School of Brown University, Providence, RI; ³Department of Health Policy and Management, Harvard School of Public Health, Boston, MA, USA; ⁴Department of Medical and Surgical Sciences, University of Bologna, Bologna; ⁵Department of Emergency Medicine, Ospedale Niguarda Ca' Granda, University of Milano-Bicocca, Milan, Italy

Objectives: Medical students represent a primary target for tobacco cessation training. This study assessed the prevalence of medical students' tobacco use, attitudes, clinical skills, and tobacco-related curricula in two countries, the US and Italy, with known baseline disparities in hopes of identifying potential corrective interventions.

Methods: From September to December 2013, medical students enrolled at the University of Bologna and at Brown University were recruited via email to answer survey questions assessing the prevalence of medical students' tobacco use, attitudes and clinical skills related to patients' smoking, and elements of medical school curricula related to tobacco use.

Results: Of the 449 medical students enrolled at Brown and the 1426 enrolled at Bologna, 174 Brown students (38.7%) and 527 Bologna students (36.9%) participated in this study. Italian students were more likely to smoke (29.5% vs. 6.1%; $p < 0.001$) and less likely to receive smoking cessation training (9.4% vs. 80.3%; $p < 0.001$) than their American counterparts, even though the majority of students in both countries desired smoking cessation training (98.6% at Brown, 85.4% at Bologna; $p < 0.001$). Additionally, negative beliefs regarding tobacco usage, the absence of formal training in smoking cessation counseling, and a negative interest in receiving specific training on smoking cessation were associated with a higher risk of not investigating a patient's smoking status during a routine history and not offering tobacco cessation treatment to patients.

Conclusions: Medical curricula on tobacco-related health hazards and on smoking cessation should be mandatory in order to reduce smoking among medical students, physicians, and patients, thereby improving tobacco-related global health.

Key words: Tobacco use cessation, Medical education, Medical student, Smoking

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Corresponding author: Giacomo Veronese, MD
3 Piazza dell' Ospedale Maggiore, Milano 20162, Italy

Tel: +39-2-64441, Fax: +39-2-6420901

E-mail: giacomo.veronese@ospedaleniguarda.it

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INTRODUCTION

Smoking causes nearly six million deaths worldwide on an annual basis [1]. In the US and in Italy, smoking is responsible for about one in five and one in eight deaths annually, respectively [2,3]. Physicians play a key role in eradicating tobacco abuse. In the US, over 70% of smokers have visited a physician in the past year, and studies demonstrate that smoking cessa-

tion advice provided by physicians and other health professionals can have a significant impact on cessation rates among tobacco users [4-8]. Future physicians (i.e., medical students) are therefore an important target for training in tobacco cessation.

A plethora of educational curricula focused on training medical students on smoking cessation techniques have been proposed and successfully implemented [9-11]. However, evidence shows that medical schools are not consistently preparing students to counsel patients on smoking cessation and that, despite the existence of model curricula, vast disparities persist in medical students' knowledge of smoking-related health risks [12,13]. For example, Italian medical schools have devoted little attention to the treatment of tobacco dependence [14]. As a result, medical students in countries such as Italy have limited knowledge and training in tobacco-related health risks and tobacco dependence management [15]. Ultimately, this has led to a culture in which Italian physicians neither advise tobacco cessation nor prescribe pharmacotherapy for tobacco dependence at the recommended levels, although the recent literature seems to show improvement in these metrics [16-18]. Conversely, studies have concluded that American medical students obtain sufficient knowledge of the negative health effects of tobacco use, although the system still lacks sufficient training in tobacco dependence management strategies [19]. The result is that multiple recent studies have shown that American physicians routinely counsel smokers about tobacco cessation [20,21].

Additionally, the Centers for Disease Control and Prevention and the World Health Organization have reported that the prevalence of tobacco consumption among medical students is a significant problem in many countries [12]. A 2007 review of the literature found evidence that the international prevalence of tobacco smoking among medical students varied from 2 to 58% [22]. In the US and Italy, specifically, the smoking rates among medical students have been estimated to be 2 and 20%, respectively [23,24].

A formal comparison of the prevalence of medical students' tobacco use, attitudes, clinical skills, and tobacco-related curricula between countries with known baseline disparities in tobacco use or education would provide an opportunity to identify potential policy interventions to correct such disparities; however, no previous studies have done so. This study, therefore, undertook a cross-sectional evaluation of tobacco-related utilization and educational metrics in one American and one Italian medical school. Ultimately, this study aimed to identify

opportunities to better educate and help eliminate tobacco usage among the next generation of global physicians and thereby to improve the tobacco-related health of patients globally.

METHODS

This study adhered to the tenets of the Declaration of Helsinki and received approval from the institutional review board at Brown University, Providence, RI, US and at the University of Bologna, Bologna, Italy.

Study Population

Medical students (n=701) enrolled in either the Warren Alpert Medical School of Brown University, Providence, RI, US or the Alma Mater Studiorum - Università di Bologna, Bologna, Italy during the 2013-2014 academic year participated in this study. Brown is a 4-year private medical school located in Providence, RI, US, with a total enrollment of 449 students during the study period. Bologna is a 6-year public medical school located in Bologna, Italy with a total enrollment of 1727 students during the study period. Students attending the first year of Bologna medical school (n=301) were not enrolled in the study, as the questionnaire was administered in close temporal proximity to their enrollment prior to starting their clinical activities. Therefore, 1426 Bologna students were initially included in our study. Students at Brown typically matriculate into medical school following at least four years of undergraduate education, while students at Bologna typically matriculate following their high school education, resulting in an older average age cohort at Brown.

The International Professional Assessment of Drinking and Tobacco Perceptions among Young Medical Doctors (iPARTY MD) dataset is derived from a cross-sectional survey created through an international collaboration between researchers at Brown and Bologna. This survey of American and Italian medical students assessed the prevalence of alcohol and tobacco use among medical students, attitudes and clinical skills related to smoking and drinking, as well as aspects of the medical school curricula related to alcohol and tobacco (Supplemental Table 1). The questions of the survey were derived from expert opinion and literature review. The survey was developed in both an English-language version and an Italian-language version. From September to December 2013, students were recruited to this study by distributing the iPARTY MD survey via institutional email to all medical students enrolled at both

Brown and Bologna. Consent was obtained from all research participants. The medical students then completed the electronic survey, and responses to survey questions were collected anonymously, de-identified, and stored under password protection online. Students had the option of terminating the survey at any point. This study utilized information present within the iPARTY MD dataset related to tobacco.

Statistical Analysis

SPSS version 21 (IBM Corp., Armonk, NY, USA) was used for data analysis. We performed unadjusted tests of means and proportions (the independent *t*-test and the chi-square test) to compare variables between the Brown and Bologna medical students and between smoking and non-smoking medical students. Using logistic regression, we computed crude and adjusted odds ratios (ORs) and 95% confidence intervals (CIs) associating students' demographics, smoking status, beliefs, and curricula with the absence of important tobacco-related skills.

RESULTS

Of the 449 medical students enrolled at Brown and the 1426 enrolled at Bologna, 174 Brown students (38.7%) and 527 Bologna students (36.9%) participated in this study. The demographic makeup of students was similar at each school in regard to sex (37.2% male at Brown, 43.0% male at Bologna). The age distribution, however, was significantly different between the two schools, with younger students attending Bologna's medical school. Participants who did not provide information about their smoking status ($n=84$, 11.9%) were excluded from the remaining analysis.

Medical students' demographics, tobacco-related attitudes and beliefs, experience with tobacco-related curricula, and skills according to their smoking status and school are presented in Table 1. The Bologna medical students were significantly more likely to be smokers than were students at Brown (29.5% at Bologna, 6.1% at Brown; $p<0.001$). Among medical students who smoked, students at Bologna smoked significantly more cigarettes in an average day. When asked how many cigarettes smoked per day make a medical student concerned about a patient's health, Brown students more frequently reported lower numbers of cigarettes than Bologna students. Brown students were also more likely to report that a lower number of cigarettes smoked by a physician would likely be sufficient to impact their patients' opinion of their

professionalism. Additionally, Brown students were more likely to believe that cigarette usage by a physician could affect their approach to treating a patient's smoking habit (93.9% at Brown, 74.7% at Bologna; $p<0.001$).

In comparing the attitudes of smokers and non-smokers, non-smokers were more likely to report concerns about patients' health at lower levels of cigarette usage. Additionally, non-smokers reported that they believed that lower levels of physician smoking would be sufficient to impact their patients' opinions of their professionalism. Non-smokers were also more likely to believe that cigarette usage by a physician could affect the physician's approach to treating a patient's smoking habit (non-smokers, 86.5%; smokers, 56.2%; $p<0.001$). Lastly, among medical student smokers who thought that cigarette usage by physicians could affect their approach to treating a patient's smoking habit, nearly half (43.4%) reported that they felt that their personal smoking habit had influenced their approach to treating patients who smoked within the past year.

Medical student curricula regarding tobacco differed between the two institutions, with 95.2% of Brown students reporting having received education on the dangers of smoking, in comparison to only 76.4% of Bologna students ($p<0.001$). Moreover, 80.3% of Brown students and 9.4% of Bologna students reported having received smoking cessation training ($p<0.001$). The majority of students at both universities, however, indicated that they believed that medical students should receive specific training in smoking cessation techniques (98.6% at Brown, 85.5% at Bologna; $p<0.001$). Furthermore, as the number of cigarettes smoked by a medical student in an average week increased, support for smoking cessation training declined.

After adjusting for age, sex, and smoking status, no difference according to sex or between smokers or non-smokers was found in relation to asking about a patient's smoking status during a routine history and physical examination or in the offering of smoking cessation counseling or treatment to patients (Table 2). There was a non-statistically significant trend for better tobacco-related skills to be present among older participants. However, Bologna medical students were less likely to inquire about patients' smoking status (OR, 2.30; 95% CI, 0.92 to 5.73) or to offer tobacco cessation counseling or treatment (OR, 2.78; 95% CI, 1.90 to 4.07) than their American counterparts. Interestingly, negative attitudes and beliefs were associated with an increased risk of the absence of tobacco-related skills. Furthermore, students who did not receive for-

Table 1. Characteristics of the participants by academic institution and smoking status

Characteristic	Brown University (US)		Bologna University (Italy)	
	Smokers	Non-smokers	Smokers	Non-smokers
Overall	9	138	139	331
Cigarettes (n/d)				
<1	4 (44.4)	0 (0.0)	45 (32.3)	0 (0.0)
1-5	4 (44.4)	0 (0.0)	47 (33.8)	0 (0.0)
6-10	1 (11.1)	0 (0.0)	26 (18.7)	0 (0.0)
11-15	0 (0.0)	0 (0.0)	13 (9.3)	0 (0.0)
16-20	0 (0.0)	0 (0.0)	8 (5.8)	0 (0.0)
>20	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Age (y)				
19-21	0 (0.0)	2 (1.4)	41 (29.5)	99 (29.9)
22-24	5 (55.5)	67 (48.5)	61 (43.8)	172 (51.9)
25-27	2 (22.2)	51 (36.9)	27 (19.4)	40 (12.1)
28-30	1 (11.1)	11 (7.9)	6 (4.3)	12 (3.6)
>30	1 (11.1)	7 (5.1)	4 (2.8)	8 (2.4)
Sex				
Male	6 (66.7)	48 (34.8)	72 (51.8)	131 (39.6)
Female	3 (33.3)	90 (65.2)	67 (48.2)	200 (60.4)
Attitudes and beliefs				
Believe that cigarette usage by a physician affects approach to a patient's smoking habit				
Yes	6 (66.7)	132 (95.6)	78 (56.1)	274 (82.8)
No	3 (33.3)	6 (4.4)	61 (43.8)	57 (17.2)
Cigarettes smoked per day by a physician needed to influence a patient's opinion on professionalism (n)				
1-5	6 (66.6)	111 (81.1)	68 (48.9)	220 (66.4)
6-10	0 (0.0)	15 (10.9)	23 (16.5)	41 (12.4)
11-15	2 (22.2)	6 (4.3)	14 (10.1)	20 (6.1)
16-20	0 (0.0)	0 (0.0)	6 (4.3)	10 (3.1)
>20	0 (0.0)	3 (2.2)	4 (2.9)	4 (1.2)
No influence	1 (11.1)	2 (1.5)	24 (17.3)	36 (10.8)
Cigarettes smoked per day needed to make a physician concerned about a patient's health (n)				
1-5	4 (44.4)	102 (73.9)	16 (11.5)	81 (24.4)
6-10	4 (44.4)	26 (18.8)	40 (28.8)	117 (35.3)
11-15	0 (0.0)	7 (5.1)	48 (34.5)	82 (24.7)
16-20	1 (11.1)	2 (1.4)	21 (15.1)	44 (13.3)
>20	0 (0.0)	1 (0.7)	14 (10.7)	7 (2.1)
Skills				
Ask about smoking habits during a routine H&P				
Yes	9 (100.0)	132 (95.6)	122 (87.7)	291 (87.9)
No	0 (0.0)	6 (4.4)	17 (12.2)	40 (12.1)
Discuss cessation counseling or treatment options if a patient smokes				
Yes	5 (55.6)	83 (60.1)	46 (33.1)	118 (35.6)
No	4 (44.4)	55 (39.9)	93 (66.9)	213 (64.3)
Curricula				
Received formal training in smoking cessation approaches during medical school training				
Yes	6 (66.7)	112 (81.2)	19 (13.7)	25 (7.5)
No	3 (33.3)	26 (18.8)	120 (86.3)	306 (92.4)
Believe medical students should receive specific training on smoking cessation				
Yes	9 (100.0)	136 (98.5)	106 (76.3)	296 (89.4)
No	0 (0.0)	2 (1.5)	33 (23.7)	35 (10.6)

Values are presented as number (%).
H&P, history and physical examination.

Table 2. Factors associated with the absence of tobacco-related skills

Characteristic	Smoking habits during a routine H&P not investigated		Cessation counseling or treatment options not discussed	
	Crude	Adjusted ¹	Crude	Adjusted ¹
Institution				
Brown University	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
Bologna University	3.24 (1.36, 7.68)	2.30 (0.92, 5.73)	3.10 (2.01, 4.78)	2.78 (1.90, 4.07)
Smoking status				
Non-smoker	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
Smoker	1.19 (0.66, 2.15)	1.01 (0.54, 1.86)	1.42 (0.97, 2.09)	1.14 (0.76, 1.73)
Age (y)				
19-24	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
≥25	0.46 (0.23, 0.93)	0.57 (0.27, 1.09)	0.58 (0.39, 1.05)	0.72 (0.46, 1.22)
Sex				
Female	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
Male	1.30 (0.77, 2.20)	1.14 (0.67, 2.25)	1.17 (0.85, 1.63)	1.05 (0.74, 1.48)
Attitudes and beliefs				
Believe that cigarette usage by a physician affects approach to a patient's smoking habit				
Yes	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
No	1.40 (0.69, 2.84)	1.31 (0.87, 2.35)	1.81 (1.19, 2.76)	1.55 (0.97, 2.45)
Cigarettes smoked per day by a physician needed to influence a patient's opinion on professionalism (n)				
1-10	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
>10 / no influence	2.01 (0.94, 4.27)	1.71 (0.82, 3.57)	1.94 (1.28, 2.95)	1.62 (1.04, 2.51)
Cigarettes smoked per day needed to make a physician concerned about a patient's health (n)				
1-10	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
>10	1.86 (1.02, 3.38)	1.39 (0.80, 2.44)	2.08 (1.47, 2.95)	1.61 (1.10, 2.36)
Curricula				
Received formal training in smoking cessation approaches during medical school training				
Yes	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
No	2.64 (1.23, 5.68)	1.54 (0.65, 3.73)	2.88 (1.99, 4.17)	1.93 (1.15, 3.25)
Believe medical students should receive specific training on smoking cessation				
Yes	1.00 (reference)	1.00 (reference)	1.00 (reference)	1.00 (reference)
No	1.77 (0.87, 3.58)	1.47 (0.75, 2.85)	1.99 (1.14, 3.46)	1.64 (0.92, 2.92)

Values are presented as odds ratio (95% confidence interval).

H&P, history and physical examination.

¹Adjusted for age, sex, academic institution, and smoking status.

mal training in smoking cessation counseling or did not believe that medical students should receive specific training on smoking cessation were less likely to investigate a patient's smoking status during a routine history and physical examination (OR, 1.54; 95% CI, 0.65 to 3.73; and OR, 1.47; 95% CI, 0.75 to 2.85, respectively) or to offer tobacco cessation counseling or treatment to patients (OR, 1.93; 95% CI, 1.15 to 3.25; and OR, 1.64; 95% CI, 0.92 to 2.92, respectively).

DISCUSSION

Our study identified a higher rate of personal tobacco use among Italian medical students than among American medical students, which is consistent with the prior literature

[23,24]. This finding supports claims in the literature that smoking rates among medical students generally mirror countrywide smoking prevalence, as a greater percentage of Italian citizens smoke cigarettes than Americans (24.4% in Italy, 15.8% in the US) [22,25].

The Italian medical students in our study were less likely to offer smoking cessation counseling or treatment to patients. This is likely in part due to the relative lack of tobacco dependence-related education and smoking cessation training provided to Italian medical students, which we identified in our study and which is consistent with prior literature [15]. Indeed, medical students in our study who did not undergo formal tobacco cessation training subsequently did not offer such cessation or tobacco dependence treatment to their patients. This

is concerning given the fact that smoking is one of the leading risk factors for negative health outcomes worldwide, and that smoking cessation training has been found to be an effective tool for encouraging smokers to quit [7].

Despite the lack of education on tobacco-related risks and smoking cessation among Italian medical students relative to American students, it is encouraging to know that the majority of students at both Brown and Bologna believe that they should receive smoking cessation training, as do students across the globe [12]. A lack of smoking-related education is not limited to Italian medical students, as studies have demonstrated a lack of knowledge on these topics among medical students worldwide [19,26]. Since smoking cessation counseling has been shown to be an effective intervention in helping patients reduce or quit smoking, and since curricula dedicated to instruction on the risks of tobacco usage and on tobacco counseling training have been shown to significantly increase students' understanding, acceptance, and practice of smoking cessation counseling, a global effort should be made to implement educational curricula on smoking cessation training within medical schools [7,8,27,28]. Notably, based on the results of our study, Bologna has already implemented changes in their medical school curriculum to provide specific training on both the adverse health effects of smoking and on smoking cessation techniques.

When comparing smokers to non-smokers in our study, we found that smokers were less likely to desire smoking cessation training. This may be because student smokers feel more prepared to successfully counsel their patients given their first-hand tobacco experience. Conversely, it is possible that student smokers are less intent on providing smoking cessation counseling to their future patients. In our study, smokers and non-smokers did not show significant differences in asking patients about their smoking habits or in offering smoking cessation or treatment to patients. However, the fact that smoking seems to impact willingness to undergo smoking cessation training is concerning.

Additionally, medical students who smoked became concerned about potential negative health outcomes in their patients only when relatively larger numbers of cigarettes were consumed. Unfortunately, students in our study who held this belief offered smoking cessation counseling to patients less frequently, regardless of institution or smoking status.

Finally, smokers were less inclined than non-smokers to believe that a physician's tobacco use could affect the care of-

fered to that physician's patients. However, this belief runs counter to existing studies indicating that physician smoking undermines the message that quitting smoking is important, and that non-smoking physicians are more successful at getting patients to quit smoking [29,30]. Furthermore, this belief runs directly counter to the finding of our study that a sizable proportion of student smokers believed that their personal tobacco usage had already influenced their approach to patient care, indicating some level of cognitive dissonance among the students who smoked. Since medical students' tobacco use has the potential to negatively impact patient health outcomes, future interventions should aim at both preventing and eliminating tobacco use among medical students. Future studies should seek to elucidate the impact of medical students' smoking on patient health outcomes.

Attitudes regarding physicians' tobacco use were also found to be vastly different between US and Italian medical students. The Italian students in our study indicated that physicians would need to smoke larger numbers of cigarettes before it impacted either their patients' opinions of their professionalism or the care they provided to their smoking patients. This disparity may in part be explained by cultural differences, as smoking is more prevalent and more widely accepted in Italy. However, these attitudinal differences could also stem from inadequate education on tobacco risks and smoking cessation in Italy [15]. Unfortunately, a direct impact on patient care was seen among students who believed that greater numbers of cigarettes would be required to impact their patients' view of their professionalism, as these same students offered less smoking cessation to patients even after controlling for academic institution. In order to change physicians' attitudes toward smoking, educational efforts may need to address the cultural acceptance of smoking as a societal norm.

Of clinical relevance, in our study we observed that negative beliefs related to tobacco usage, the absence of formal training on smoking cessation counseling, and a negative attitude toward receiving specific training on smoking cessation were all factors associated with the absence of tobacco-related skills, including a lack of investigating a patient's smoking status during a routine history and physical examination and not offering tobacco cessation counseling or treatment to patients. This indicates that specific attitudes towards tobacco and tobacco-dependence training could be screened for in medical students to preemptively remedy future gaps in tobacco-related clinical skills. Additionally, these findings indi-

cate that formal training in tobacco cessation training has a positive impact on patient care and should be mandatory for future physicians.

Limitations

This study has several potential limitations. First, only two medical schools were surveyed in this study. However, we believe that many of the results presented here are likely generalizable to other medical schools within the US and Italy. Second, the response rate at the two schools was less than 40%, potentially leading to selection bias. Third, since Italian students enter medical school after completing high school, while American medical students enter medical school after completing their undergraduate education, Italian medical students are a younger study cohort. This age disparity may be a confounding variable in the smoking-related beliefs and attitudes between these medical schools. Finally, it is notable that all American medical students completed their undergraduate education prior to medical school, while Italian medical students matriculated directly after high school. This study did not assess medical students' education on the risks of tobacco products prior to medical school, though American students had at least four years of post-high school education where such information could have been taught, either formally or informally. Regarding formal education, many American pre-medical students focus their studies on the biological and life sciences, including basic biology, chemistry, and public health, where the risks of tobacco usage could easily arise in coursework. Informally, many American college students encounter anti-smoking initiatives in the form of 100% smoke-free campus policies or otherwise [31]. These factors may at least partially account for our finding that American medical students smoked less frequently and were more aware of the health risks of tobacco use.

In summary, this study showed that Italian and American medical students had very different habits, attitudes, clinical skills, and medical education related to tobacco usage. Specifically, our study found that Italian medical students were more likely to smoke, were more lenient in their attitudes toward smoking among both patients and physicians, and were less likely to receive formal training on the health risks of smoking or on smoking cessation counseling. Additionally, this study found that the attitudes of medical student smokers and non-smokers related to tobacco usage differed; smokers were less likely to desire formal smoking cessation training and may be

less likely to intervene regarding a patient's smoking habit at relatively low levels of smoking. Finally, relatively lenient beliefs toward tobacco usage, the absence of formal training on smoking cessation counseling, and a negative attitude toward receiving education on smoking cessation were all associated with an absence of fundamental tobacco-related skills such as investigating a patient's smoking status during a routine history and physical examination and offering tobacco cessation counseling or treatment to tobacco-dependent patients. Medical education curricula and policies focused on increasing knowledge of tobacco health hazards and smoking cessation, while also aiming to decrease medical student tobacco consumption rates, stand to improve global tobacco-related public health. Further research is needed to assess the impact of medical students' smoking habits on patients' health outcomes.

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CONFLICT OF INTEREST

The authors have no conflicts of interest associated with the material presented in this paper.

ORCID

Giacomo Veronese <http://orcid.org/0000-0002-6257-729X>

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Supplemental Table 1. iPARTY questionnaire (in English), which was administered in an anonymous and secure electronic survey format to medical students¹**Part 1: Demographics**

1. Age
2. Gender
 - a. Male
 - b. Female
3. Medical School
 - a. Brown University
 - b. Bologna University
4. Year of Training
 - a. Brown University
 - i. 1
 - ii. 2
 - iii. 3
 - iv. 4
 - b. Bologna University
 - i. 1
 - ii. 2
 - iii. 3
 - iv. 4
 - v. 5
 - vi. 6

Part 2: Smoking habits

5. Have you smoked cigarettes at least one day during the 7 days prior to the survey?
 - a. Yes
 - b. No
6. If yes, how many cigarettes per day in an average day?
 - a. <1
 - b. 1-5
 - c. 6-10
 - d. 11-15
 - e. 16-20
 - f. >20
7. During a routine H&P, do you always ask about smoking habits?
 - a. Yes
 - b. No
8. If the patient smokes, do you discuss cessation counselling or treatment options on a routine basis?
 - a. Yes
 - b. No
9. How many cigarettes smoked per day make you concerned about a male patient's health?
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16-20
 - e. >20
 - i. About a female patient's health?
 1. 1-5
 2. 6-10
 3. 11-15
 4. 16-20
 5. >20
10. Are you aware of your institutions smoking policies?
 - a. Yes
 - b. No
 - i. If yes, do you follow these policies all of the times?
 1. Yes
 2. No
11. Do you think that cigarette usage by physicians could affect their approach to patients smoking habit?
 - a. Yes
 - b. No
12. If you smoke, do you believe that your cigarette usage has ever influenced your approach to patients who smoke within the past year?
 - a. Yes
 - b. No
13. How many cigarettes smoked by physicians do you think it would take to influence their patients opinion about their professionalism?
 - a. 1-5
 - b. 6-10
 - c. 11-15
 - d. 16-20
 - e. >20
 - f. Patients opinion will never be influenced

(Continued to the next page)

Supplemental Table 1. Continued from the previous page

Part 3: Drinking habits

14. How many servings of alcohol do you have in a typical week?
- 0
 - 1-3
 - 4-7
 - 8-11
 - 12-14
 - 15-18
 - > 18
15. In the past month have you consumed 5 or more drinks (men) or 4 or more drinks (women) in a night?
- Yes
 - No
16. During a routine H&P, do you always ask about alcohol drinking habits?
- Yes
 - No
17. If the patient has drinking problems, do you discuss cessation counselling or treatment options on a routine basis?
- Yes
 - No
18. How many servings of alcohol consumed per week make you concerned about a male patient's health?
- 1-3
 - 4-7
 - 8-11
 - 12-14
 - 15-18
 - > 18
19. How many servings of alcohol consumed per week make you concerned about a female patient's health?
- 1-3
 - 4-7
 - 8-11
 - 12-14
 - 15-18
 - > 18
20. Are you aware of your institutions alcohol policies?
- Yes
 - No
- i. If yes, do you follow these policies all of the times?
- Yes
 - No
21. Do you think that alcohol usage by physicians could affect their approach to their patient alcohol habits?
- Yes
 - No
22. If you drink alcohol, do you believe that your alcohol usage has ever influenced your approach to patients who abuse alcohol?
- Yes
 - No
23. How many servings of alcohol consumed by physicians do you think it would take to influence their patients opinion about their professionalism?
- 1-3 per week
 - 4-7 per week
 - 8-11 per week
 - 12-14 per week
 - 15-18 per week
 - > 18 per week
 - 5 or more drinks (men) or 4 or more drinks (women) in a night
 - Patients opinion will never be influenced

Part 4: Education

24. During your medical school training, were you taught in any of your courses about the dangers of smoking?
- Yes
 - No
25. During your medical school training, have you ever received any formal training in smoking cessation approaches to use with patients?
- Yes
 - No
26. Should medical students get specific training on smoking cessation?
- Yes
 - No
27. During your medical school training, were you taught in any of our courses about the dangers of drinking?
- Yes
 - No
28. During your medical school training, have you ever received any formal training in alcohol cessation approaches to use with patients?
- Yes
 - No
29. Should medical students get specific training on alcohol cessation?
- Yes
 - No

iPARTY, International Professional Assessment of Drinking and Tobacco Perceptions among Young.

¹Alcohol-related questions were not utilized in the present study.