Factors Associated with the Initiation of the Smoking Habit in University Students in Bogotá, Colombia

Factores asociados al inicio del hábito de fumar en estudiantes universitarios en Bogotá, Colombia

Ana María Barreto Niño
Pontificia Universidad Javeriana, Colombia
Paula Andrea Bonilla Reyes
Pontificia Universidad Javeriana, Colombia
Juan Francisco Calderón Bonilla
Pontificia Universidad Javeriana, Colombia
Melissa Andrea Cantillo Avilez
Pontificia Universidad Javeriana, Colombia
Julián Alonso Viña Lopera
Pontificia Universidad Javeriana, Colombia
Hoover Quitián-Reyes[a]
Pontificia Universidad Javeriana, Colombia

[a] Correspondence: quitianh@javeriana.edu.co

ABSTRACT

Introduction: All over the world 5.4 million people die due to tobacco related diseases per year. Considering that teenagers are highly impressionable by media in tobacco consumption, they constitute the population of interest in order to diminish the use of tobacco and the morbidity associated with its use. *Objective*: To identify factors associated at the beginning of tobacco consumption. *Methodology*: Descriptive cross-sectional study using a poll created from a questionnaire on tobacco by Center of Disease Control and Prevention, with a sample of smokers, over 18, selected in the most popular smoking areas at Universidad Javeriana, Bogota – Colombia. *Results*: The most frequent factors related to the beginning of tobacco consumption were: Peer pressure (34.6%), curiosity (24.7%) and stress (17.6%). The average starting smoking age was 14.3 ($\pm$1.9). *Conclusion*: The low capacity of opposing social pressure at parties and recreational events showed as the most important factor at the beginning of a smoking habit.

Keywords
smoking; undergraduate students; factors; cigarette.

RESUMEN

Introducción: En el mundo, 5,4 millones de personas fallecen al año por enfermedades relacionadas con el tabaco, y la adolescencia es una de las etapas más vulnerables para desarrollar el hábito de fumar. *Objetivo*: Identificar factores asociados al inicio del consumo de tabaco en los estudiantes de la Pontificia Universidad Javeriana, Bogotá. *Métodos*: Se aplicó una encuesta de carácter voluntario, creada a partir del cuestionario de consumo de tabaco desarrollado por el Center of

Desease Control and Prevention, a estudiantes de pregrado, mayores de edad, reclutados en los lugares de la Universidad más concurridos por fumadores. *Resultados*: La edad promedio de inicio del consumo en la muestra fue de 14,3 años (±1,9). Los factores más frecuentes fueron presión social (34,6%), curiosidad (24,7%) y estrés (17,6%). *Conclusión*: La poca resistencia a la presión del entorno es la principal causa del inicio del hábito de fumar.
Palabras clave
fumar; estudiantes; factores; cigarrillo.

Introduction

The consumption of tobacco cigarettes is a mechanism that serves to strengthen bonds and form new relationships (1); however, it is a public health problem; tobacco smoke causes 90% of all lung cancers and is a major risk factor for strokes, heart attacks and some oral diseases (2). Around the world, around 5.4 million people die every year from diseases related to tobacco consumption (3), and it is estimated that if the trend continues, in the next five years tobacco will cause 50% more deaths than HIV/AIDS (4).

The National Health Survey, conducted in Colombia by the Ministry of Health and Social Protection, reported that in 2007 the prevalence of cigarette smoking in the population between 18 and 69 years of age was around 12.8%; this figure, although high, is lower than that registered in 2011 in other Spanish-speaking countries (5,6), such as Spain (37%), Mexico (36.4%), Argentina (34,7%) and Venezuela (31.6%) (7).

Despite the national efforts, the anti-smoking laws (8) have not managed to eradicate smoking, although they have reached a significant reduction: "From a prevalence of smoking of 21.4% in 1993, it went to 18.9% in 1998, and from this to 12.8% in 2007" (5). A relevant aspect in this regard is that Bogota, the capital of Colombia, where most anti-smoking projects are carried out, has one of the highest prevalences in the country, 15.9%, which is higher than the national average.

In the case of smokers of school age "tobacco consumption increases considerably with age [...]; among schoolchildren aged 11 to 12, 2.8% report that they have used this substance in the last month, a figure that rises to 17.4% among students aged 16 to 18" (5). For this reason, this population is among the main objectives of tobacco companies to increase their income (9,10).

Due to the above, since 2003, the Pontificia Universidad Javeriana (PUJ) has intensified projects promoting healthy habits among the students. In terms of tobacco consumption, the university created the Clinic to Quit Smoking, "an interdisciplinary service that uses the model of stages of behavioral change to provide treatment to those who wish to quit smoking", in order to reduce the prevalence (11).

Several factors associated with the initiation of cigarette smoking have been documented in the literature (12,13,14). This article explores these factors among students of the PUJ, because identifying the most common factors is a necessary input to formulate policies, plans and programs to prevent the appearance of new smokers and promote the cessation of the habit.

Materials and methods

A non-probabilistic sample was taken according to criteria. Since smoking is generally done in the company of others, and in order to reach the greatest number of smokers, with the help of the security personnel, we identified the places where smokers congregate within the campus (Figure 1) and we determined that the hours of greatest congestion at these places are between 12:00 m. and 2:00 p.m. In October 2014, a pollster went to each of these places for five consecutive business days, at the aforementioned times. Due to the way in which the sample was taken and the resulting size, we did not perform analyzes to determine if the differences between groups were statistically significant, because these results would not be conclusive.

Figure 1. *Sections and number of respondents in the smoking points of the Pontificia Universidad Javeriana during the five days of data collection*

To collect the information, a self-administered questionnaire of 26 questions was used, 15 were taken from the *Encuesta del consumo de tabaco entre los hispanos/latinos de 18 años de edad o más: cuestionario totalmente en español* (*Survey on Tobacco Consumption Among Hispanics/Latinos 18 Years of Age or Older: Questionnaire Entirely in Spanish*) (15), used by the Center of Disease Control and Prevention for a study of the Latin population in the United States; the rest of the questions were created by the authors of this article to characterize the student population under study.

The survey was voluntary and included only smokers of legal age who were active students who completed an informed consent. In this the implications of the study were briefly explained and they were informed that the information of the interviewee would remain anonymous and out of reach of third parties.

For the analysis of the resulting data, the subjects were divided into two categories: those who had tried to quit smoking, defined as not smoking for a day or more for that purpose, and those who had not tried.

Results

In total, 176 completed surveys were collected and 3 partially completed, which were excluded. Table 1 summarizes the characteristics of the surveyed population. 28.4% of smokers interviewed were women; the average age was 20.3 years (± 1.7); 83.5% said they were heterosexual, and 80.1% were single and were living with their family. Regarding the economic variables, 82.5% were in stratum 4 or higher, and 14.8% had some paid work.

Table 1. *Characteristics of the population interviewed*

	Con intención de dejar de fumar		Sin intención de dejar de fumar		NSNR		Total todos los grupos	
	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)
Sexo								
Masculino	93	70,5%	31	77,5%	2	50%	126	71,59%
Femenino	39	29,5%	9	22,5%	2	50%	50	28,41%
Total	132	100,0%	40	100,0%	4	100%	176	100%
Edad								
Promedio	20,3	N/A*	20,2	N/A	20	N/A	20,28	N/A
Estrato								
1	0	0,0%	1	2,5%	0	0,00%	1	0,57%
2	21	15,9%	7	17,5%	1	25,00%	29	16,48%
3	46	34,8%	13	32,5%	1	25,00%	60	34,09%
4	36	27,3%	11	27,5%	1	25,00%	48	27,27%
5	25	18,9%	7	17,5%	1	25,00%	33	18,75%
6	4	3,0%	1	2,5%	0	0,00%	5	2,84%
Ocupación								
Trabaja y estudia	18	13,64%	7	17,50%	1	25,00%	26	14,77%
Solo estudia	114	86,36%	33	82,50%	3	75,00%	150	85,23%

*N/A

Information was collected from students of 25 different undergraduate courses. The career with the greatest participation was Law (12.9%), followed by Administration, Architecture and Industrial Design, with approximately 10.5% each. Regarding the frequency of consumption, 47.2% said that they smoked every day, followed by 36.9%, who smoked five or six days a week.

75% of the respondents had tried to quit smoking, or were in the process of quitting, 22.7% reported that they had never tried; the remaining percentage did not answer the question, and no differences were found in the sociodemographic data of these two groups.

Among those who have tried to stop smoking or are in the process of quitting, the main cause for them to start smoking was social pressure (39.1%), followed by curiosity (24.6%). 82.6% said that the first time they smoked were in the company of a friend, and 9.1%, in the presence of a family member. Parties (48.5%) or recreational environments (24.2%) were the places where they started, being mainly in a happy mood (43.18%) or excited (32.6%). They reported that at that time they experienced dizziness (56%) or cough (37.9%), and 47% were smoking every day.

In contrast, those who stated that they had never tried to stop smoking attributed their initial consumption mainly to curiosity (25%) or stress (22.5%). 12.5% were alone when they smoked for the first time: 70% did so when they were happy or excited, 32.5% did not experience any discomfort such as dizziness or cough, and 52.5% said they were smoking every day. Table 2 contains the results for each of the elements analyzed.

Table 2. *Main results per group*

Factor	Con intención de dejar de fumar		Sin intención de dejar de fumar		NSNR		Total todos los grupos	
	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)	Número de personas	Porcentaje (%)
Factor de inicio								
Curiosidad	34	25,76%	10	25,00%	1	25,00%	45	25,57%
Estrés	22	16,67%	9	22,50%	0	0,00%	31	17,61%
Influencia familiar	3	2,27%	2	5,00%	0	0,00%	5	2,84%
Por gusto	14	10,61%	4	10,00%	2	50,00%	20	11,36%
Por tonto	1	0,76%	3	7,50%	0	0,00%	4	2,27%
Presión social	51	38,64%	8	20,00%	1	25,00%	60	34,09%
NSNR	7	5,30%	4	10,00%	0	0,00%	11	6,25%
Compañía								
Familia	12	9,09%	2	5,00%	1	25,00%	15	8,52%
Amigos	109	82,58%	31	77,50%	1	25,00%	141	80,11%
Pareja	1	0,76%	1	2,50%	0	0,00%	2	1,14%
Solo	10	7,58%	5	12,50%	2	50,00%	17	9,66%
Otro	0	0,00%	1	2,50%	0	0,00%	1	0,57%
Contexto								
Ambiente académico	18	13,64%	4	10,00%	0	0,00%	22	12,50%
Ambiente laboral	2	1,52%	0	0,00%	0	0,00%	2	1,14%
Ambiente familiar	10	7,58%	5	12,50%	0	0,00%	15	8,52%
Ambiente recreacional	32	24,24%	12	30,00%	0	0,00%	44	25,00%
Fiesta	64	48,48%	16	40,00%	2	50,00%	82	46,59%
Otro	5	3,79%	2	5,00%	2	50,00%	9	5,11%
NSNR	1	0,76%	1	2,50%	0	0,00%	2	1,14%
Estado de ánimo								
Emocionado	22	16,67%	4	10,00%	0	0,00%	26	14,77%
Triste	7	5,30%	0	0,00%	0	0,00%	7	3,98%
Enojado	3	2,27%	0	0,00%	0	0,00%	3	1,70%
Alegre	53	40,15%	20	50,00%	2	50,00%	75	42,61%
Preocupado	3	2,27%	1	2,50%	0	0,00%	4	2,27%
Eufórico	10	7,58%	2	5,00%	0	0,00%	12	6,82%
Depresivo	2	1,52%	0	0,00%	0	0,00%	2	1,14%
Ansioso	11	8,33%	3	7,50%	0	0,00%	14	7,95%
Otro	20	15,15%	10	25,00%	2	50,00%	32	18,18%
NSNR	1	0,76%	0	0,00%	0	0,00%	1	0,57%
Sensación								
Náuseas	18	13,64%	3	7,50%	0	0,00%	21	11,93%
Mareo	53	40,15%	9	22,50%	1	25,00%	63	35,80%
Tos	28	21,21%	13	32,50%	1	25,00%	42	23,86%
Ardor en la garganta	6	4,55%	1	2,50%	1	25,00%	8	4,55%
Ninguna de las anteriores	26	19,70%	13	32,50%	1	25,00%	40	22,73%
NSNR	1	0,76%	1	2,50%	0	0,00%	2	1,14%
Frecuencia								
Todos los días (7/7 días semana)	62	46,97%	21	52,50%	0	0,00%	83	47,16%
Algunos días (3-6 días semana)	51	38,64%	13	32,50%	1	25,00%	65	36,93%
Pocos días (1-2/7 días semana)	19	14,39%	5	12,50%	2	50,00%	26	14,77%
NSNR	0	0,00%	1	2,50%	1	25,00%	2	1,14%

Discussion

Regardless of the region, a common element among the studies that assess the prevalence of tobacco use in the young population is that mainly men manifest having this addiction; the average age at which they started is around 13 years (16,17,18,19). Perhaps this early start is the reason why it is common for the young population, taking into account the remaining years before reaching their life expectancy, to express the intention to quit smoking in the near future (20), in order to avoid harmful consequences for health.

Regarding the reasons for the initiation of tobacco use, this study agrees with those frequently reported in the literature: in general, they are related to the construction of the personality during adolescence such as the feeling of insecurity (16), curiosity (21) and low self-esteem (19).

The main weakness of the study is the way in which the sample was collected, because it does not ensure that the data are representative of the entire academic population of the PUJ. However, the results are consistent with other studies conducted in the country with similar populations, which would allow us to think that the conclusions are not entirely invalid for our context. For example, in Bogotá (22) evidence was found that university spaces offer an environment conducive to consumption; in the city of Manizales (23) it was found that consumption peaks coincide with the periods of highest academic demand, and in Cali (24), that both the gender and the faculty to which the students belong are factors associated with an increased cigarette consumption.

On the other hand, the way in which the questions were asked allowed people to answer without pressure that induced them to give socially desirable answers, such as affirming that they have tried to quit smoking; because of this, there is no reason to think that the results in this regard are not reliable.

Given that this is a public health problem recognized throughout the world, similar studies have been conducted in different Spanish-speaking countries, such as Guatemala (25) and Mexico (26). It has been found that the main reasons why medical students smoke are stress, the imitation of teachers and fashion, and that the age of initiation is inversely related to the probability of quitting smoking; no evidence was found of a relationship with the socioeconomic level, or effects of restriction policies, such as the limitation to the sale of single cigarettes.

Conclusion

Mainly, psychological factors and vulnerability to the environment create in adolescents the tendency to begin smoking (27,28). In addition, it seems that there are differences that determine the course of the addiction. The evidence suggests that those who initiate consumption more out of curiosity than due to social pressure tend to adopt the habit without considering the possibility of quitting. Other studies have suggested similar conclusions

related to personality, since for the strengthening of the smoking habit, a personality characterized by fear of the disapproval of others is more favorable than one that seeks acceptance (29).

Because of the complexity and the multiple factors that favor the initiation of cigarette smoking, as well as the consequences for health and for the consumption of resources of the health systems, it is necessary to intervene in the young population (30). Unfortunately, there is no clarity as to which strategies are effective to reduce the vulnerability of the young population to the environment that surrounds them, since the mass media (31) and the incentive programs (32) have failed in effectively preventing the initiation of cigarette smoking and in stopping the habit in young people.

There is also uncertainty about policies to reduce cigarette consumption. The most studied measure has been the creation of taxes, and although consumption has responded to price increases, it seems that the reduction is not enough to effectively combat the problem (28,30,33,34).

The most important contribution of this exploratory study is that, since no elements were found to suggest that there are differences between the behavior towards cigarette smoking of the students of the PUJ and the young population of the rest of the country and even of other latitudes, it is suggested to resort to measures that have been effective for other cities or nations, although it is necessary to evaluate our own alternatives, it will be possible to take advantage of the joint effort or the one made in other research centers, to advance in the elimination of cigarette smoking in the university population.

From the perspective of the authors of this article, as active students of the Faculty of Medicine, after analyzing the phenomenon in the university context, a constant presence of susceptibility of the students to their environment is identified as a determining factor in the initiation and in the habitual consumption of cigarettes. We believe that, in addition to continuing to promote healthy extracurricular activities (19), the university should use advertising campaigns that are present in the classrooms and in the physical and virtual spaces in which the academic community interacts, so that *not smoking* be considered part of the identity of the PUJ community, and especially of the Faculty of Medicine.

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