

Tobacco and Health-Related University Students in the City of Rio de Janeiro

O Tabagismo no Contexto dos Futuros Profissionais de Saúde do Rio de Janeiro

El Tabaquismo en el Contexto de Futuros Profesionales de la Salud de Rio de Janeiro

André Salem Szklo¹, Mariana Miranda Autran Sampaio², Luís Felipe Leite Martins³,
Elaine Masson Fernandes⁴, Liz Maria de Almeida⁵

Abstract

Introduction: A strategy to reduce tobacco-related deaths is to have skilled healthcare professionals who may get involved in tobacco prevention and cessation counseling. **Objective:** To evaluate the importance of tobacco smoking among health-related university students in the city of Rio de Janeiro. **Method:** A Census of students attending the 3rd year of both public and private Medicine, Dental and Pharmacy courses as well students attending the 3rd year of public nursing courses was conducted in 2006/2007 in Rio de Janeiro. A total of 1,525 students participated. **Results:** Cigarette smoking prevalence was 14.6%, whereas 5.7% reported smoking other tobacco products. Almost 70% were occasional smokers and around 34% of smokers stated having smoked tobacco products inside university buildings. More than 90% believed that healthcare professionals should receive formal training in smoking cessation approaches and advise individuals to quit, but roughly 30% did not consider healthcare professionals as role models. More than 85% were taught about the dangers of smoking during their courses and, in a lower proportion, about its second-hand effects. However, approximately 80% have not yet received any formal training in smoking cessation by their 3rd year at university. **Conclusion:** Monitoring tobacco prevalence among students must be a priority at University, mainly because of its high prevalence of occasional smokers. The monitoring of the law that prohibits smoking in enclosed places could create barriers against tobacco use. It is also important that both health and education sectors work together to evaluate whether issues such as influence of healthcare professionals upon their patients and formal training are taught after 3rd year or not.

Key words: Smoking; Professional Role; Professional Training; Epidemiologic Surveillance

¹ Chemical Engineer. PhD in Public Health from Escola Nacional de Saúde Pública (ENS P/Fiocruz). Cancer Control Analyst of the Epidemiology Division at the Brazilian National Cancer Institute (INCA)

² Psychologist. PhD in Group Health from Instituto de Medicina Social (IMS) of the Universidade Estadual do Rio de Janeiro (UERJ). Cancer Control Analyst of the Epidemiology Division at INCA.

³ Statistician. PhD in Group Health from Instituto de Estudos em Saúde Coletiva (IESC) of the Universidade Federal do Rio de Janeiro (UFRJ). Cancer Control Analyst of the Epidemiology Division at INCA

⁴ Nutritionist from Universidade Federal Fluminense (UFF). Cancer Control Analyst of the Epidemiology Division at the Brazilian National Cancer Institute (INCA)

⁵ Physician. PhD in Pathology from Universidade de São Paulo (USP). Manager of the Epidemiology Division at INCA.

Correspondence Address: André Salem Szklo. Rua Marquês de Pombal, nº 125/7º andar – Centro. Rio de Janeiro (RJ), Brazil. CE P:20230-240. *Email:* aszklo@inca.gov.br

INTRODUCTION

The use of tobacco is considered the second leading cause of death in the world by the World Health Organization (WHO)¹ and can be avoided. It is associated with mortality due to several kinds of cancer (lung, mouth, larynx, pharynx, esophagus, stomach, pancreas, bladder, kidney, cervix and acute myeloid leukemia), chronic obstructive pulmonary disease (COPD), heart disease, arterial hypertension and stroke²⁻⁴. Besides the smoker being more subjected to mortality due to all these diseases when compared to non-smokers, the simple fact that a person can be secondhand exposed to tobacco smoke per se also contributes for the appearance of diseases of the cardiovascular system, heart disease and lung cancer¹. For these reasons, the WHO identifies tobacco use as a risk factor against life that has to be banned with high priority at world level¹.

In order to control tobacco in a broad way, the WHO proposes several strategies, among which we highlight tobacco¹ surveillance and monitoring⁵. The Global Tobacco Surveillance System (GTSS), developed in 1995, has been implemented in most WHO Member States, using a standardized protocol. The studies that compose the GTSS are: Global Youth Tobacco Survey (GYTS), with students from 13 to 15 years old; Global School Personnel Survey (GPS), which focus on people who work in schools; Global Adult Tobacco Survey (GATS), with adults who are 15 years old or above; and Global Health Professional Students Survey (GHPSS), with students from the third undergraduate course year at the healthcare area.

As for the GHPSS specifically, the WHO chose the courses of Medicine, Nursing, Dentistry and Pharmacy to integrate it, using as criteria the fact they prepare future opinion makers within the society, especially with regards to patient assistance. Several studies have already pointed out that healthcare professionals can play an essential role in the reduction of tobacco use⁶. Even a simple and brief counseling can significantly increase the smoking cessation rate⁶. Hence, one of the strategies to reduce tobacco-related deaths is to encourage the involvement of healthcare professionals in the counseling for tobacco prevention and cessation⁵. To do so, a good educational background of these professionals is necessary. Therefore, the analysis of outcomes obtained after the the Brazilian version of this GTSS component was implemented is important to guide the actions for tobacco control in the country and will be the focus of this article.

The objective of this study was, therefore, to evaluate the importance of tobacco smoking in the context of healthcare university students in Rio de Janeiro.

METHODS

The GHPSS is called, in Brazil, Tobacco Profile among University Students of Brazil: Tobacco Smoking Surveillance Project among Healthcare University Students. The data analyzed in this study is a census of the students from the third year of undergraduate courses of Medicine, whether public or private (N=7), Dentistry (N=6) and Pharmacy (N=7) and public courses of Nursing (N=3) in the city of Rio de Janeiro, between 2006 and 2007. The global response rate in Rio de Janeiro was 76.5%. A total of 1,525 students participated in it.

The standard questionnaire from which the analyzed responses were used in this article is available online⁷. In the Brazilian version, some specific questions of regional interest were introduced addressing subjects such as knowledge about the effects of second hand smoking and specific legislation on smoking bans in closed environments, definition of the cigarette type smoked and characterization of the nicotine dependence degree of the smoker. The criteria used to measure the prevalence of cigarette smokers and those of other tobacco derived products, respectively, was having smoked it at least one day in the previous 30 days of the research. The tobacco products considered were: snuff, cigar, cigarillo, narguile, etc.

According to the course and gender, the prevalence of cigarette smokers and users of other tobacco products was calculated. The proportions of occasional users, as well as the one for consumption of tobacco products in the university building were evaluated according to gender. Besides that, information about the students was analyzed according to their course, their beliefs as to the education received and knowledge acquired during the course, the effects of direct and secondhand smoking, the importance of prevention and the formal training on cessation approaches. Due to the fact that the data come from a census, occasional differences in the percentages of responses on the aforementioned subjects were directly interpreted.

The project was approved by the Research Ethics Committee (CEP) from the Brazilian National Cancer Institute (INCA) (protocol number 013/06).

RESULTS

The prevalence of cigarette smokers was 14.6% while that for users of other tobacco products was smaller, namely, 5.7%. This pattern occurred regardless of the course analyzed and the students' gender (Table 1). It is still noticed that, on average, for any kind of tobacco product smoked, the proportion of male smokers was higher when compared to females (Table 1).

The majority of cigarette smokers were occasional smokers (68.2%), of which 69.0% are women and 66.7% are men. Among the students who smoked cigarettes and used other tobacco derived products, 34.3% used the university building to this end, the percentage of male students being higher (37.4%) when compared to female students (32.1%).

Regardless of the course, more than 90% of the students believed that healthcare professionals should receive training on cessation techniques and should routinely advise their patients to quit smoking. However, on average, 33% did not consider healthcare professionals as “behavior models” for their patients and the general public (Table 2).

More than 85% had heard about the effects of smoking during their course and, in smaller proportion, the effects of secondhand smoking or its consequences in specific subgroups, such as children, young teens and pregnant women, regardless of the course (Table 3). However, on average, almost 80% of the students did not receive any type of formal training on the approaches on how to quit smoking up to the third year, varying from 68.0% at the Medical School to 88.5% at the Pharmacy course (Table 3).

DISCUSSION

The monitoring of tobacco prevalence among students should be focus of the university, especially if one considers the high proportion of users, yet occasional ones, found among the investigated students, when compared to the general population⁸. The promotion of smoking cessation should be designed having as its target the smoker profile, according to his dependence level and motivation to quit smoking^{6,9}. The actions available from the public system range from motivational campaigns, distribution of self-help leaflets with cognitive-behavioral guidance and warnings on cigarette packages, to phone counseling, through the Tobacco Quitline⁹. The University can use this wide already existing network or even propose other creative ways directed to achieving this specific population.

Besides being targets of the cessation promotion, it is necessary that undergraduate students, as future healthcare professionals, be prepared so they can include the minimum approach to the smoker for cessation in their assistance routines. The main focus of this approach is motivation, consisting in discussing beliefs

Table 1. Prevalence of cigarette smokers and users of other tobacco products, according to undergraduate course and gender. “Tobacco Surveillance Survey among Healthcare students” in the city of Rio de Janeiro (2006/2007)

Course	Cigarette smokers			Users of other tobacco derived products		
	Geral	Female	Male	Geral	Female	Male
Medicine	16.7%	14.4%	19.4%	5.3%	3.4%	7.4%
Nursing	8.3%	7.6%	15.4%	4.7%	4.5%	7.3%
Dentistry	20.2%	18.5%	24.7%	10.8%	7.8%	17.4%
Pharmacy	5.4%	5.7%	4.9%	1.6%	1.3%	1.2%
Total	14.6%	12.6%	18.2%	5.7%	4.1%	8.1%

Table 2. Belief of university students about the educational background and role of healthcare professionals, per undergraduate course. “Tobacco Surveillance Survey among Healthcare students” in the city of Rio de Janeiro (2006/2007)

Course	Should healthcare professionals receive specific training about the cessation methods?	Should healthcare professionals routinely advise their patients to quit smoking?	Are healthcare professionals “behavior models” for their patients and the general public?
Medicine	94.4%	98.2%	66.3%
Nursing	95.7%	96.5%	65.7%
Dentistry	91.6%	97.5%	74.2%
Pharmacy	96.3%	97.5%	61.3%
Total	94.3%	97.8%	67.0%

Table 3. Information received by the students during class, per undergraduate course. "tobacco surveillance survey among healthcare students" in the city of Rio de Janeiro (2006/2007)

Course	Heard about the effects of tobacco on health in some class	Received, in some class, some kind of information on the effects to health of secondhand environmental exposure to tobacco	Learned about the importance of preventing the initiation and tobacco consumption among children, young teens and pregnant women	Received some kind of formal training on the approaches to quit smoking to be used with their patients
Medicine	97.8%	85.3%	73.3%	21.2%
Nursing	91.9%	87.6%	82.7%	32.0%
Dentistry	90.8%	74.6%	64.1%	22.1%
Pharmacy	87.0%	69.6%	56.8%	11.5%
Total	94.2%	81.5%	70.7%	21.7%

and thoughts generated by chemical dependence, work their psychological effects and conditionings associated to smoking and training of individual abilities. Since 2004, the service network of the Brazilian Unified Health System (SUS) for low and medium complexities also has intensive treatment for smokers who have a high degree of dependence⁹. Thus, it is indispensable that future professionals be prepared for this kind of assistance. It is important to highlight, however, that 80% of the students reported not having received formal training about approaches on how to quit smoking to be used with their patients. Nevertheless, it is necessary to evaluate how the influence of professionals on patients and their formal training are present in the curricula after the third year or if they are not included yet.

It is worth mentioning, still, that some information should already be disseminated, regardless of the course. For example, the warning images on cigarette packages were included in 2001. These were substituted for more impact causing images in 2004, which were in circulation at the time of the research. As from 2009, they were replaced by other still more aversive warnings, which are important to increase the sensitization of future healthcare professionals with regards to this subject¹⁰.

The WHO, since 2005, has been concentrating efforts for discussing the considerable role that healthcare professionals have in the battle against tobacco epidemics¹¹. It is possible that its credibility before the smoker-patient contributes for the treatment efficacy or the message that is being transmitted¹². Besides that, the influence that a student who does not smoke can have in the prevention of tobacco initiation by adolescents is highlighted in several studies¹³⁻¹⁵. Such fact can be probably explained

by the aspiration of young teens who want to behave like adults¹⁶⁻¹⁷. In Brazil, in particular, this impact can be even higher if it is considered that the average initiation age is below 188, which reinforces the concern with the finding that only one third of university students from the healthcare area of Rio de Janeiro considered that healthcare professionals "are behavior models".

Besides having represented a great advance in tobacco control at the time, the Federal Law number 9,294/96¹⁸, which bans smoking in closed collective environments, still allows reserved areas for smoking in collective environments. Many university students report having consumed tobacco products at the university building, even though on average, more than 80% reported having received information about the effects of secondhand smoking on health. It is possible that either the university students were smoking in reserved areas or the law was not being enforced. In this case, non-smokers could be exposed, including university hospital patients, reinforcing the need for oversight. It can be highlighted that, for making the use of smoked tobacco products in collective environments more difficult, the law ends up decreasing its prevalence¹⁹, although the primary objective of the law is not this one.

As of 2009, the state of Rio de Janeiro, as well as several other Brazilian states and towns, conscious of the need to protect their population and the risks of secondhand smoking, approved the Law number 5,517²⁰, which established collective use environments which are 100% smoke free. However, it is still necessary to approve a national legislation that completely bans smoking in closed collective environments, protecting the population against the risks of exposure to environmental tobacco

smoke. The Ministry of Health has been working intensely to approve the Bill number 315/2008²¹, which establishes this measure.

It is worth mentioning that all the responses obtained in this study were reported by the students directly, that is, they were not measured and/or confirmed afterwards. Besides that, it is possible that the students have received information coming from outside the university environment (for example: warning images on cigarette packages) and attribute the knowledge they acquired to the course taken. It is also plausible that the students want to correspond to social pressures²² against tobacco, reporting smaller consumption of these products, causing the under estimation of the prevalences. However, the fact that the questionnaires are self-filled minimizes this fact. One cannot discard, therefore, the possibility of information bias²³ in the interpretation of the results.

A positive aspect of the findings is the fact that they are inserted in a wider international surveillance system, based on a standardized methodology (similar questionnaire and collection model). Thus, it is possible to compare them among the several countries, so that it allows a deeper understanding of the problem. In a recent publication²⁴, in which data from Rio de Janeiro were included, the prevalence of cigarette consumption among medical school students, from 29 investigated places in the same period, ranged from 1.3% to 47.0%, while in the 18 places where nursing students were evaluated, it ranged from 0.5% to 41.5%.

The data were presented to some courses of the healthcare area in Rio de Janeiro. It is worth noticing that, during the research, a sample of nursing students from private courses in Rio de Janeiro was also used and after the confidence intervals (CI 95%) for their answers were obtained, the considerations raised by this article remained unaltered (data not shown). Even so, not all the courses that could interfere with tobacco cessation were investigated, such as Psychology, for example. Generalization of these results should be done, however, very cautiously when one tries to evaluate the effect of the actions for tobacco control on students from other cities and/or courses. It is necessary to consider how similar political perspectives for tobacco control, social demographic and cultural profiles, and curricula are.

New studies are also necessary, since the surveillance system should take into account the dynamics inherent to the Brazilian tobacco industry strategies and to policies and actions for tobacco control that have been developed in the country. The monitoring of new products created by the industry, as well as the incorporation of anti-tobacco policies targeting priority groups to the curricula of university courses, could be, for example,

evaluated in further investigations. It would also be interesting to evaluate the feasibility of expanding the study entitled *Tobacco Profile in Brazilian Undergraduate Students: Tobacco Surveillance Project among Healthcare Undergraduate Students* to periodically represent the national territory as a whole.

CONCLUSION

Monitoring tobacco smoking among students should be the university focus, especially if the high prevalence of occasional users is considered. The oversight of the law that bans tobacco smoking in closed collective environments, which serves, above all, to protect people from secondhand exposure to smoke, could also make the use of this product more difficult and decrease its prevalence. In addition, it is necessary to evaluate if themes such as the influence of professionals on their patients and formal training are present in the curricula after the third year or if they are not included yet. A partnership between the areas of health and education is essential for the preparation of professionals according to the necessities of the healthcare systems.

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CONTRIBUTIONS

A. S. Szklo and M. M. A. Sampaio made the calculations and built the tables, discussed the results and analyzed those with the team. They wrote the body of the article, having worked on it up to its final copy; L.F. Martins participated in the discussion of results, having collaborated with its writing up to its final copy. E. Masson participated in data collection, results discussion, having collaborated with the writing of the article up to its final copy; L.M. Almeida coordinated the work of data collection, participated in the discussion of results, having collaborated with the writing of the article up to its final copy.

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Resumo

Introdução: Uma estratégia para reduzir mortes relacionadas ao tabaco é uma boa formação dos profissionais de saúde, os quais poderão se envolver no aconselhamento da prevenção e cessação do tabagismo. **Objetivos:** Avaliar a importância do tabagismo no contexto dos universitários da área de saúde no Rio de Janeiro. **Método:** Censo dos estudantes do terceiro ano da graduação dos cursos públicos e privados de medicina, Odontologia e Farmácia e dos cursos públicos de enfermagem da cidade do Rio de Janeiro (2006/2007). Participaram 1.525 estudantes. **Resultados:** A prevalência de fumantes foi 14,6%; a de usuários de outros produtos de tabaco, 5,7%. Quase 70% eram fumantes ocasionais. Entre usuários de qualquer produto de tabaco, 34,3% o consumiram no prédio da universidade. Mais de 90% acreditavam que profissionais de saúde deveriam receber treinamento sobre técnicas de cessação e aconselhar rotineiramente seus pacientes a pararem de fumar, mas cerca de 30% não os consideravam “modelo de comportamento”. Mais de 85% ouviram falar sobre efeitos do fumo durante o curso e, em menor proporção, sobre as consequências do fumo passivo. Entretanto, cerca de 80% não receberam treinamento formal até o terceiro ano. **Conclusão:** Monitorar a prevalência de estudantes fumantes deve ser foco da universidade, considerando-se, especialmente, a elevada proporção de usuários ocasionais. A fiscalização da lei que proíbe fumar tabaco em ambientes coletivos fechados poderia reduzir a utilização desse produto. É preciso também avaliar, em uma colaboração saúde/educação, se temas como influência de profissionais sobre pacientes e treinamento formal integram os currículos após o terceiro ano ou não estão incluídos. **Palavras-chave:** Tabagismo; Papel Profissional; Capacitação Profissional; Vigilância Epidemiológica

Resumen

Introducción: Para reducir las muertes relacionadas al tabaco es necesario una buena formación de profesionales de salud que puedan intervenir en el asesoramiento a la prevención y cesamiento del tabaquismo. **Objetivos:** Evaluar la importancia del tabaquismo en el contexto de universitarios del área de la salud en Rio de Janeiro. **Método:** Censo de universitarios del tercer año de carreras públicas y privadas de medicina, odontología y farmacia y de carreras públicas de enfermería en la ciudad de Rio de Janeiro (2006-2007). Participaron 1.525 estudiantes. **Resultados:** La prevalencia de fumadores fue 14,6%; la de usuarios de otros productos de tabaco, 5,7%. Casi un 70% eran fumadores ocasionales. Entre los usuarios de cualquier producto de tabaco, 34,3% lo consumieron en el edificio de la universidad. Más de 90% creían que profesionales de salud deberían recibir capacitación sobre técnicas de cesación y aconsejar rutinariamente sus pacientes a pararen de fumar, pero cerca de 30% no los consideraban "modelo de comportamiento". Más de 85% escucharon sobre efectos del fumo durante su carrera y, en menor proporción, sobre las consecuencias del tabaquismo pasivo. Sin embargo, cerca de 80% no recibieron capacitación formal hasta el tercer año. **Conclusión:** Monitorizar la prevalencia de estudiantes fumadores debe ser un foco de la universidad, especialmente por la elevada proporción de usuarios ocasionales. La fiscalización de la ley que prohíbe fumar tabaco en ambientes colectivos cerrados podría reducir el uso de ese producto. Es necesario también evaluar, a través de una colaboración salud/educación, si los temas tales como influencia de profesionales sobre pacientes y entrenamiento formal integran los currículos tras el tercer año o si no están incluidos.

Palabras clave: Tabaquismo; Rol Profesional; Capacitación Profesional; Vigilancia Epidemiológica