

# Smoking and Associated Factors INSTITUTO NACIONAL DE PSIQUIATRIA IN Students from Mexico City

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# Introduction

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SALUD

Tobacco consumption in general population has decreased 5.3% during the last 6 years in Mexico. The last household survey from 2008, showed that the lifetime prevalence of consumption in population between 12 to 65 years old was 35.6%, and in adolescents between 12 and 17 years old lifetime prevalence use of tobacco was 14.9% (Tapia-Conyer & cols 2002, SSA 2009). In so far as current consumption of the general population (12-65 years) was found to 18.5%, higher than that reported in the global survey of adult smoking from 2009 (GATS), where the population 15 years and older who are current smokers corresponds to 15.9%, equivalent to 24.8% of men and 7.8% of women.

In school population, past studies have reported higher prevalences for men compared with woman; currently consumption of tobacco is similar for both genders (Villatoro & cols 2009, Valdés-Salgado & cols 2004).

Regarding associated factors, the early onset of tobacco use increases experimentation with other drugs (Medina-Mora & cols 2002). In addition, its use is related to other personal and interpersonal problems such as physical and sexual abuse (Nichols 2004), the lack of involvement and support from parents (Nuño, cols 2008), low perceived risk and social tolerance to smoking (Berenzon & cols 1999). In this context, this work aims to understand the relationship between smoking tobacco with other personal and interpersonal factors in students from 10th to 12th grade and undergraduates from Mexico City.

### Material and Method

The study was cross-sectional with a sample of 42,827 students from 10th to 12th grade and undergraduates from a public school in Mexico City. The study design was two-staged, stratified cluster, with a non response rate of 20% and a 95% confidence interval. Information was obtained through a standardized questionnaire used in studies of schoolchildren whose indicators are internationally comparable, which was self-administered, voluntary and anonymous.

#### Results

70.7% of undergraduate students and 57.2% of 10th to 12th grade students have used have smoked tobacco at some time in their lives. Turned down due to the confidence levels considering the sample design, (Figure 1) consumption is higher in men compared to women, for lifetime, last year and last month prevalences. This difference was statistically significant for both 10<sup>th</sup> to 12<sup>th</sup> and undergraduate students.

It was also found that for men and women, the problematic use of tobacco, it's associated with more emotional and social problems.

Students who smoke daily and are dependent, have a higher prevalence of antisocial acts, sexual abuse, and risky eating behaviors. Lowest prevalences were found in the categories of non-smokers or occasional smokers. Women had the higher prevalences of sexual abuse, possible suicide attempt and risky eating behaviors, and in men, the four categories of tobacco users reported higher prevalences of antisocial acts. According to the x2 test there were statistically significant differences by category of consumption (Figure 2).

Figure 1. Tobacco Use

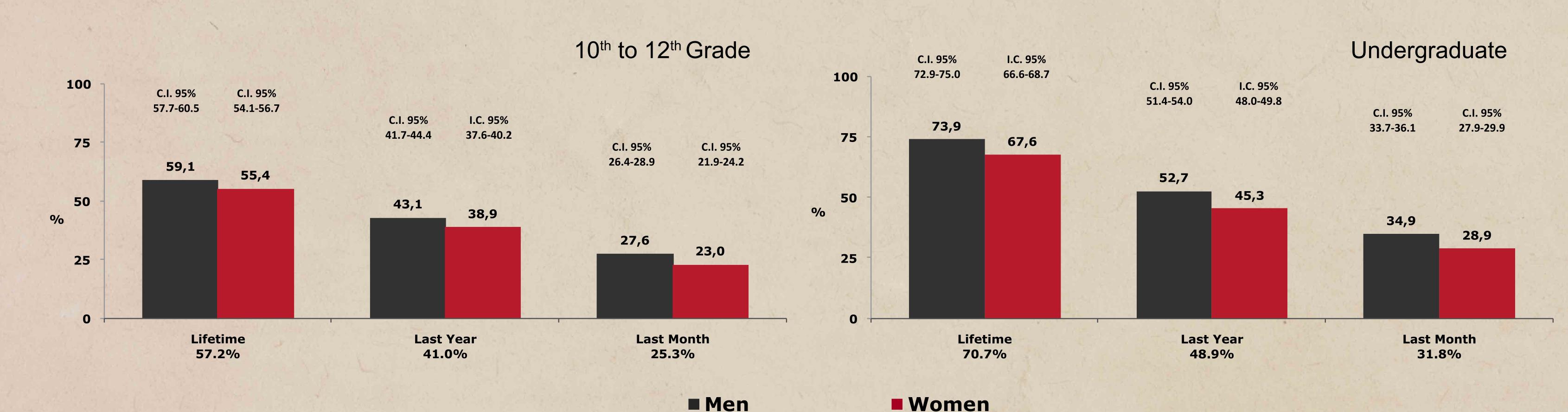


Figure 2. Relationship between different behaviors and tobacco use

A multinomial logistic regression model was performed, considering the sample design, which included demographic variables such as educational level, interpersonal and personal variables such as, possible suicide attempt; having been sexual abused, and risk perception of legal drugs consumption.

Taking non-smokers as the % reference category, it was found that in students from Mexico City, undergraduate men, compared with to those from 10th to 12th grade, have more risk of using tobacco daily (men OR = 1.54, women OR

= 1.56) and also, more risk of developing dependence (men OR = 2.13, women OR = 2.08). As for tolerance of tobacco use from parents and friends and, and low perceived risk of legal drugs use as well as the lack of monitoring and encouragement from parents, they increase the risk of daily consumption they increases the risk of daily smoking and dependency in men and women. Finally men and women with possible suicide attempt and those who reported sexual abuse and a low risk perception of illegal drug use have a hipgher risk of daily smoking and of developing tobacco dependence (Figure 3)

# Conclusions

The prevalence of snuff lifetime, in the last year and last month was higher in men than in women, compared to other studies that reported similar prevalence for men and women, in this study lifetime, last year and last month

prevalence of tobacco use were higher in men.

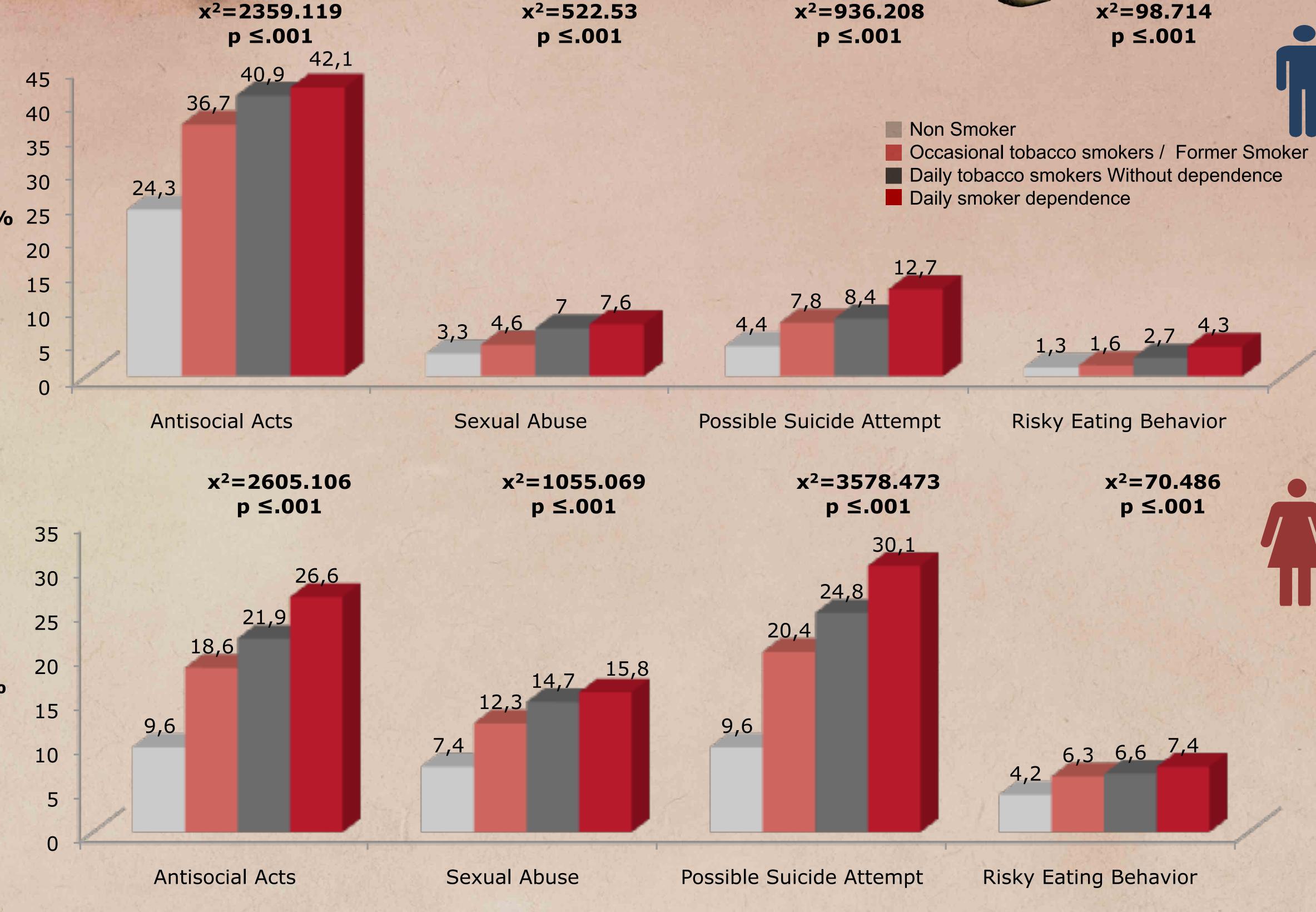


Figure 3. Tobacco use associated factors  Men	Non smoker vs Occasional tobacco smokers / Former smoker OR CI		Non smoker vs Daily tobacco smokers Without dependence OR CI		Non smoker Vs Daily smoker with dependence OR CI	
Educational Level:    Undergraduates    Negative Monitoring    Evasive Education    Poor Encouragement    Inconsistent discipline    Tolerance of parents    Tolerance of friends    Possible Suicide Attempt    Sexual Abuse    Low perceived risk of legal Drugs Use    Women	1.5 1.4 1.1 1.0 1.3 1.8 1.8 1.2	1.36-1.62 1.29-1.43 0.96-1.15 1.06-1.16 0.96-1.08 1.15-1.41 1.65-1.96 1.34-2.35 0.98-1.52	1.5 1.1 1.0 0.9 1.8 3.2 2.0 1.8	1.32-1.80 1.43-1.65 0.94-1.24 0.93-1.08 0.85-1.00 1.60-2.10 2.76-3.81 1.36-2.88 1.36-2.44 1.63-2.06	2.1 1.5 1.1 1.1 1.9 2.6 3.1 1.8	1.80-2.52 1.39-1.66 0.89-1.26 1.03-1.24 0.99-1.22 1.65-2.25 2.10-3.09 2.11-4.49 1.29-2.43
Educational Level: Undergraduates Negative Monitoring Evasive Education Poor Encouragement Inconsistent discipline Tolerance of parents Tolerance of friends Possible Suicide Attempt Sexual Abuse Low perceived risk of legal Drugs Use	1.3 1.4 1.2 1.1 1.0 1.4 1.9 2.3 1.4	1.23-1.44 1.36-1.49 1.04-1.29 1.04-1.12 0.99-1.08 1.25-1.52 1.75-2.03 1.94-2.69 1.23-1.58	1.6 1.1 0.9 1.0 2.3 4.0 3.2 1.5	1.33-1.83 1.45-1.70 0.90-1.26 0.87-1.00 0.95-1.12 2.01-2.66 3.38-4.73 2.60-4.05 1.25-1.86	2.1 1.5 1.3 1.1 1.2 2.1 3.8 4.0 1.5	1.75-2.47 1.41-1.66 1.10-1.55 0.97-1.15 1.12-1.34 1.76-2.44 3.12-4.62 3.18-5.14 1.22-1.90

The probability of using tobacco is higher in those who have higher educational level, those who receive little encouragement from parents and those who indicate higher social tolerance from parents and friends. In addition, possible suicide attempts and low perception of the risk of using legal drugs also increase the likelihood of smoking.

The problematic of tobacco use requires prevention focused on children and adolescents and also the involvement of parents. It is important to manage a program that includes emotional and interpersonal situations, such as activities that do not incite violence, that keep them away from dangerous situations and protect them from suffering sexual abuse or suicidal attempts, encouraging parents to have closer relationships with their children and their activities. Villatoro, J. Gutiérrez, M. Quiroz, N., Moreno, M., Gaytán, L., Gaytán, F., Amador, N. Y Medina-Mora, ME.

It is important to give interactive information of damages that can be caused by smoking and strengthen the programs to make bigger impact, in order to diminish social tolerance of legal drugs and to avoid situations that lead to smoking and delay onset age of tobacco consumption.

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