

Mini Review

Prevalence and Factors Related to Tobacco Use in Adolescent Students

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ABSTRACT

Introduction: Tobacco use is a major public health problem, a cause of premature and preventable morbidity and mortality, which often begins in adolescence.

Objective: To analyze the prevalence and associated factors related to tobacco consumption among secondary, high school and university students of Cáceres (Spain).

Methods: Descriptive cross-sectional study. The sample consisted of secondary, high school and university students from the city of Cáceres, over 14 years old. Sociodemographic and consumption data and factors related to tobacco were collected. For the bivariate analysis Chi square was used for the qualitative variable.

Results: 209 students have participated. The prevalence of tobacco consumption was usually 27.8%, 27.8% occasional and 44.5% were not consumers. The female gender with 30.6%

and 20-24 years, those that contain the highest proportion of smokers. The factors related to starting smoking were other reasons (44%), tendency (16.4%) and relaxation (18.1%), which shows statistically significant differences ($p < 0.005$).

Almost all smokers, whether habitual or casual, have thought about stopping smoking (47.4%) or maybe they could try it (37.1%).

Conclusion: The rate of tobacco users is high among students. This suggests the need to implement health education programs to prevent and reduce the rate of tobacco use since adolescence, to prevent them from adopting or maintaining this habit in adulthood, since a high percentage of smokers have thought in quitting smoking.

Keywords: Tobacco; Adolescents; Students; Consumption; Risk factors

Introduction

Tobacco is the main preventable cause of morbidity and premature mortality in the world. It is therefore an important public health problem, which often begins in adolescence or young adulthood (antes de los 26 años) and once the habit of smoking is established, cessation is a very difficult [1-3].

In Spain, according to the Survey on Drug Use in Students of Secondary Education (ESTUDES) 2016, they indicate that alcohol followed by tobacco are the drugs most consumed by students from 14 to 18, although a downward trend is being observed in recent years, the same happens in the other countries of Europe. 38.5% have smoked at some time in their life and 27.3% have smoked in the last 30 days. Consumption is higher in women, 36.9% of women smoke compared to 32.6% of men between 14 and 18 years in the last 12 months [4].

The average age of onset in Spain is at 14.1 years, delaying with respect to previous years [4], but in developing countries tobacco consumption begins at a relatively younger age, being more likely to die prematurely from diseases and complications related to tobacco [5,6].

Finally, consumption tends to increase with age in both sexes, from 19.8% of 14 years old adolescents, reaching 55.6% among 18 years old [4].

Tobacco use can adversely affect the physical and mental health of adolescents. In particular, it is the main risk factor for cardiovascular and respiratory diseases, it is the main cause

of deaths from lung cancer. Due to the large number of toxic substances contained in tobacco smoke, about 7357 chemical compounds, including the addictive chemical, nicotine [7].

Exposure to this substance, nicotine, during adolescence, a critical period, can cause addiction, and adversely affect brain development and brain function [1,8]. Furthermore, it is associated with an increased risk of psychiatric disorders, depression, a higher prevalence of illicit drugs and alcohol consumption [8].

There are several social and cognitive factors that influence the consumption of tobacco among adolescents, since they are more sensitive to the need for social acceptance, they were considered more popular among groups of friends, therefore they are more likely to consume habitually [5,8].

In this context, it is important to identify the risk factors that explain the initiation and maintenance of tobacco use in adolescence, in any of its stages (early or late) [5], as well as determining the prevalence of tobacco use in adolescents. different contexts. Therefore, the purpose of this study is to analyze the prevalence and associated factors related to tobacco consumption among secondary, high school and university students of Cáceres (Spain).

Methods and Materials

Design: Cross-sectional descriptive study.

Sample: The study participants were adolescent secondary and

high school students, as well as the University of Extremadura in the city of Cáceres (Spain), from 14 years of age.

Data collection: In March and April of 2018, the students responded during the classes of the teachers who had given their permission. All participants agreed to participate in the study, signing the informed consent.

Instruments used: A self-administered questionnaire consisting of two sociodemographic questions and eight questions about tobacco consumption, related factors such as type (industrial, pack tobacco or non-industrial, rolling tobacco), frequency (habitual, almost every day of the week or occasional, one or two days a week or no, never), years of consumption, reasons, cessation approach and knowledge about harmful effects. Although only smokers had to answer all the questions.

Data analysis: The statistical package SPSS (version 23.0) was used for the statistical analysis.

The results of the descriptive analysis are represented as measures of central tendency (mean, median) and dispersion (standard deviation) in the case of quantitative variables, and as frequencies and percentages in the case of qualitative variables.

Bivariate analysis was performed by Chi-squared for qualitative variables. Cramer's V was chosen as association magnitude.

A confidence level of 95% ($p < 0.05$) was accepted for all statistical analysis.

Results

A total of 209 students participated from secondary and high school, as well as from the University of Extremadura in the city of Cáceres (Spain). 60.3% of the participants were women and the most representative age was 20-24 years (53.6%).

Regarding the prevalence of tobacco consumption, 27.8% considered themselves to be habitual smokers, 27.8% were occasional and 44.5% weren't consumers (Table 1).

The results showed that among women ($n = 126$) 50.8% were habitual or occasional smokers, compared to 49.2% who were not. With respect to men ($n = 83$), 62.6% were consumers and the remaining 37.3% werenot. Moreover, the age group with the highest number of habitual smokers was between 20 and 24 years old (17.2%).

Table 1: Demographic characteristics of students and prevalence of consumption of tobacco ($n=209$).

Variables	Categories	Total n (%)
Gender	Female	126 (60,3%)
	Male	83 (39,7%)
Age	14-16 years	6 (2,9%)
	17-19 years	64 (30,6%)
	20-24 years	112 (53,6%)
	>25 years	27 (12,9%)
Smoker	Habitual	58 (27,8%)
	No	93 (44,5%)
	Occasional	58 (27,8%)

n = frequency

There was a statistically significant difference between habitual or occasional consumer and the type of tobacco, industrial or non-industrial, ($X^2(1) = 8.169$, $p = 0.004$), with an effect size ($V = 0.265$).

The majority of smokers ($n = 116$) consumed 1-5 cigarettes a day (60.3%). Evidence statistically significant differences between consumption and quantity ($p = 0.000$).

On average the sample takes 4.23 years smoking (standard deviation [SD]=2,802), according to their current age, the average number of years smoking is modified according to Figure 1. Almost all participants consider that tobacco consumption was harmful to health, regardless of the amount (94,7%). The main reasons why they started smoking were other reasons than those stated in the survey (44%), by trend (16,4%) and to relax (18,1%), demonstrating statistically significant differences ($p < 0.005$).

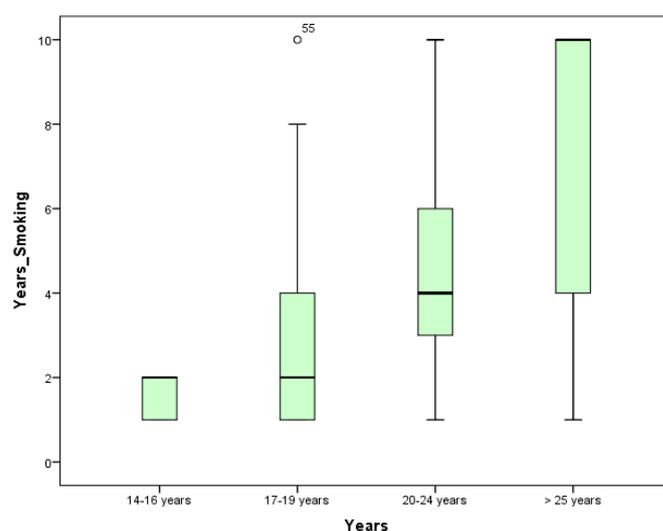


Figure 1: Box diagram between age and time in years of smoking.

76.6% of the students did not consider that they were addicted to tobacco or that in the future they would become addicted. Statistically significant differences were found ($p=0.000$) with the type of smoker or non-smoker.

The great majority of smokers (81.9%) consume more tobacco at weekend ($X^2(1)=9.927$, $p=0.002$), with an effect size ($V=0.291$). Almost all smokers, whether habitual or casual, have thought about stopping smoking (47,4%) or maybe they could raise it (37,1%) (Table 2).

Discussion

With respect to the prevalence data of tobacco consumption, it should be noted that almost 30% of students are considered habitual smokers, very similar data with respect to the national survey in which 34.7% have consumed in the last 12 months and 27.3 in the last 30 days [4]. If compared to the results obtained in other countries, the figure is very different, ranging from 7% to 25%, depending on the city in which it is carried out. the study [5,6,9-18], although all point to the fact that the prevalence data are not encouraging, and that there is a high

Table 2: Relationship between the consumption of tobacco with the different variables.

Variables	Categories	Smoker			P
		Habitual n (%)	No n (%)	Occasional n (%)	
Age	14-16 years	3 (1,4%)	1 (0,5%)	2 (1%)	0,340
	17-19 years	14 (6,7%)	28 (13,4%)	22 (10,5%)	
	20-24 years	36 (17,2%)	50 (23,9%)	26 (12,4%)	
	>25 years	5 (2,4%)	14 (6,7%)	8 (3,8%)	
Gender	Female	33 (15,8%)	62 (29,7%)	31 (14,8%)	0,224
	Male	25 (12%)	31 (14,8%)	27 (12,9%)	
Type of tobacco	Industrial	28 (24,1%)	-	43 (37,1%)	0,004*
	Non-industrial	30 (25,9%)	-	15 (12,9%)	
Number of cigarettes consumed in 24 hours	1-5	17 (14,7%)	-	53 (45,7%)	0,000*
	6-9	19 (16,4%)	-	4 (3,4%)	
	10-15	14 (12,1%)	-	0 (0%)	
	>16	8 (6,9%)	-	1 (0,9%)	
Consider that it is harmful to health	Yes	54 (25,8%)	92 (44%)	52 (24,9%)	0,037
	It depends on what you consume	4 (1,9%)	1 (0,5%)	6 (2,9%)	
Reasons to start smoking	By trend	11 (9,5%)	-	8 (6,9%)	0,001*
	Imitate friends	10 (8,6%)	-	3 (2,6%)	
	Pleasing a boy / girl	1 (0,9%)	-	1 (0,9%)	
	Relax	16 (6,9%)	-	5 (0,9%)	
	Other	14 (12,1%)	-	37 (31,9%)	
Almost all of the above	6 (5,2%)	-	4 (3,4%)		
Is considered an addict or could become addicted to tobacco	Yes	43 (20,6%)	0 (0%)	6 (2,9%)	0,000*
	No	15 (7,2%)	93 (44,5%)	52 (24,9%)	
Moment of increased consumption	During the week	17 (14,7%)	-	4 (3,4%)	0,002*
	At weekends	41 (35,3%)	-	46,6 (46,6%)	
Think about stopping short-term	Yes	25 (21,6%)	-	30 (25,9%)	0,121
	No	13 (11,2%)	-	5 (4,3%)	
	Maybe	20 (17,2%)	-	23 (19,8%)	

n= frequency; p= statistical significance.

smoking habit in the adolescent population. In a study conducted in Spain in which 1921 students reported very similar results, 29.9% of adolescents were current smokers and 50.4% were daily smokers [18].

Regarding the differences by sex, although there were no statistically significant differences, the female gender has a higher proportion of tobacco consumption (30.6%) than the male gender, which represents 24.9%, similar data with the survey in Spain in 2016, in which tobacco consumption is more prevalent in adolescent girls, 29% in the last month compared to 25.6% of boys [4,18]. Although in other countries it is the opposite [5,14]. In addition, the prevalence increased with age up to the age of 18, as indicated in national studies [4,18] and in other countries [17], which coincides with our study in which the 20-24 year age range presents the greater proportion.

The factors related to the beginning of the consumption were by the imitation of friends, by fashion and for other reasons, these results are very similar with other studies, in which they indicate other added factors, as in a study carried out in China that adds that smoking parents, teachers who smoke, money available, advertising or promotion of tobacco, passive smoking, misconception of tobacco addiction [9], as well as in the survey

conducted in Saudi Arabia that indicates that smoking, family problems, pleasure were reasons for smoking are factors related to the initiation of smoking [10].

Also, in Botswana. reported that self-image and acceptance by their friends were the strongest predictors for smoking [11]. In another study, 101 of 1399 participants, all risk factors, except academic performance and school connection, were statistically associated with initiation, including parents, siblings, smoking friends, smokers in the home, exposure Tobacco in automobiles, academic performance, depressive symptoms, self-esteem, school, the use of other tobacco products [12], in our study, no participant associated with imitating parents as a risk factor, therefore, wasted statistical analysis.

Almost all the participants are aware that the use of tobacco in any form and quantity is harmful to health, coinciding with a study in Portugal by 441 students, in which they indicate that adolescents have information about the harmful effects of tobacco [16]. Among smokers almost 50% think about stopping smoking and 37% could think about it, although in a greater proportion they exposed it in another study, in which almost three quarters of the current smokers (70.7%) reported that they wanted to quit smoking [5]. Although in our study none of the non-smokers consider that they

will become addicted to tobacco, other studies indicate that of the non-smoking students (n=1636), 17.4% intend to smoke [13]. For all the above, a cross-sectional study of 1805 participants in China worried that 81.1% of the students had never been taught throughout the school about smoking or tobacco prevention [13]. In another, almost half of the students also did not have a lesson in school, in this study it was corroborated that health education on the prevention of tobacco in schools report that students have negative attitudes towards tobacco consumption and less probability of consuming it [15]. So it becomes evident the need to integrate in the educational programs matters related to the prevention of substances and drugs, by the figure of the school nurse [19].

Although the sample size and the studied variables suppose a limitation in the present study, it is necessary to continue investigating.

The results of the present study contribute to open new lines of research in which variables with internationally validated scales analyze the impact of factors related to the maintenance of tobacco habit, effective smoking cessation programs and educational prevention programs in teenager's students.

Conclusion

According to the results of this study, the rate of tobacco users is high among students, especially young adults between 20 and 24 years of age, and females predominate. This suggests the need to implement health education programs to prevent and reduce the rate of tobacco use since adolescence, to prevent them from adopting or maintaining this habit in adulthood, since a high percentage of smokers have thought in quitting smoking.

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