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Abreu-Gutiérrez, Mónica; Suárez-Lugo, Nery
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Risk and protective factors linked to smoking at home with adolescents in Cuba

Factores de riesgo y protectores del tabaquismo en hogares con adolescentes en Cuba

Fatores de risco e protetores do tabaquismo no domicílio com os adolescentes em Cuba

Facteurs de risque et de protection du tabagisme dans les foyers familiaux avec adolescents à Cuba

Mónica Abreu-Gutiérrez¹, Nery Suárez-Lugo²

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Corresponding autor

Nery Suárez-Lugo. Address: Escuela Nacional de Salud Pública. Calle 100 No. 1132 entre E y Perla. Municipio Boyeros. La Habana, Cuba. Correo electrónico: nerysl@infomed.sld.cu

Abstract

Objective: To estimate the smoking prevalence; characterize smoking adolescents linked to tobacco use; describe the studied adolescents according to individual and familiar factors related with smoking, and to identify the risk and protective factors against tobacco at home.

Materials and Methods: Analytic transversal study in two phases: descriptive and analytic, from January to December 2016 in the urban zone of the working health area of the “Pedro Esperón Polyclinic”, in Bauta, Artemisa, Cuba. The universe was 4773 adolescents between 10 and 19 years old and the sample was 348 adolescents; one of their parents or tutors were chosen by conglomerates samples. To obtain the information, questionnaires were constructed, observation and survey were used. The statistics techniques: Chi square test of independence, Chi square test of homogeneity and logistic regression were used to analyze the independent association among factors linked to the present use of tobacco. Ethical principles were considered.

Results: High smoking prevalence (14,080 %), early starting age of tobacco consumption (13,5 years), motives to initiate: influenced by other people, mostly friends (46,9 %) and fashion or curiosity (42,9 %). The 61,2 % smoked cigarettes occasionally; the usual places for consumption were: celebrations 69,4 %, friends' homes 57,1 % and public roads 55,1 %. Adolescents generally smoked with friends 83,7 %. Self-esteem and permissive family are risk factors, while the number of people living together with the adolescents are a protective factor.

Conclusions: A poor self-value and the permissibility of parents and tutors, are confirmed boosters for tobacco consumption in Cuban adolescents, which is similar to what has been described previously.

Keywords: Smoking, Adolescents; Risk Factors; Protective Factors.

1. Master en Psicología de la Salud. Profesora Instructora. Policlínico Universitario Pedro Esperón Dirección Municipal de Salud Bauta, Artemisa. Ministerio de Salud Pública, Habana, Cuba.

2. Doctor en Ciencias Económicas. Investigadora y Profesora Titular. Escuela Nacional de Salud Pública, Ministerio de Salud Pública, Habana, Cuba.

Resumen

Objetivo: Estimar la prevalencia del tabaquismo, caracterizar a los adolescentes fumadores según consumo de tabaco, describir los adolescentes estudiados según factores individuales y familiares relacionados con el tabaquismo e identificar los factores de riesgo y protectores del tabaquismo en el hogar.

Materiales y métodos: Estudio analítico transversal en dos fases: descriptiva y analítica, de enero a diciembre de 2016, en la zona urbana del área de salud del policlínico “Pedro Esperón” en Bauta, Artemisa, Cuba. El universo constituido por 4,773 adolescentes entre 10 y 19 años de edad y la muestra de 348 adolescentes, y uno de sus padres o tutor, seleccionado por muestreo por conglomerados. Para la obtención de la información se construyeron cuestionarios; y se empleó la observación y la entrevista. Como técnicas estadísticas: Ji cuadrado de independencia y homogeneidad y regresión logística. Se tuvo en cuenta los principios éticos.

Resultados: Elevada prevalencia de tabaquismo (14,080 %), temprana edad de inicio al consumo de tabaco (13,5 años); motivos de inicio: influencia de otras personas, fundamentalmente amigos (46,9 %) y moda o curiosidad, (42,9 %). El 61,2 % consume cigarrillos de forma ocasional, lugares de consumo más común: espacios para celebrar 69,4 %, hogar de amigos 57,1 % y la vía pública, 55,1 %. Generalmente fuman con amigos 83,7 %. Autoestima y permisividad de la familia como factores de riesgo y cantidad de personas que conviven con los adolescentes como factor protector.

Conclusiones: La pobre valoración de sí mismo y la permisividad de los padres y tutores con relación a fumar, se confirman como favorecedores de la probabilidad del consumo de tabaco en los adolescentes cubanos, muy similares a los que describe la literatura.

Palabras clave: Tabaquismo; Adolescentes; Factores de riesgo; Protectores.

Resumo

Objetivo: Estimar a prevalência do tabagismo, caracterizar os adolescentes segundo o consumo do tabaco, descrever os adolescentes de acordo com fatores individuais e familiares relacionados ao tabagismo e identificar os fatores de risco e de proteção do tabagismo no domicílio.

Materiais e métodos: Estudo analítico transversal, realizado em duas fases: descritivo e analítico de janeiro a dezembro de 2016, na área urbana da policlínica “Pedro Esperon”, em Bauta, Artemisa, Cuba. O universo é composto por 4773 adolescentes entre os 10 e 19 anos de idade. A amostra é composta por 348 adolescentes em conjunto com um dos seus pais, encarregado de educação, selecionados por amostragem por cluster. Para obter os dados, construiu-se um questionário, associando a observação e a entrevista. Como técnicas estatísticas utilizou-se o Qui quadrado e a regressão logística. Os princípios éticos foram tomados em consideração.

Resultados: Alta prevalência de tabagismo (14,080 %), idade precoce para iniciar o tabaco (13,5 anos); as razões para a sua iniciação: influência de outras pessoas, principalmente amigos (46,9 %) e moda ou curiosidade, (42,9 %) 61,2 % usam cigarros ocasionais, locais de consumo mais comuns: espaços para comemorar 69,4 %, casa de amigos 57,1 % e via pública, 55,1 %. Geralmente fumar com amigos 83,7 %. Auto-estima e permissividade familiar como fatores de risco e número de pessoas que vivem com adolescentes como fator de proteção.

Conclusões: A falta de auto-avaliação, a permissividade dos pais ou responsáveis em relação ao tabagismo foram confirmadas como favorecendo o tabagismo em adolescentes cubanos, resultados muito semelhantes aos descritos na literatura.

Palavras-chave: Fumar; Adolescentes; Fatores de risco; Protetores.

Résumé

Objectif: Estimer la prévalence du tabagisme, caractériser les fumeurs adolescents selon leur consommation de tabac, décrire les adolescents étudiés selon certains facteurs individuels et familiaux liés au tabagisme et identifier les facteurs de risque et de protection du tabagisme dans leur foyer familial.

Matériel et méthodes: Étude analytique transversale en deux phases, descriptive et analytique, réalisée de janvier à décembre 2016, dans la zone urbaine du secteur de santé de la policlinique «Pedro Esperón» à Bauta, Artemisa, Cuba. L'univers était composé de 4.773 adolescents âgés de 10 à 19 ans. L'échantillon, sélectionné par grappes, incluait 348 adolescents et, pour chacun d'eux, un parent ou tuteur. Pour obtenir l'information, des questionnaires ont été élaborés, et l'observation et l'entrevue ont été utilisées. L'analyse statistique a été réalisée avec les tests d'indépendance du Chi carré et d'homogénéité, et la régression logistique. Les principes éthiques ont été pris en compte.

Résultats: Forte prévalence du tabagisme (14,080 %) et âge précoce d'initiation au tabac (13,5 ans); motifs de l'initiation: influence d'autres personnes, principalement d'amis (46,9 %), mode ou curiosité (42,9 %). 61,2 % consomment des cigarettes occasionnellement. Les lieux de consommation les plus courants sont les espaces de réunions festives (69,4 %), chez des amis (57,1%) et sur la voie publique (55,1 %). Habituellement, les adolescents fument avec des amis (83,7 %). Les facteurs de risques sont l'estime de soi et la permissivité de la famille. Le nombre de personnes vivant avec les adolescents est un facteur de protection.

Conclusions: L'étude permet de confirmer que la faible estime de soi et la permissivité des parents et des tuteurs en ce qui concerne le tabac augmente la probabilité de sa consommation chez les adolescents cubains, de façon très similaire à ce qui est décrit dans la littérature.

Mots-clés: Tabagisme; Adolescents; Facteurs de risque; Protecteurs.

Introduction

Tobacco use is an addiction that nowadays constitutes one of the main health problems affecting peoples' wellbeing and quality of life. It is considered that tobacco smoking is the leading cause of preventable deaths. Tobacco smokers, who die prematurely, deprive their families of income by increasing health care costs and affect the country's economic development.

Tobacco smoking is a major threat against public health worldwide. It has a wide social acceptance, and has reached high proportions not only due to the number of smokers, but also because of the consequences in terms of health and social costs^{1,2}.

Studies³ performed worldwide, observed that more than 80 % of tobacco smokers start its use during school life and adolescence, and the age on initiation is becoming increasingly earlier. In adolescents, smoking frequency is usually higher when one or both parents smoke, in comparison to none smoker families; adolescents do not really know the consequences of smoking or nicotine addiction, they usually believe that by smoking they control their bad temper and they look "sexier".

A review⁴ about the variables that have been widely associated to the attempt, experimentation, regular use and current use of tobacco in adolescents at family level, showed that the causes highly related to the use of tobacco in adolescence were: the number of smokers within the family, the adolescents perception that their parents have a permissive attitude towards smoking and parental approval for smoking.

Tobacco use at home, has been consistently reported as a predictor variable with the existence of gradients for tobacco dependency when there is one family member that smokes, and it increases when there are two smokers in the family. The behavior of tobacco users influences the susceptibility of non-smokers; by showing knowledge and skills for smoking, including the believes about the consequences of smoking. Considering the finding from previous studies, to promote an anti-smoking culture, a restriction on smoking inside the homes has been the most successful strategy.

Cohort studies have demonstrated that the perception of having parents and family members in favour of tobacco use, is also highly influential for adolescents, making them susceptible to tobacco addiction.

At the same time, opposite effects have been seen in homes where smoking is strictly forbidden; at the non- smoking

homes, social norms against tobacco use are commonly found, and the family members show no intentions of smoking before long.

Social model researches reveal that anti-smoking models can have a protective function; some examples are: teachers that provide information about tobacco use effects, parents who do not smoke and impose rules against cigarette smoking at home, parents who constantly monitor their children and friends not allowing them to smoke⁵.

Through a review performed⁶ is evident that the family leads the informal-education in humans, and could be either a protective factor against tobacco use or a risk factor. Up to now the relation between permissiveness toward smoking and non-smoking, has not been clarified; therefore, the necessity to continue examining this relation along with other personal and social variables.

Other factors that have been related to the use of tobacco in children and adolescents are gender, age, socioeconomic level, poor school performance, remunerated jobs and migration.

In Cuba, tobacco use prevalence has been considered high since records started⁷; it occupies the 28th place⁸ among the 78 WHO members. At national level, the Risk Factors National Survey of 2010 revealed that 23.7 % of people over 14 years old smoked⁹. Furthermore, 74.8 % of smokers started using tobacco before they were 20 years old; one in every ten tobacco users started smoking before they were 12 years old and four in every ten smokers started when they were between 12 and 16 years old.

Regarding tobacco smoke exposure outside homes, 41 % of Cuban adults stated that they were living in homes where other people usually smoked.

The Prevention and Control of Tobacco Use National Program¹⁰. in Cuba, aims to reduce tobacco use prevalence down to 2.6 % annually. In 2010, the annual variation results were of 2.5 %, the highest identified since the surveillance started.

Chronic diseases related to tobacco use, are the highest cause of morbidity and mortality in Cuba¹¹. Particularly, in Bauta Municipality¹², Artemisa, heart diseases are the most frequent chronic disease, followed by malign tumors, both related to tobacco use. Low birth weight and prematurity are also consequences; furthermore, acute respiratory diseases are frequent and this area remains as an endemic zone.

According to the Statistical Data at the end of 2016, the tobacco use prevalence in people over 10 years old in

Bauta Municipality was 23.2 %; during the same year, the incidence was 259 cases of new smokers. While in the working health area of the “Pedro Esperón Polyclinic”, in Bauta, the prevalence was 18.2 %; they provide smoking cessation help, with very low population assistance.

Literature research and scientific news in Cuba do not describe risk or protective factors against tobacco smoking in Cuban adolescents in their homes; these factors are sometimes mentioned and inferred, but they have not been studied^{13, 14, 15, 16}.

Due the aforementioned, new research is necessary regarding tobacco smoking and addiction, to increase prevention and improve public health, for every socioeconomic level and place; considering of course that the home and family play a major influence over the individuals: their growing up, development of their personality and their life style.

The aims of this research were:

1. Estimate the tobacco smoking prevalence in adolescents from the Outpatient Family Clinic in the urban zone of the working health area of the Bauta Polyclinic, from January to December 2016.
2. Identify adolescents who smoke tobacco.
3. Describe the characteristics of adolescents, including individual and family factors related to tobacco smoking.
4. Identify risk and protective factors against tobacco addiction in the adolescents' homes.

Materials y methods

A transversal and analytical study was performed; including a descriptive first phase and an analytical second phase using a nested case control study. The data was collected between January and December 2016, from the Outpatient Family Clinic in the urban zone of the working health area of the “Pedro Esperón Polyclinic”, in Bauta Municipality, Artemisa, Cuba.

The universe comprised 4,773 adolescents between 10 and 19 years of age living in the working health area previously mentioned, during the period of study. This area was selected because is the one most affected by tobacco smoking⁷. The sample included 348 adolescents, estimated as the minimum size necessary for descriptive studies in finite populations. We used a “p” of 9.2 %, taken from the prevalence in adolescents between 10 and 19 years of age who were active smokers. An error of 7 % and a 95 % reliability were fixed. A design effect of 1.5 was used, we also considered a 20 % underestimation of the prevalence rate; because adolescents who smoke, frequently denied it. For the sample selection, a cluster sampling procedure

was performed in two phases. The following variables were studied: prevalence, characteristics of adolescent smokers (smoking starting age, smoking duration and frequency, stopping attempts and duration of smoking cessation), main reason to start smoking (because parents or family members do, teachers or friends also smoke, fashion, curiosity, stress); main place to smoke, people who they usually smoke with, individual and family factors associated with tobacco smoking among adolescents and their parents or tutors.

To obtain the information above mentioned, two questionnaires were developed, they were low cost, appropriate for people of any education level and were validated by experts¹⁷. A pilot study was performed to validate the comprehension of the questions. The questionnaire aimed at adolescents included a question about self-esteem, adapted from the Shavelson, Hubner and Santon model, and formulated using items from the Rosenberg Self-Esteem Scale¹⁸. Other techniques used were observation and interview, in order to enhance and confirm the information given by the inquired via the questionnaires.

Before applying the questionnaires, one practice took place, to achieve homogeneity and quality of the data collection; also, quality control over the questionnaires application was performed periodically (every 15 questionnaires).

To make this network study in the analytical stage of the investigation it was defined a case of identified adolescent smokers as a result of the questionnaire randomly applied in 49 adolescents. Those who had never smoked until the moment this study was done, were taken as control.

Three controls were considered for each case to the control selection. These were randomly selected according to the proportional size age to assure the comparison between the case and the controls, the control sample was made up by 147 adolescents.

The results obtained were stored in an Excel database, the studied variables were codified to be processed later, using the Statistics Softwares SPSS IBM 19 and Epidat 3.1.

To describe the individual and family factors related to tobacco smoking, we used the chi square test for the nominal variables and the linear trend analysis for ordinal variables, and determined the possible association between tobacco smoking and the mentioned factors. Students' T test was used to compare the per capita risk between smokers and non-smokers as a quantitative variable.

To identify the risk and protective factors, we used the Binary Logistic Regression. First, we performed a

univariate analysis to identify the association between them, using a Chi square test of homogeneity and a 90 % level of reliability. Once the association was identified, a correlation analysis among the variables was performed, to avoid error estimations that occur when there is redundant information. We observed that the variables were highly correlated when the correlation coefficient was higher than 0.80 (Phi for two categorical variables, or Cramer's V for more than two categorical variables). When a high correlation appeared, one of the variables was eliminated according to the researcher's criteria. The protective factors were identified when the variables included in the equation showed upper limits of a confidence interval lower than 1.

Research Ethics were considered and the adolescents and their parents or tutors were given an informed consent for them to participate.

Results

The prevailing smokers were about 49 adolescents which represents a 14.080 % with an IC confidence interval (10,282; 17,879).

The non-smokers represented 81.03 % and 4.89 % were ex-smokers. The average smoking starting age was 13.5 years old, with a Standard Deviation of 1.5. Among the adolescents who smoked, 65.3 % mentioned that had been smoking for the past 1-3 years. The reasons to start smoking were: influenced by other people, mainly friends (46.9 %), followed by fashion or curiosity (42.9 %). Also, 61.2 % of adolescents stated that they smoke occasionally. The places of highest tobacco smoking were: 69.4 % at celebrations, 57.1 % at friends' homes, and 55.1 % on the streets.

The people with whom adolescents generally smoked were 83.7 % friends. The questionnaires revealed that adolescents usually smoked in parties or away weekends, after school or at their friends' homes when they visited. Adolescents regularly bought the cigarettes using the money that parents and family members gave them for food and other needs; in occasions, their friends gave them cigarettes for free.

Most adolescents (67.3 %) have not intended to stop smoking; from the ones who did, half of them remained without smoking for a few days, and the other half for a few months; however, they all relapsed.

Among the smokers, the main age was 14-16 years old (61.2 %); females represented 57.1%; medium was the main school level (63.3 %); the majority (87.8 %) did not have a life partner; their academic index was medium (57.1 %); most of them (83.7 %) showed a medium level of self-esteem; the majority (71.4 %) did not practice sports; a high

proportion (83.7%) knew about tobacco addiction; almost all of them (91.8 %) knew about the consequences of smoking; and many of them (75.5 %) had a risk perception of smoking.

Among the non-smokers, the main age was 14-16 years old (45.4 %); 56.4 % were females; completed primary school was the most frequent (57.8 %) school level; the majority (96.1 %) did not have a life partner; their academic index was high (59.6 %); most of them (57.4 %) showed high self-esteem; the majority (61.7 %) did not practice sports; a high proportion (77.0 %) knew about tobacco addiction and its consequences (91.8 %); and 73.0 % had a risk perception of smoking.

Adolescent smokers and non-smokers did not show any illnesses. The majority (80.7 %) of adolescents described themselves as sociable persons, who frequently participated in parties and other social activities (for both, smokers and non-smokers).

Significant differences were found when comparing individual factors between smokers and non-smokers, such as age, school level, living in partnership, academic index and self-esteem.

Regarding the family factors, the characteristics studied were: ontogenesis, number of generations living together and family size. For smokers and non-smokers, extended families were the norm; of two-generations, and medium size.

Among the smokers 46.9 % were living in functional families; at least one family member was a smoker (69.4 %); the majority (67.3 %) had received information from their parents about smoking; adolescents trusted and had good communication with their parents (65.3 %); some adolescents (49.0 %) were living under a "do-not-smoke" rule at home; and a large proportion (91.8 %) participated in family activities where smoking was the norm.

Among the non-smokers, 54.6 % belong to functional families; at least one family member was a smoker (50.7 %); the majority (67.3 %) had received information from their parents about smoking; adolescents trusted and had good communication with their parents (84.0 %); the majority (77.7 %) were living under a strong "do-not-smoke" rule at home; and some (65.2 %) participated in family activities where smoking was the norm.

The evaluation of the mentioned variables was completed by the interviews and observations; confirming that most adolescents studied, were affected by active or passive smoking.

Some statistical differences were observed for the following variables: family functioning, trust and communication with parents or tutors, presence at home of one or more smokers, rules for non-smoking and the involvement in family activities where there is smoking.

Between parents or tutors, no significant differences were observed when the individual variables were analyzed. Most parents (77.6 %) were between 29 and 39 years of age. The majority (96.4 %) were females, as the mothers or grandmothers had legal custody of the adolescents. 69.5 % of the parents had a medium school level. 71.0 % had a life partner, and the mothers 92 %. The per capita family income was similar in both groups. The 92 % of mothers and the 71 % of fathers have a couple.

Absence of illness was observed in 76.7 % of parents-tutors. 76.7 % of all parents-tutors declared to be non-smokers. Predominantly (89.7 %), they considered to know enough about tobacco smoking, and this was higher in parents-tutors of adolescents who smoked; 85 % knew about the consequences of smoking, and 70.4 % acknowledged the health effects of smoking (which was very similar between parents-tutors of adolescents who smoked and adolescents who did not).

Family functioning, according with the parents-tutors was considered medium 65.0 %. In 54.4 % of the homes there was no other smoker; however, among the parents-tutors of adolescent smokers, 69.4 % of homes had smoker members. There were some differences between the adolescents and their parents-tutors' answers; some people who smoked at home occasionally, were referred by the parents-tutors as non-family members.

The family member, who smoked at home, did it in front of children and adolescents in 51.4 % of the homes; however, this was higher in homes of adolescents who smoked (67.3 %).

Most parents-tutors mentioned that they provided information to their children about tobacco smoking: 75.8 % said they trust and have good communication with the adolescents; and 86.7 % of homes had a non-smoking rule. 73.6 % of homes shared activities where people smoke; and in 73.4% of those homes, the adolescents usually participated.

Some of the family variants were statistically different between the parents-tutors of adolescents who smoked and adolescents who did not, including: a family member, parent or tutor who smoked at home, smoking permissiveness at home, smoking in front of children and adolescents, participating in family activities where people smoked.

The identification of risk factors and protective factors against tobacco smoking at home, via the logistic regression and its interpretation, provided that none of the variables was highly related, as the correlation coefficient was lower than 0.80; therefore, all of them were included in the regression (Table 1).

One protective factor against tobacco smoking in adolescents was the size of the family; a small family was considered protective (0.4 times). The risk factors identified were: low self-esteem (4 times); no rules of non-smoking at home (3 times); having family members who smoked at home (4.5 times) and taking part of family activities where people smoked (27.5 times). Table 2.

Discussion

When comparing our results against the smoking prevalence provided by the health authorities in the area, it is clear that there is an underreporting of cases¹², this because adolescents know that smoking causes health risks and do not want to say they smoke.

In our research, we took care to avoid an underestimation of tobacco smoking in adolescents.

This is what it means. When the study results are compared with which the public health applications provided, the presence of smokers adolescents is higher, than in the first case in which generally parents are requested for information and in this investigation the adolescents were privately asked about it.

The smoking starting age in our adolescents, is alike to what other studies have observed worldwide⁸. In Cuba, this demographic group (adolescents) has been growing⁹. Regarding the academic index, our results coincide with other domestic and foreign investigations performed between the years 2001 and 2011¹⁹, in terms of factors related to tobacco smoking in children and adolescents, including low school performance and self-perception of academic underachievement.

We studied the adolescents' family structure considering ontogenesis, family size and number of generations living together; the results match the characteristics of the current Cuban families, where several generations live together, and they are medium size families. On the other hand, there is evidence of a decrease in the amount of family members living together; consequence of a fertility rate decline, an increase of single households, composed mainly by elderly people due to a higher longevity, and an increase in the number of divorces²⁰.

Table 1. Correlation of variables that characterize tobacco smoking in Cuban adolescents

	AI	FS	S	FMSA	GC	DF	PFAS	S	FMSP	FSCHA	PS
Academic Index (AI)	1,000	-,080	,152	,038	,062	-,068	,077	-,057	,047	-,043	,131
Family Size (FS)	-,080	1,000	-,089	-,043	,028	-,100	-,086	,002	-,192	,062	,096
Self-esteem (S)	,152	-,089	1,000	-,122	-,102	,168	,072	-,063	,083	,053	-,202
Family Members Smoking reported by adolescents (FSA)	,038	-,043	-,122	1,000	-,029	-,156	-,051	,040	-,076	-,595	,042
Good Communication (GC)	,062	,028	-,102	-,029	1,000	-,088	,067	-,057	,120	-,085	,003
Demanding Family (DF)	-,068	-,100	,168	-,156	-,088	1,000	,100	-,054	,043	,101	-,672
Participation in Family Activities where people Smoke (PFAS)	,077	-,086	,072	-,051	,067	,100	1,000	,045	,075	-,013	-,164
Sociability (S)	-,057	,002	-,063	,040	-,057	-,054	,045	1,000	-,048	-,013	,045
Family Members Smoking reported by parents (FMSP)	,047	-,192	,083	-,076	,120	,043	,075	-,048	1,000	-,686	,000
Family member smoking in front of children and adolescents (FSCHA)	-,043	,062	,053	-,595	-,085	,101	-,013	-,013	-,686	1,000	-,133
Permissiveness toward Smoking (PS)	,131	,096	-,202	,042	,003	-,672	-,164	,045	,000	-,133	1,000

Source: Abreu GM. Risk and protective factors against tobacco smoking in Cuban homes with adolescents. "Pedro Esperón Polyclinic". Bauta, Artemisa. 2016. Thesis to gain the degree of Health Psychology Master, issue by the National University of Public Health (Escuela Nacional de Salud Pública). La Habana; 2017.

In our study, self-esteem was identified as a discriminatory factor for smoking or non-smoking among adolescents; similarly, previous reports mention self-esteem as one of the most important risk factors for tobacco smoking. We observed that the lack of physical activities was not significantly different between smokers and non-smokers; however, there are studies that have detected differences¹⁹.

Regarding tobacco smoking consequences and its knowledge by parents or tutors, some studies performed in Cuba⁷ and other countries²¹, consider them as a protective

factor; nevertheless, this was not seen in our investigation.

We found that non-smoker adolescents frequently have a functional family, which could be considered as a protective factor against tobacco smoking; nonetheless, this was not statistically confirmed.

The presence of at least one smoker at home was the norm for both, smoker and non-smoker adolescents, which has been seen in previous studies. Other studies have considered that there is a tobacco dependency gradient

Table 2. Variables included in the logistic regression

	B	S.E.	Wald	gl	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower limit	upper limit
Academic Index	-,205	,305	,453	1	,501	,814	,447	1,482
Family Size	-1,001	,369	7,351	1	,007	,368	,178	,758
Self-esteem	1,398	,436	10,259	1	,001	4,047	1,720	9,520
Family Members Smoking reported by adolescents	-,289	1,052	,076	1	,783	,749	,095	5,889
Good Communication	,532	,463	1,320	1	,251	1,702	,687	4,219
Demanding family	1,159	,564	4,229	1	,040	3,188	1,056	9,623
Participation in Family Activities where people Smoke	1,507	,634	5,657	1	,017	4,515	1,304	15,638
Sociability	-,821	,552	2,216	1	,137	,440	,149	1,297
Family Members Smoking reported by parents	3,316	1,134	8,551	1	,003	27,559	2,985	254,463
Family member smoking in front of children and adolescents	-1,942	1,425	1,857	1	,173	,143	,009	2,343
Permissiveness toward Smoking	-,647	,608	1,133	1	,287	,524	,159	1,723

Source: Abreu GM. Risk and protective factors against tobacco smoking in Cuban homes with adolescents. "Pedro Esperón Policlínica". Bauta, Artemisa. 2016. Thesis to gain the degree of Health Psychology Master, issue by the National University of Public Health (Escuela Nacional de Salud Pública). La Habana 2017.

related to the amount of people smoking at home, also observed previously in Cuba¹⁵.

Our observations about trust and communication between parents-tutors and adolescents, was similar to what was seen previously in Guatemala²².

Regarding no-smoking at home rules, literature^{4,7} suggest that homes where parents-tutors show a permissive attitude toward smoking, tend to have adolescents who smoke; therefore, social models could play a significant role in smoking prevention.

Sociability can also be related to tobacco smoking in adolescents. In our study, we found that smokers socialized more, and this could be associated to go to parties and to other social activities; a previous investigation²⁰ observed that going to parties frequently was among the risk factors for smoking; nevertheless, isolation caused by low self-esteem and integrating difficulties is also a risk factor for

smoking and other risk health behaviours, searching for acceptance among their contemporaries.

Regarding when the adolescents started smoking, the average age observed in this study, was similar to what has been previously observed in Cuba¹³ and internationally³. The main reasons to start smoking in Cuba according to literature are: curiosity and to imitate their parents, followed by friends' coercion, social acceptance, rushing into adulthood and defiance. In contrast, we found that the main reasons to start smoking were: influenced by friend, followed by fashion and curiosity; in third place, adolescents started to smoke in order to cope with stressing situations; finally, they were influenced by their parents-tutors or another family member.

The preferable place for smoking according to previous investigations are public places¹⁴, even when the parents-tutors show a permissive attitude; and is alike to what we found in this research, public places were the norm,

including social event places and recreational areas, and less frequently at home and school.

Worldwide, studies searching for smoking risk factors in adolescents^{4,15,19,21} have identified: low self-esteem, presence of a smoker at home and the lack of no-smoking rules at home, the last two can be summarized as permissiveness.

We also found that living in a small family was a protective factor against tobacco smoking in adolescents; reversely, this has not been observed previously, it could be that there are other factors interrelated to the amount of people living with the adolescents, for example if the home is or not functional. Therefore, to have conclusive information, other researches should be performed, and other populations should be studied.

Conclusion

The Cuban population in the urban zone of the working health area of the "Pedro Esperón Polyclinic" in Bauta Municipality, showed a high prevalence of tobacco smoking in adolescents; although the problem in this area is alike the rest of the country, it is fundamental to promote smoking prevention strategies in this working health area.

The main cause for adolescents to start smoking was the family influence, while the preferable places for smoking were public places for commercial purposes or celebrations, searching for social acceptance. Therefore, we suggest intervening by improving the family and community roles, as well as transforming the scenarios where adolescents usually smoke, into favourable areas.

A low academic index and low self-esteem were identified as individual risk factors for tobacco smoking in adolescents. It is important that schools and youth organizations, engage with adolescents at risk and provide them with helpful tools. Parents-tutors' permissiveness toward smoking, is an important family factor; therefore, prevention strategies should involve adolescents and their families altogether, for the family and home to be protective factors against tobacco smoking.

A poor self-valuation along with the parental permissiveness, are the most influential risk factors for tobacco smoking in Cuban adolescents; which corresponds to what is described in literature.

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