



DOCENCIA - INVESTIGACIÓN

Factors related to the first use of tobacco in Secondary School Students

Factores relacionados con el inicio en el consumo de tabaco en alumnos de Enseñanza Secundaria Obligatoria

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Palabras clave: tabaquismo; adolescencia; estudio transversal; familia; factores de riesgo.

ABSTRACT

Objective: To study the prevalence of smoking in students of Secondary Education at IES "The Valley" and the factors that lead to the first use of snuff.

Methods: Cross-sectional study on a sample of 123 students obtained through convenience sampling. The information was collected by a self-administered questionnaire that included variables of age, sex, family socioeconomic status, characteristics of tobacco use among adolescents, knowledge about snuff and parental attitudes.

Results: The prevalence of snuff stood at 42%, of which 48% are regular smokers. Are confirmed as risks factors for the initial use of snuff the existence of smoking sibilings and a good friend who does too. Other variables such as the absence of a parent, parental smoking, educational level and parental occupation, physical activity and attendance at festivals could not be defined as risk factors due to insufficient sample size.

Conclusions: The prevalence of smokers was similar to that obtained in other studies with similar characteristics. Smoking prevention should focus on the family and the adolescent environment.

RESUMEN

Objetivo: Estudiar la prevalencia del hábito tabáquico en los estudiantes de Educación Secundaria Obligatoria del IES "El Valle" y los factores relacionados con el inicio del consumo de tabaco.

Métodos: Estudio descriptivo transversal sobre una muestra de 123 alumnos obtenida mediante muestreo por conveniencia. La información fue recogida mediante un cuestionario autoadministrable

que incluía variables de edad, sexo, nivel socioeconómico de la familia, características del hábito tabáquico en adolescentes, conocimientos acerca del tabaco y actitud de los padres.

Resultados: La prevalencia del tabaco se situó en un 42% de los alumnos, de los cuales un 48% son fumadores habituales. Se confirman como factores de riesgo para el inicio en el consumo de tabaco la existencia de hermanos que fumen y de un mejor amigo que también lo haga. Otras variables como la ausencia de alguno de los padres, padres fumadores, nivel académico y laboral de los padres, actividad física y concurrencia a fiestas no han podido ser definidas como factores de riesgo debido, probablemente, a un tamaño de muestra insuficiente.

Conclusiones: La prevalencia de fumadores es similar a la obtenida en otros estudios con parecidas características. La prevención del tabaquismo debe centrarse en la familia y el entorno del adolescente.

INTRODUCTION

Smoking is a concept that applies to the consumption of snuff and its derivatives by individuals in society; it is the leading preventable cause of early death ⁽¹⁻⁴⁾ and it has become a serious epidemic for humans ⁽⁵⁾. The term "smoking" can be used to refer to smoking behavior without more, to indicate the presence of an addictive disorder or to designate the whole of organic complications arising from the use of snuff, which can be very dangerous according to the WHO ^(6, 7, 8). WHO considers smoker to a person who has smoked daily during the last month any amount of cigarettes, although other studies define the smoker as a person who has consumed snuff in the last week ⁽⁹⁾.

Adolescence is a stage of life in which young people try to assert their independence, highlighting the scale rejection of parental values ⁽²⁾. It is defined as the stage of human development that has a beginning and duration variables, which marks the end of childhood and creates the necessary skills for adulthood. It is marked by changes interdependent biological, psychological and social level in humans ⁽¹⁰⁾. WHO puts adolescents between 10 and 19 years old ⁽¹¹⁾.

In addition to adults, smoking is becoming a pediatric epidemic in Spain, since consumption is increasing in people fewer than 18 ⁽¹²⁾. According to the National Drug Plan ⁽¹³⁾, the average age of first use of snuff is 16 and a half years, showing that the initiation will be strongly related to initiation to consumption of alcohol.

The literature shows that 39.8% of students had ever smoked, and 26.2 have done it since less than 30 days. Although there are studies in which no gender differences at the moment of start in smoking, the use of snuff in the past 12 months is more prevalent in women (36.4% observed versus 28.1% of boys), though they smoke more quantity (11.7% of boys smoke more than 10 cigarettes a day, compared with 7.6% of girls) ^(14, 15, 16).

As for the factors that lead to smoking initiation in adolescents, we can find ^(1, 17):

a) Sociocultural:

- The absence of one parent, the lack of discipline from parents, little participation in family decisions or a high number of family conflicts are considered factors related to the consumption of snuff in early ages ⁽¹⁸⁾.
- Smoking parents or relatives living permanently with them ⁽¹⁷⁾. Snuff smoke can create a dependence on children and promote the early start to consumption of

snuff⁽¹⁹⁾. Another risk factor is the economic level, parent's drinkers / smokers and type of work done by parents as well as the level of schooling and wages ⁽²⁵⁾.

b) Personal:

- Low self-esteem: The rapid drop in self-esteem (typical in the early stages of adolescence) is associated with increased consumption among girls ⁽²⁰⁾.

- Lack of sports activity ⁽²¹⁾ and low prospects of success in the future, as well as personal fulfillment ⁽¹⁾.

- High attendance at parties: is a phase of experimentation, in which there is an irregular but repeated use of snuff related with leisure and weekend ^(14, 26).

- Group of friends who smoke, especially his best friend. This factor becomes less important according as the young mature ^(17, 22).

- Concern for own image, especially in the case of female smokers ⁽¹⁾.

- Stress: the snuff is considered as a form which teenagers have to face with stress and anxiety ^(23, 24).

- Environmental: it is essential to remember the interests of the tobacco industry to continue creating followers to smoking especially in groups of young people and women ⁽¹⁾.

METHODOLOGY

Cross-sectional study of adolescents is studying Secondary Education at High School "The Valley" of Jaén.

The sample was selected by convenience sampling. The data were collected by an anonymous, self-administered questionnaire of 27 questions previously used in similar studies ⁽²⁷⁾. Before data collection, was obtained committee approval for Bioethics at the University of Jaén. Subsequently, it was obtained permission the high school "Valley" of Jaen by contact with the psychologist of centre. The questionnaire was completed by students in all secondary classrooms and a classroom of diversification, at time of tutoring for each course, between 8th and 12th of April in 2013. In each class, it was distributed informed consent and sheet of information for all students, in addition to receiving a detailed explanation of the study by the researcher, giving option to ask any questions. Once delivered and signed informed consent was proceeded to deliver questionnaires. Informed parental consent was delivered one week before the survey.

The variables that were collected in the questionnaire were age, sex, employment status and parents' education and their profession. They was also collected variables such as smoking status of parents, siblings, teachers and best friends, characteristics of adolescent smoking, in activities practiced in his spare time, parental attitudes and knowledge of the damage produced by the snuff.

The data from the surveys were processed with the statistical package SPSS v.12, and to calculate confidence intervals at 95% and the effect size of the descriptive and

bivariate analysis, it was used the program Epidat 3.1. The following statistical operations were used:

For the descriptive analysis, frequency measures were used for qualitative variables and central tendency and dispersion for quantitative variables, with their respective confidence intervals at 95%.

For the bivariate analysis, the chi-square test of Pearson was used both to study the association between two dichotomous variables to study the association between a dichotomous variable with another polychotomous. To study the association between a dichotomous qualitative and a quantitative variable, a simple binary logistic regression was used.

The calculations which were performed in the bivariate analysis besides those already mentioned, are the level of statistical significance (p), the effect size (OR) and confidence interval of 95%.

OUTCOMES

The sample was 123 students of Secondary Education Institute "The Valley". The total population was 215 students, representing a 57.2% stake.

The non-participation rate was high (42.8%) due to high absenteeism that characterizes the study centre, resulting an unacceptable response rate to extrapolate the results to larger populations. The rate of non-participation by their parents' decision was only a student. The predominant gender in the sample was male (71 men and 52 women, 58% and 42% respectively). The ages ranged between 12 and 19 years, the mean was 15,53, SD = 1,49, CI 95% [14,894-15,426], Mod=15. There was a low frequency of students 12 and 13 years, because most of the truancy occurs in the lower courses of Education Secondary, and counts very high ages is small because most students 18 have completed their studies of Education Secondary or have abandoned them.

a) Data related to the people around them:

In 14% of cases the father did not live in the family home, while the mother was missing in 5% of cases. In addition, 32% of the students had no older siblings at home, while 54% of students did not have younger siblings who were living at home. Finally, in 95% of cases, no one else lived in the house except father, mother and siblings.

As noted regarding the employment status of parents and the studies undertaken by them, it was observed that the father worked in 23% of cases more often than the mother who was engaged in 29% more cases to household chores. Most parents had completed only primary school, although about one-fifth of adolescents do not know what their parents studied.

Regarding the data on the smoking habits of their parents, the results show that about half of the mothers of the students currently smoked.

Data related to parental attitudes against smoking show that about 60% of parents have an attitude of disapproval to snuff, while just over one-tenth of them approve it. There are just under a third of parents who have an attitude of indifference to smoking.

In considering whether siblings of teens smoke, the data show that about one-tenth of teens said that all his siblings smoke, almost 30% recognize that one of his brothers smoke and 60% said that none of his brothers consume snuff. Regarding the teacher, almost 60% responded that they did not smoke, 7% said they only did it outside the classroom, and just over a third of teens did not know if their teacher smoked.

As his best friend is concerned, 56% of students responded that his best friend had never smoked, 29% that it currently did and 15% said his best friend smoked, but he gave up smoking.

b) Data related to the adolescent:

The results showed that 42% of students had had some contact with the snuff ever, while more than half of adolescents affirmed, not having tried snuff ever. This variable is essential in the study because it is considered as the dependent variable.

As a sports and leisure activities are concerned, more than 90% of the students surveyed played sports, especially football, followed by other sports that are not handball, volleyball, tennis, cycling, running or swimming. A high percentage of students spend their free time surfing the internet, although it was also common to see the TV while the theatrical and religious activities were the least practiced.

100% of the students surveyed had been informed about the harmful effects of snuff, mainly by parents and teachers. Almost all of the sample knew that the snuff produced respiratory damage, between 60 and 75% knew that produced damage in the heart and in the fetus, but only a quarter of adolescents knew that snuff produced stomach ulcers.

c) Data related to adolescent smoking:

The results concerning the first use of snuff show that a higher percentage of students smoked their first cigarette between 12 and 13 years old, similar percentages are about a start site: school, a party and elsewhere.

In the results for the reason to start, highlight the curiosity as the main reason, with 70% of cases. The other reasons have a similar percentage (between 4 and 6%) except 9% which is represented by other reasons not listed in the questionnaire.

Regarding the reasons that teens are still smoking, you can see that more than a quarter of teens continue to smoke for pleasure, a proportion that also occurs in kids who continue with the habit for other reasons not specified in the survey. These motifs are followed by the feeling of tranquility that gives them smoking.

In addition, more than half of the students consumed less than 7 cigarettes a week, there being a similar number among adolescents who had money to buy snuff and those without, but there was a greater proportion of adolescents who smoked in secret from their parents than among those who did not.

As to where and when smoked more, the data showed that the highest proportion occurred in parties and when the teen was with someone who smokes.

d) Data related to risk factors of smoking onset:

The association between age and snuff consumption was not significant ($p = .53$, $OR = .78$ [CI 95% = .606-1.003]. Considering the number of cases studied, we obtain a power of 48%, so the no association could be due to the small number of data that are available.

The dependent variable was determined, to have had contact with the snuff or not. To relate the different variables the following results were obtained:

The study of variables related to the family of the teen show no statistically significant differences between these variables and the fact that the teen has contact with the snuff or not. Thus, the absence of a parent or the fact that a parent snuff consumed cannot be considered as a risk factor for starting consumption of snuff by the young. Not so if we refer to the presence of smokers siblings, variable related to the initial use of snuff by teenager.

The results of the bivariate analysis of socio-economic variables of the adolescent environment show that neither the studies completed by parents / mothers or the situation thereof, will be considered risk factors for the initial use of snuff by the young. Other variables of interest for the study were practice a sport by the teenager, attendance at parties in his spare time or have a best friend who smokes. Of these, the only one that could be defined as a risk factor was the last.

When studying the association between have money to buy snuff by adolescents and the fact quitting, we found that there was no significant difference between have money to buy snuff and continue with smoking by adolescents.

In short, the two variables in which results were found with statistical significance were as follows (Table 1):

Table 1. Risk factors for the initial use of snuff by teen.

Variable	Chi square	P	OR	CI 95%
Best friend smokes	41,87	0,000	1,494	6,153-6,285
Some smoker sibling	3,941	0,047	2,130	1,004-4,519

DISCUSSION

The non-participation rate was high (42.8%) due to high absenteeism that characterizes the study centre, resulting in a response rate of just acceptable to extrapolate the results to larger populations. The rate of non-participation was only a student for their parents' decision after to object informed consent. The predominant genus in the sample was male, while the most frequent age was 15 years, with a mean age of 15 and a half. The fact that there is such a low rate of students aged 12 and 13 is that most of truancy occurs in the lower courses of secondary education, and count very high ages are small because most students 18 have completed their studies or abandoned them.

The data provided of people living in the house of the adolescents studied show that there are more cases in which the teen lacks the father than of the mother, either by deaths of any of these or marital separations. By studying the association between the absences of a parent, we found that there were no statistically significant differences. These results are comparable with those obtained in another study 23 years ago in Andalucía ⁽²⁷⁾, where the relationship between people living at home teenager and the fact smoking is significant only 5%, with a slight tendency towards an increase in teen smoking in families composed of many members. For this study, it can be said that the non-differences may be due to a very low sample which yield results in a low power of the study ($pw=0.23$). It is observed that there was a greater number of adolescents with older siblings than with younger siblings, while the percentage of students who reported living with other someone plus parents or siblings, stood at 5%, usually percentage constituted by the teen's grandparent.

As to the sociocultural characteristics of parents in the labour section, the parents had more frequency of working than the mothers, which are much more engaged to housework than parents. The unemployment rate among parents of students is very similar (slightly less than 20%), with 5% more men than women pensioners. These data, with an unemployment rate of 33% parents and 56% of mothers reflect a characteristic of the study population: a population with few resources and humble character, which may influence the onset of use of snuff in children, especially in the teenage years, a finding which is also found in a study in 2005 on Ecuadorian population ⁽²⁵⁾, although in this case, there is association shown between the employment status of the parents of the teenager and having had contact or not with the snuff, a fact that does not occur in this study that may be due to a small sample size that yield results in a low power of study ($pw=0$). In the academic section, most of the fathers and mothers had only primary school education. In most cases, there is no difference between sexes in their studies, except in cases where they have no education of any kind, which is more common in mothers than in fathers. In the bivariate analysis of the data, it was observed that there were no statistically significant differences between the studies completed by the parents and the teen has had contact or not with the snuff, unlike the results obtained in the aforementioned Ecuadorian study ⁽²⁵⁾; this lack of association may be justified by the low power of the study ($pw = 0.03$ for parents and $pw = 0.02$ for mothers), which in turn may be due to a low sample size. At this point there is a limitation of the study, since about one-fifth of students do not know the studies that their parents have completed.

When examining the characteristics of smoking habits of the people who make the environment teenager, highlight a big percentage of parents who currently smoke, half of the parents of the students surveyed. Of all non-smoking parents, 38% is for quitters, while only 14% of mothers smoked but quit smoking. Difference that matches that almost a fifth of parents have never smoked compared to almost 40% of mothers who have never used snuff. When the bivariate analysis of the data, it was found that there were no significant differences among adolescents who had parents or smoking mothers and those in which neither parent consumed snuff, differing data with those obtained in other studies ⁽¹⁷⁾, where there were significant differences. This lack of difference may be due to the insufficient power of the study, due to insufficient sample ($pw = 0.04$ for association with smoking parents and $pw = 0.08$ for association with smoking mothers). It also highlights that 88% of students, all or any of their siblings smoke, which is a risk factor for smoking initiation by adolescent, as there are significant differences between this variable and the contact of the adolescents with smoking (OR = 2.13). These results are consistent with other studies such as that

conducted in Madrid in 2001 ⁽¹⁸⁾, where he claims to have relatives who use snuff is a risk factor for the adolescent is started on the use of this substance. Regarding teachers, about 60% students claimed that their teacher did not smoke, while about a third of the students were not know if their teacher smoked; a low percentage of students said that their teacher smoked outside of class.

An important variable as far as risk factors are concerned, is the presence of a best friend who smokes. Of all the students surveyed, almost 30% said that their best friend currently smoked, while 15% claimed that their best friend consumed snuff but that no longer do so, which means that 45% of the students, their best friend has had some contact with the snuff. After bivariate analysis, it was determined that having a best friend smoking was a risk factor for smoking initiation in adolescents, due to statistically significant differences between the two variables (OR = 1.49). Something similar happens in the study conducted in Valparaiso in 2000 ⁽¹⁷⁾, where almost all students who smoked, had a best friend who also smoked. Of all the students surveyed, 58% acknowledge that he has never smoked, with the prevalence of snuff in the centre of a 42%, which is slightly above the Mijas study in 2002 ⁽²⁾, which shows a prevalence of 32.5% in a similar population. The percentage of smokers is divided among young people current smokers and those who smoked before but have already quit, both being very even percentages. Highlight that the majority of students who have had contact with the snuff first did when they were between 12 and 13 years old, while the percentages of students who began with less than 7 years or between 16 and 17, is very low, almost nonexistent. In this section you can see the difference with the study conducted by the National Drug Plan between 2011 and 2012 ⁽¹³⁾, in which the mean age of the adolescents who had contact with the snuff was 16 years and a half.

When studying their activities in their spare time, the teenagers showed that as far as sports are concerned, football was the most practiced, but also practiced other sports that did not appear in the questionnaire. There were a low number of students who claimed not do any sports. By associating the performance or non-performance of sports with the consumption of snuff teenagers, no statistically significant differences were found, so it can not ensure that the practice of a sport is a protective factor against the onset smoking, result which would be in disagreement over that obtained in the AVENA study in 2007, where the most physically active individuals are those with fewer cases of smokers ⁽²¹⁾. The lack of statistical significance may be due to small sample size, which results in a low power (pw = 0.03). In their leisure activities in general, which predominated in adolescents was using the Internet, with a large majority. Also include other activities such as sports, television or video games.

Data related to the attitude of the parents showed that there is a general disapproval of smoking, regardless of being a father or mother. Highlight that a high percentage of students said that their parents do not care. 10% of fathers and mothers approve smoking. In the percentages which refer to attitudes towards smoking, no sex differences in parents, being very similar frequencies in all cases.

Regarding the characteristics of adolescents who have claimed to have had contact with the snuff, either currently or who have left smoking, the data show interesting results. Almost a third of students surveyed tried their first cigarette at a party, a characteristic closely followed by those who tried it for the first time in school and elsewhere, so we should differentiate the types of parties where that student attend, because in nightclubs or bars is not usually start smoking, but they do it in other

parties. When analyzing attendance at parties in their spare time, no statistically significant differences, which can be caused by the low power of the study ($p = 0.35$) that could be remedied with a larger sample size. These data differ from those obtained in some studies related to risk behavior in adolescents and smoking initiation^(14, 26). The main reason for starting, well above the other, is curiosity, but the main reason that teens continue to consume snuff is for pleasure and for other reasons, also highlighting the desire to relax. Note that the students' respondents consume snuff most frequently when they meet someone who smokes, fact which is currently well above others as being with friends, after eating or being with your partner; although a time when teenagers tend not to smoke is when they are in front of their parents, and that more than a third of the students surveyed consume snuff secretly of their parents.

When relating the students have money to buy snuff, the percentages are very even, with nearly half of teens who claim to have enough money to buy all the snuff wanting. After bivariate analysis, it was determined that there was no significant difference between having money and continuing smoking, although this may be due to the lack of power of the study, produced by insufficient population.

Although some studies have already been devoted to that, for future research, it would be interesting to study the anxiety related with studies that are studying, and the initiation of smoking in adolescents, including increasingly, in the more advanced stages of primary education due to the early first use of snuff and alcohol consumption. Also be productive to study the association between some psychological disorders, e.g. ADHD (attention deficit hyperactivity disorder) and behaviours of adolescents in relation to snuff and other drugs.

CONCLUSIONS

The prevalence of snuff in students of Secondary Education at high school "El Valle" of Jaen was 42%. Of all this percentage of students who had contact with the snuff, 48% continue to smoke currently.

According to the results obtained and given the low power of the different analyzes, only it can be concluded that:

The existence of a sibling (either major or minor) who consumes snuff is a risk factor for the adolescent to initiate himself in consumption.

The fact that his best friend consumes snuff is an important risk factor for the onset of adolescent smoking.

A limitation of the study is that to know the number of students who started smoking at 16, the survey should not be conducted in a high school, as many students have finished, but should be done in a sample with an age above 16 or 17, so in the case of this study, cannot know the teenagers who started using snuff with 16 years or more.

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