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FACTORS ASSOCIATED WITH TOBACCO CONSUMPTION IN UNIVERSITY STUDENTS OF LIMA METROPOLITAN

FACTORES ASOCIADOS AL CONSUMO DE TABACO EN ESTUDIANTES UNIVERSITARIOS DE LIMA METROPOLITANA

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ABSTRACT

Introduction: Tobacco use is harmful to health, according to the World Health Organization (WHO) smoking is the cause of death for approximately 8 million people each year. **Objective:** The purpose of the research was to determine the factors associated with tobacco consumption in university students from Metropolitan Lima. **Methods:** The sample consisted of 447 students from different universities in Lima, a previously validated survey was applied: Fagerstrom test to measure tobacco consumption. Subsequently, the data was analyzed using distribution, frequency and contingency tables. In addition, regression statistical test was applied to obtain the prevalence ratios (PR) of the study variables in both bivariate and multivariate analyzes, with a 95% confidence interval (95% CI). **Results:** It was evidenced that there is a significant association between male sex and smoking (p = 0.01), with an RP = 1,67 and 95% CI = [1,03 – 2,23]. It was also observed that having smoking parents was statistically associated with smoking in university students, with a value of p=0.00, and an RP=2,53 with a 95% CI = [1,62 – 3,52]. No significant association was found between the variables age and social pressure. **Conclusion:** The variables sex and smoking parents have a significant association with tobacco consumption, emphasizing that both our family and academic environment deserve to be safe, healthy and free of tobacco smoke.

Key words: Tobacco use; University students; Parental background (source: MeSH NLM).

RESUMEN

Introducción: El consumo de tabaco es perjudicial para la salud, según la Organización Mundial de la Salud (OMS) el tabaquismo es la causa de muerte de aproximadamente 8 millones de personas cada año. **Objetivo:** El propósito de la investigación fue determinar los factores asociados al consumo de tabaco en estudiantes universitarios de Lima Metropolitana. **Métodos:** La muestra estuvo conformada por 447 estudiantes de diferentes universidades de Lima, se aplicó una encuesta previamente validada: Test de Fagerstrom para medir el consumo de tabaco. Posteriormente los datos fueron analizados utilizando tablas de distribución, frecuencias y contingencia. Además, se aplicó la prueba estadística de regresión para obtener las razones de prevalencias (RP) de las variables de estudio tanto en el análisis bivariado como en el multivariado, con un intervalo de confianza al 95% (IC al 95%). **Resultados:** Se evidenció que existe asociación significativa entre el sexo masculino y el hábito de fumar (p=0,01), con un RP = 1,67 e IC al 95% = [1,03 – 2,23]. También se pudo observar que tener padres fumadores estuvo estadísticamente asociado al hábito tabáquico en los universitarios, con un valor de p=0,00, y un RP = 2,53 con IC al 95% = [1,62 – 3,52]. No se encontró asociación significativa entre las variables edad y presión social. **Conclusión:** Las variables sexo y padres fumadores tienen asociación significativa con el consumo de tabaco enfatizando que tanto nuestro entorno familiar como académico merece ser seguro, saludable y libre del humo de tabaco.

Palabras clave: Consumo de tabaco; Estudiantes universitarios; Antecedentes parentales (fuente: DeCS BIREME).

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INTRODUCTION

World statistics from the World Health Organization (WHO) affirm that tobacco is one of the greatest threats to public health that the world has had to face. It kills more than 8 million people a year, of which more than 7 million are direct consumers and about 890,000 are non-smokers exposed to second-hand smoke[1].

Tobacco use is an addictive habit widespread throughout the world. It is estimated that there are 1.3 billion smokers in the world and almost 80% of the more than one billion smokers in the world live in low or middle-income countries, where the burden of morbidity and mortality associated with tobacco is greater[1,2].

One of the trends seen globally is that adolescents are starting to smoke at increasingly younger ages. Thus, it is observed that in many countries the percentages of adolescents under the age of 15 who habitually smoke are barely less than the percentage of adults, which constitutes a problem for public health. The prevention of smoking is, without a doubt, one of the great challenges for health worldwide[3,4].

According to this, in Spain, the prevalence of tobacco consumption in university students at the Jerez campus was 26.3%, a reality associated with a high intellectual load and a high degree of permissiveness regarding cigarette consumption in these educational institutions. Thus, the role of universities as executing entities of norms and sanctions to regulate tobacco consumption among university students is decisive in achieving these habits of risk to public health[5].

Also, smoking is the cause of death of approximately 156,200 people in Brazil, due to diseases associated with active and passive smokers. According to the National Health Survey, in 2013, 15% (22 million individuals) of the Brazilian population aged 18 years or older was a smoker. Furthermore, it has been observed that in the Brazilian context, smoking is frequently acquired during adolescence[6].

In Peru, according to DEVIDA figures, 2.5 million people are smokers. Likewise, the National Institute of Neoplastic Diseases of Peru indicated that tobacco addiction is responsible for approximately 16,700 deaths a year. Besides, it favors the development of chronic obstructive pulmonary disease (COPD) as well as cardiovascular diseases in both men and women. Regarding smoking among university students, 53% of them declare having used tobacco at some time during the university stage[7].

As mentioned, smoking is a major cause of health loss and premature death in developed countries and represents a serious threat to public health in developing countries. The university population is not exempt from this risk. To prevent the acquisition of such a habit, it is necessary to know the factors that trigger it. Therefore, this research seeks to determine the factors associated with tobacco use in university students in metropolitan Lima during 2018.

METHODS

Design

A relational, analytical and cross-sectional study was carried out.

Population and sample size

The population was made up of university students from 5 private universities in Metropolitan Lima: University of Lima, Norbert Winner University, Ricardo Palma University, Alas Peruanas University, and Peruvian University of Applied Sciences, with a total of 77 510 students. The sample was obtained through simple probabilistic sampling, with a 95% CI and was made up of 528 collected surveys, 447 surveys were selected for meeting the inclusion criteria set forth for the research. University students enrolled during the academic year, present in a certain classroom at the time of the application of the study instrument and who agreed to answer the questions through of verbal informed consent were included. The exclusion criteria were university students who were not enrolled during the 2018 academic year, students who did not answer all the questions on the administered instrument, and university students belonging to public universities.

Procedures and variables

The Spanish version of the Fagerstrom test was applied, adapted and validated by Arias–Gallegos[8] for the analysis of the variable smoking. It contains six questions to explore the priority components of tobacco addiction, the daily urge to smoke, and the number of cigarettes. Likewise, the variables sex, age, social pressure, and smoking parents were analyzed.

Statistic analysis

Descriptive data were presented through frequency and percentage tables, as well as through graphs and tables. The bivariate analysis between the variables age, sex, social pressure, and parental history and tobacco consumption was performed using the Pearson's X 2 statistical test. The analysis includes the OR

measurement of the study variables, considering a 95% confidence interval. Also, multivariate logistic regression analysis was performed to assess the possible influence of confounding variables on the results obtained. The collected data were processed with the SPSS Statistical Package version 22.0

Ethical aspects

The study was approved and endorsed by the Research Ethics Committee of the Facultad de Medicina Humana of the Universidad Ricardo Palma.

RESULTS

The Fagerstrom Test was applied to 447 university students from 5 universities in Metropolitan Lima, obtaining as a result that 73.60% of university students were between 19 to 30 years old, while 26.40% were between 15 to 18 years old. , being the average age of 20 years. Besides, 64.43% of the sample studied were women, and 35.6%, men. Likewise, 76.29% of university students do not consume tobacco. Of the 23.71% who are smokers, 51.9% are women. The general characteristics of the study participants are detailed in Table 1. It is important to note that 97.17% of young people with a tobacco habit had moderate dependence on tobacco as shown in Figure 1, in addition to 98.11% of Students who smoked consumed less than 11 cigarettes a day and only about 2% between 21-30 per day.

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Table 1. General characteristics of the university students studied according to tobacco consumption.

Variables	Tobacco Consumption		Total
	Yes n (%)	No n (%)	
Sex			
Females	55 (51.9%)	233 (68.3%)	288
Males	51 (48.1%)	108 (31.7%)	159
Age			
15 to 18 years	31 (29.2%)	87 (25.5%)	118
19 to 30 years old	75 (70.8%)	254 (74.5%)	329
Social pressure			
Yes	37 (34.9%)	109 (32.0%)	146
No	69 (65.1%)	232 (68.0%)	301
Smoking Parents			
Yes	45 (42.5%)	56 (16.4%)	101
No	61 (57.5%)	285 (83.6%)	346
Total	106	341	447 (100%)

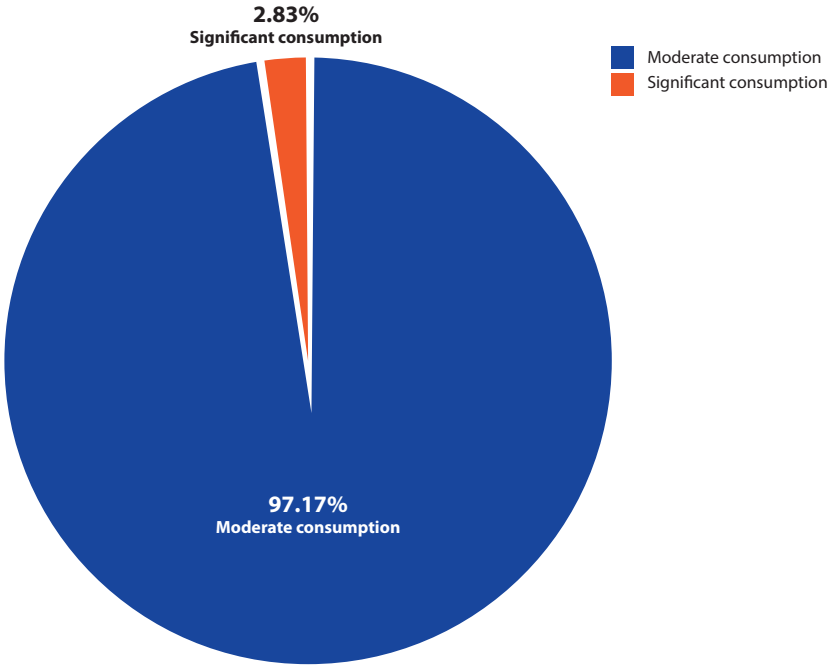

Figure 1. Percentage of tobacco consumption in students from different private universities in Metropolitan Lima.

In the bivariate analysis, a statistically significant association was found between male sex and smoking, with a p-value = 0.01 and an RP = 1.67 with a 95% CI [1.03–2.23]. In the same way, an association was evidenced between the variable smoker parents and tobacco consumption, obtaining a value of p = 0.00 and an RP = 2.53 with 95% CI [1.62 - 3.52]. No association was found between the variables age and social pressure with smoking. Table 2 details the respective p and RP values for each of the variables studied. Besides, the adjusted RP value obtained from the multivariate logistic regression is shown comparatively.

Table 2. Bivariate and multivariate analysis between the study variables and tobacco consumption of students from different universities in Metropolitan Lima.

Variable	p Value	RP	RP Adjusted	Confidence Interval to 95%	
				Lower Limit	Upper Limit
Sex	0.01	1.67	1.52	1.03	2.23
Age	0.50	1.15	1.21	0.75	1.75
Social Pressure	0.62	1.11	1.23	0.74	1.74
Smoking Parents	0.00	2.53	3.39	1.62	3.52

DISCUSSION

EThe present study revealed that the prevalence of smoking was 23.71% of a total of 447 students from five private universities in Peru. Furthermore, according to the Fagerstrom Test applied to this same group of university students, 97.17% of student smokers have moderate tobacco consumption and only 2.83% use cigarettes significantly. Similar results were obtained by Fernández Cernuda 9 in a study of prevalence carried out in Spain on tobacco consumption in students of health sciences from academic schools of nursing and physiotherapy, in which it was shown that the prevalence of tobacco consumption in 727 participating university students it was 21.6%. However, in this research, the Fagerstrom Test evidenced a low dependence on nicotine in the group of smoking students from both academic schools, which could be due to the differences between the evaluated populations.

The sociodemographic factors addressed in this study were: age, sex, and social pressure. Regarding age, although the majority of university students studied were adults, 30.7% were adolescents, of whom 29.6% smoked. Furthermore, there was no statistically significant association between age and smoking (p> 0.05). Similarly, Muñóz – Pintado[10], through a study carried out in Spain, found that university students started tobacco use, generally during adolescence. Furthermore, the author found no significant association between the variable age and tobacco consumption. These data not only support the results obtained in our study but also maintain that smoking may be consolidated at the university stage.

On the other hand, our study demonstrated a statistically significant association between sex and smoking. According to this, the male sex would be more predisposed to acquire the smoking habit and to consolidate it during the university stage. This result could be explained according to the socialization process, which has the family as its main agent, which not only dictates rules of conduct but also assigns roles according to gender. All this makes both men and women learn and assume differentiated roles, often imposed by the society that is currently in the process of change[11]. Similarly, Cheesman and Suárez in a study of 347 students from a university in Guatemala, argued that the probability of acquiring smoking in the aforementioned population was significantly influenced by sex, evidencing that cigarette consumption is more prevalent among male students[12]. The aforementioned supports what was obtained in our study.

On the other hand, 68% of university students who participated in the present study reported not having felt pressured by their peers to consume tobacco, besides, no significant association was found between the variables social pressure and smoking habit (p> 0.05). On the contrary, different authors showed in their studies that having smoking friends increases the probability of acquiring the tobacco habit among young university students, frequently among those who are adolescents, thus finding a statistically significant association between the aforementioned variables[12,13]. These data do not support the results obtained through our study, however, it must be taken into account that the populations studied have different characteristics, environments and social realities that could explain the difference in the results.

Finally, of the total of university students who participated in our research, 22.54% have smoking parents (mother, father or both). Our study revealed that this background represented a factor associated with an increased risk for students to acquire smoking. Accordingly, Chessman and Suárez, mentioned above, argued that students who had smoking parents had a higher risk of becoming tobacco users during the university stage, confirming the results obtained in our research[12].

The university environment deserves special attention, and both students who use tobacco and those who do not, are part of a population with wide possibilities of being intervened. Subsequent studies could provide results that show both differences and similarities regarding the acquisition of smoking among groups of students from public and private universities. Some variables that could be included in future research could be the university context, the level of knowledge about the health consequences of tobacco consumption and family pathological history, such as lung cancer, from prolonged tobacco use[14-16].

It is important to characterize the population group, in order to generate differential prevention strategies according to sex and thus increase their effectiveness[17]. The authors recommend using the results of this research to sensitize and educate the university population in self-care and the prevention of risky behaviors that lead to smoking, in order to contribute to the universities in setting out guidelines that allow for healthy and comprehensive development of the young people.

CONCLUSION

The prevalence of tobacco consumption in the group of university students object of this investigation was 23.71% with respect to the total. Additionally, male students smoked more frequently and are generally teenagers. Male sex and having parents who smoked

were significantly associated with an increased risk of acquiring smoking. There was no association between peer pressure and smoking in university students studied.

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